A profession in transition:
Practitioners’ research engagement in the
Australian communication design field

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Abstract

Communication design is a profession in transition in Australia. It evolved from commercial art and vocational education, entered Australian universities due to tertiary education reforms in the early 1990s as graphic design, and has since expanded in scope to become communication design.

In recent years there have been increasing calls for communication designers to engage more with research to inform their practice. Advocates argue that engaging with research has the potential to improve design outcomes and raise professional standing while skeptics counter that using research in design practice is restrictive, impractical, ineffective and unnecessary. Some maintain that designers value research and already use it extensively in their work while others claim there is a lack of understanding of what research is and that the majority of design practitioners do not like research or engage with it sufficiently.

Within this debate the nature of research in the communication design profession and the extent to which practitioners currently engage with it is largely assumed. In the context of the communication design field in Australia the role of research in professional communication design practice has never been investigated.

To address this gap in knowledge the present study was designed to collect perceptions from Australian communication design practitioners and academics to better understand how research is understood within the field, and how and why professionals engage with it.

The primary aim of the study is to reveal what role research plays in the Australian communication design profession at present, with a view to predicting its role in the future.

A mixed methods approach was adopted, employing an explanatory sequential study design. Online surveys and focus groups were conducted, statistical and qualitative analyses were completed, and Bourdieu’s concepts of social fields and practice were used as a theoretical lens.

It was found that academics and practitioners characterised research differently from each other. While both cohorts declared research engagement to be important for practising design, a mismatch in values within the field was identified when their differing characterisations of research were accounted for.
Practitioners’ engagement with systematic research was reported as low to moderate. Analyses concluded, however, that engagement with systematic research is likely to play a larger role in Australian communication design practice in the future, as the values espoused by universities influence research engagement within the profession. These shifts can be seen as part of communication design’s transition to becoming a fully-fledged profession.
Acknowledgements and Dedication

This study is the product of a team effort and so I owe much thanks to many people.

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I dedicate this work to my three boys: Elliott, Theodore and Christopher.
Declaration

I, Emma Louise Fisher, declare that this thesis, completed in fulfillment of the requirements for the award of Doctor of Philosophy from the School of Design, Faculty of Health, Arts and Design, at Swinburne University of Technology, contains no material which has been accepted for the award of any other qualifications at any other academic institution, and to the best of my knowledge, contains no material previously published or written by another person except where due reference is made in the text of this thesis.

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Introduction

Communication design is a profession in transition in Australia. From its craft guild roots and an apprenticeship education model it became the trade of commercial art educated within technical and vocational colleges (Young, 2005). Then, due to tertiary education sector reforms introduced by the federal government in the early 1990s (Dawkins, 1988), it entered Australian universities as the profession of graphic design. Since entering Australian universities around 25 years ago, the profession has grown in scope and skills to produce outcomes beyond traditional graphic media, and so has evolved into communication design.

The communication design profession is still transitioning as it deals with the consequences of being educated within universities, including introduced academic values and the development of communication design as a discipline. As part of this transition, in recent years there have been increasing calls for communication designers to engage with research to inform their practice (Bennett, 2006a). A wide range of methodologies and methods have been argued to be useful and important for the profession such as: evidence-based approaches to design practice (Miller & Rudnick, 2012), research to support user-centered or human-centered design principles (Buchanan, 2004; Hanington, 2010; IDEO, 2012; Nini, 2002), usability testing (Jenkins, 2004; Knight & Jefsioutine, 2002), exploratory, generative and evaluative design research (Hanington, 2003, 2007), and participatory and co-design methodologies (J.-H. Lee & Li, 2011; Packard, 2008; Sanders, 2006).

As discussion of the role of research in design practice has developed, diverse opinions from both the profession and discipline have come forth. Advocates of research engagement argue that reading and conducting research has the potential to: increase the efficiency of processes (Wong, Lam, & Chan, 2009), improve the effectiveness of design outcomes (Chu, Paul, & Ruel, 2009; Cooke, 2006), provide a base of knowledge not possible for an individual to gain through personal experience alone (Friedman, 2003c), foster creativity (Storkerson, 2006), meet the complex challenges of the knowledge economy (Friedman, 2003c) and raise professional standing of the specialism (Bennett, 2006a). However, skeptics counter that using research in design practice is restrictive (Raisanen, 2012a, 2012b), ineffective (Zaccai, 2013), impractical and unnecessary (Norman, 2011a).
In relation to practitioners’ research engagement some authors maintain that designers value research and already use it extensively in their work (Hanington, 2005; Manfra, 2005), while others claim there is a lack of understanding of what research is (Throop, 2006) and that the majority of designers do not engage with research sufficiently (Nini, 1996, 2006). As will be discussed in more detail in the literature review, the nature of research in the communication design profession, and the extent to which practitioners currently engage with it, is largely assumed.

To address this gap in knowledge the present study was designed to collect data about perceptions held by Australian communication designers and academics in order to better understand how research is characterised within the field and how and why professionals engage with it. The primary aim of the study is to reveal what role research plays in the Australian communication design profession at present, with a view to predicting its anticipated role in communication design practice in the future. Answers to the following four main research questions were sought:

1) How is research characterised within the Australian communication design field?

2) How are practitioners engaging with research within the Australian communication design field and why?

3) How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?

4) What do these findings suggest about the role of research in Australian communication design practice in the future?

I was drawn to investigating the role of research in communication design practice by my personal experiences in the design profession and academia. While I hold substantial experience practising within a successful communication design studio I cannot recall ever witnessing explicit engagement with formal research. And before becoming involved with academia I was even unaware that academic journals existed for our design specialism. And yet, as my involvement in higher education increased it became clear that not only were design educators increasingly expected to hold research degrees in order to teach design at a university but also professional designers were being expected to increase their use of primary and secondary research methods. Such concepts appeared at odds with the values I had witnessed operating within the industry and they led me to wonder what kind of role research
really played within the Australian communication design profession and what role it is likely to play in the future.

To support the investigation of these issues, Bourdieu’s post-structuralist social theories were used in the present study as a theoretical lens. Bourdieu’s key concepts were employed to explain the relationship between academic and practitioner characterisations of research and the significance of research in Australian communication design practice both now and in the future.

As will be explained in more detail in the definition of key terms outlined in Chapter 1, in the context of the present study communication design is defined as a specialist design field. Its core purpose is to design effective communication materials and systems in any media, including traditional areas such as graphic design for print, environments or digital media, and also including emerging areas of communication strategy and service design. Chapter 1 also presents the definition of research, and that of engagement that were adopted for the present study.

Chapter 2 of this thesis describes the literature review that was conducted to inform the investigation, as well as the knowledge gap that the review identified, how the present study was designed to fill the gap and the relevance and significance of the study findings to the discipline.

The literature review revealed multiple threads of debate about design practitioners’ research engagement yet very little empirical evidence about how research is understood and engaged with, particularly within communication design practice. Indeed, as already mentioned, despite a reasonable amount of peer-reviewed literature most of the debate was found to be rhetorical or anecdotal. Almost no literature was found that described Australian communication design practice in relation to research.

Chapter 2 concludes with an explanation of the relevance and significance of the present study’s findings. Understanding the changes in relation to practitioners’ research engagement which are taking place within the communication design profession is valuable for supporting improvements within the field in the interests of academics and professional practitioners, as well as also being in the interests of clients and the wider community which benefit from high quality communication design practice and outcomes.
Chapter 3 outlines the theoretical perspective of the present study. A summary of the key theoretical concepts developed by Bourdieu that were employed within the investigation is presented, including Bourdieu's concept of social fields and how they operate (Bourdieu, 1993a), and his general theory of practice (Bourdieu, 1977). To conclude Chapter 3, findings from a Bourdieusian field analysis that was conducted prior to the main empirical investigation are also presented.

Chapter 4 of this thesis sets out the methodology and methods that were employed to investigate the present situation in Australia and address the gap in knowledge. This includes a discussion of the 3-stage exploratory sequential mixed methods research design chosen and details of the specific quantitative and qualitative methods employed.

Chapter 5 presents the predominantly quantitative analysis and findings from the online questionnaires conducted for stage one of the study.

Chapter 6 presents the predominantly qualitative analysis and findings from the focus groups conducted for stage two of the study.

Chapter 7 presents the overall findings for the four main research questions (arrived at through combined analysis of stage one and two findings). The overall findings are then considered in relation to the literature and the implications of the overall findings are discussed.

Chapter 8 presents the conclusion to this thesis. This consists of a brief restatement of the overall findings for the four main research questions, discussion of limitations of the overall findings, an outline of possible opportunities for further inquiry and closing reflections on the completed study.
Chapter 1: Definition of key terms

From the very outset of this study it has been obvious that the definition of key terms, such as design and research, is as much a point of confusion and contention within design as it is in other fields. As the meaning of these terms is central to the present study’s research questions it is important to consider how these terms have been discussed previously in the literature and it is essential to state the definitions that have been employed within this study.

From this study’s main research questions, the key terms were determined to be; communication design, research and engagement. When choosing the definitions for key terms for this project the various definitions for these terms that were found during the literature review were collected and considered as follows.

Communication design

There are many different names that are used to refer to the specialised area of design on which this project focuses. While there is ongoing debate about the disciplinary boundaries within design (Bremner & Rodgers, 2013), in the context of this study, communication design is used as an umbrella term for the design specialism that has also been referred to as graphic design, visual communication, graphic communication or commercial art.

According to IBISWorld in their 2011 and 2012 worldwide industry reports on Graphic Design Services, “Companies in this industry plan, design and manage the design and production of printed materials, packaging, advertising, signage systems and corporate identification (logos)” (2011; E. J. Lee, 2012). The Australian Bureau of Statistics (ABS) defines graphic design similarly as being a distinct area of design that “includes the design of visual or graphic material such as packaging designs, corporate logos and sign writing” (Australian Bureau of Statistics, 2011, Introduction).

While the definitions used by the ABS and IBISWorld focus predominantly on printed materials and exclusively on visual products, designers in this industry increasingly also design outcomes in a wide range of other materials and media. For example non-printed outcomes such as websites, social media pages, broadcast and environmental graphics commonly appear in designers’ online folios, as well as non-visual outcomes such as strategies for branding, marketing and service design.
The term communication design has been chosen for this study over others because, as evidenced in the services offered by designers, the core activity of this specialism is to design communications that now may extend beyond being purely graphic or visual (Frascara, 2004, p. 4). The increased expectation and demand for design of strategy, services and other non-visual outcomes means that terms such as graphic design and visual communication, that have been used for this specialism in the past, are becoming less appropriate as a reflection of the core aims or activities of the profession’s practitioners. To this effect, Buchanan has written that:

> Graphic design grew out of a concern for visual symbols, the communication of information in words and images. That the name of this profession or area of study has changed over the years only serves to emphasize the focus: it has evolved from graphic design, to visual communication, to communication design. Initially named by the medium of print or graphical representation, the introduction of new media and tools, such as photography, film, television, sound, motion and digital expression, has gradually helped us to recognize that communication is the essence of this branch of design, independent of the medium in which communication is presented. (Buchanan, 2001, p. 10)

Communication design is sometimes discussed as a field, discipline, profession, or—as in Buchanan’s words above—a branch of design. Understanding the structure of these different collectives is valuable for the present study because it clarifies the key agents and institutions operating in communication design and assists evaluation of their positions and motivations, particularly from the Bourdieusian perspective that this study employs.

Following Bourdieu’s original concept of the cultural field as a metaphorical way to describe a social practice (Webb, Schirato, & Danaher, 2002, p. X) it is useful to consider communication design to be a cultural field, located within the broader field of design and the overarching social field of power.

Friedman has described the field of design as containing both the design profession and the design discipline, where “the profession of design involves the professional practice of design [and] the discipline of design involves inquiry into the plural domains of design” (Friedman, 2003c, p. 508). While Friedman’s taxonomy was presented as a description of the broad field of design it is equally applicable to the specialised field of communication design where the profession is made up of communication designers.
that primarily practise design commercially, and the discipline that is made up of academics involved in scholarly inquiry and teaching communication design.

Therefore, in the context of the present study communication design is defined as the specialist design field (including the discipline and profession it contains) that has the core purpose of designing effective communication materials and systems in any media; be it traditional areas such as graphic designs for print, environments or digital media, or emerging areas of communication strategy and service design.

**The research practice nexus within the communication design field**

Taking Friedman’s conception of the field further, the discipline and profession can be considered as partially overlapping, creating a nexus that encompasses the activities that involve both the discipline (which focuses on design research) and profession (which focuses on design practice). As shown in Figure 1, in the context of this thesis this area is referred to as the *research practice nexus* and will now be discussed to help clarify the specific scope of this study.

*Figure 1: The communication design field, extended from Friedman (2003c)*
While the research practice nexus within the communication design field includes, by definition, any communication design activity, agent or issue that involves or relates to both design practice and research, the present study sets out to investigate one specific group; acts of research engagement conducted by practitioners to inform their professional practice. For clarity of scope, how this group of activities was determined in the present study will now be explained.

All activities that take place within the research practice nexus can be categorised into two main groups, based on the purpose of the endeavor.

The first group consists of research activities conducted—usually by members of the discipline—for the purpose of generating academic outcomes such as published research knowledge. Examples of this include Archer's widely cited categorisations of "research about practice... and research through practice" (Archer, 2012, p. 11), as well as Frayling's similar discussion of "research into... [and] through art and design" (Frayling, 2012, p. 106) and Findeli's "project-grounded research in design" (Findeli, p. 132). In recent years this category of enquiry has grown in popularity within many creative fields such as dance, creative writing, film/video and theatre, as well as design (Barrett & Bolt, 2007, p. 1) and is often described as "practice as research" (Barrett & Bolt, 2007) or "Practice-led Research" (H. Smith & Dean, 2009; Sullivan, 2009).

In the context of the present study these activities are distinguished from other areas of the design discipline because they intrinsically involve design practice as an object of investigation or as a research method. In contrast, activities such as basic or pure research that lead to the development of high-level abstract design theory and fundamental new knowledge are more appropriate to locate exclusively within the discipline (outside the research practice nexus) because while they may ultimately flow-on to affect design practice, they do not involve or relate to design practice in their immediate objectives or research process.

The second group within the research practice nexus consists of research activities conducted—this time usually by professional design practitioners—for the purpose of directly informing design decisions made within commercial projects. This aligns with what Archer described as "research for the purposes of practice" (Archer, 2012, p. 11) and Frayling referred to as "research for art and design" (Frayling, 2012, p. 106). Such knowledge is obtained via professional designers reading published research literature or conducting their own investigations. For example, reading or conducting user-
centered design which investigates end users, practising participatory design that employs research methods to involve users in generating design solutions or testing to evaluate design prototypes.

The present study focuses specifically on this second group of activities within the research practice nexus. That is, the investigation was designed to explore the research engagement communication design practitioners conduct to inform their design practice and did not seek to explore academic research activities conducted for the purpose of knowledge outcomes—even if they also involved aspects of design practice.

Research

Central to exploring communication design practitioners’ research engagement is the highly contested definition of research itself.

To decide how to define research within the present study the various definitions of research found in the literature were collected and reviewed. From the definitions collected, common criteria for research were identified and individually evaluated to assess their validity in relation to the present study’s research questions. Through this process a list of widely accepted criteria for conventional research was developed and the definition of research was chosen for the present study.

A selection of the definitions of research that were considered will now be discussed, along with the final definition chosen for the present study.

Definitions of research from reference literature

One of the most widely recognised definitions of research is employed by the Organisation for Economic Co-operation and Development (OECD) and is for research and experimental development (R&D):

*Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. (OECD, 2002, p. 30)*
This definition was developed by OECD experts in science and technology and presented in the *Frascati Manual* expressly for the purpose of “the measurement of human and financial resources devoted to research and experimental development” (OECD, 2002, p. 14). While this definition offered a useful and thought-provoking starting point for choosing a widely accepted definition of research, careful reading of the *Frascati Manual* revealed it to be inappropriate to adopt wholesale for the purpose of the present study for two main reasons.

First, the component of *experimental development* in this definition was considered to be problematic for its closeness to that of design practice. The Frascati Manual defines *experimental development* as:

> Systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed. R&D covers both formal R&D in R&D units and informal or occasional R&D in other units. (OECD, 2002, p. 30)

These types of activities align closely with many aspects of practice within communication design, as well as design specialisms generally, and so *experimental development* was regarded as arguably similar to design practice.

While the above definition of experimental development is offered at the outset of the *Frascati Manual*, and therefore could have enabled activities of experimental development to be distinguished from research within the present study, nearly all of the remaining explanations in the document refer to *R&D* collectively—without differentiating what is research. In the context of the present study, which seeks to explore the relationship between research and design practice, adopting such a definition that effectively could encapsulate both kinds of activity was obviously unusable.

Consequently, to ensure that the definition of research adopted included only research activities (without experimental development), the other components of the OECD’s definition of research were examined. These were *basic research* and *applied research*:

> **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and
observable facts, without any particular application or use in view.

**Applied research** is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. (OECD, 2002, p. 30) [Emphasis in original]

It was reasoned to be highly unlikely that a design practitioner would set out “to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view” (OECD, 2002, p. 30). Therefore, the OECD’s definition of basic research was determined to be not relevant for investigating communication designers’ research engagement.

It was, however, considered likely that if a design practitioner did engage with research as part of their practice, that research would be “investigation undertaken in order to acquire new knowledge… directed primarily towards a specific practical aim or objective” (OECD, 2002, p. 30). Therefore, adopting the OECD’s definition of applied research was considered.

While the OECD’s definition of applied research initially appeared valid for use in the present study, the further explanations and examples offered in the Manual demonstrate that, according to the OECD definition, only the more fundamental types of new knowledge should be regarded as research.

This requirement for research to generate fundamental types of knowledge constituted the second reason why the OECD’s definitions of research were not appropriate to adopt wholesale for the present study’s investigation. That is, the conception of research as seeking fundamental types of new knowledge is somewhat narrow and would arguably exclude most—if not all—of the investigation that design practitioners would conduct from qualifying as research. For example, the manual sets out that “general purpose data collection… [including] market surveys” (OECD, 2002, p. 31), and “feasibility studies” (2002, p. 31) should be excluded when measuring R&D activities. Also, while methods of diagnostic or evaluative testing are regarded as research if they are conducted within a study to develop fundamental knowledge, according to the OECD definition, they are expressly excluded from being research if they are conducted within routine professional practice. The example offered in the Manual is of blood pathology, which is explained as qualifying as research if it is conducted as part of a drug trial, yet is excluded from being research if conducted by a general physician to diagnose a patient’s condition (OECD, 2002, p. 35). Such a
distinction effectively disqualifies any diagnostic investigation conducted by a design practitioner for the purposes of informing individual decisions in practice as constituting research. Thus, adopting a research definition for the present study that inherently requires research to generate fundamental types of knowledge was found to be untenable and a more inclusive definition was sought.

For a widely recognised definition of research that was capable of accommodating a broader range of knowledge relevant to design practice (i.e. beyond the requirement to be fundamental), the *Oxford English Dictionary* (OED) was consulted, and found to define *research* as:

*research, n.*

†1. *The act of searching carefully for or pursuing a specified thing or person; an instance of this.*

2. *a. Systematic investigation or inquiry aimed at contributing to knowledge of a theory, topic, etc., by careful consideration, observation, or study of a subject. In later use also: original critical or scientific investigation carried out under the auspices of an academic or other institution.*

   *b. Investigation undertaken in order to obtain material for a book, article, thesis, etc.; an instance of this.*

   *c. The product of systematic investigation, presented in written (esp. published) form.*

(Research, 2011)

This definition was regarded as useful for it’s clarification that research can be either an *act* or a *product* of investigation. However, it was also considered so broad and complex that it could classify a great number of diverse activities and outcomes as constituting research.

Consequently, it is not surprising that past studies (Manfra, 2005; Nini, 1996,) have found that understanding within the design field of what constitutes research varies substantially; ranging from highly formal and rigorous methods to everyday approaches that are clearly controversial to claim as any type of investigation. Examples of this can be found in responses to a survey conducted in the USA in 2005 which indicated that some practising designers believed that travel or even “selecting color swatches” (Davis, 2008b, p. 74) can constitute research (Manfra, 2005,).
Fulton Suri acknowledged the diversity of understanding of what research is in design fields when she wrote that “for some people it connotes ‘data collection’ – looking to the past and present but not to the future; for others it’s simply a required step before coming up with ideas; for yet others it’s a filter that rejects promising ideas before they’ve had a chance to evolve” (2008, p. 53).

Due to these definitions of research found within the reference literature being either too specific or too broad for the purposes of the present investigation, the design literature was searched for a more succinct definition of research that was still capable of accommodating practitioners’ research activities.

**Definitions of research from the design literature**

One of the most widely cited definitions of research in the design literature is by Archer who famously proclaimed “research is systematic enquiry whose goal is communicable knowledge” (2012, p.6). While this definition is very similar to that from the OED mentioned earlier, its simplicity appears to have made it a somewhat more useable and widely accepted definition within the design community (Findeli, 2012, p. 124). Archer’s definition was appealing for use in the present study due to its lack of the OECD’s restrictive requirement for knowledge to be new or fundamental. However, Archer’s specification that knowledge need only be communicable was problematic for the same reasons as the OED’s definition, in that it could encompass nearly any kind of knowledge without qualification of quality. And Archer’s definition also lacked the acknowledgement that research can be an act or a product of investigation.

In light of the limitations identified in the definitions of research offered by the OECD, OED and Archer, definitions of design research (as distinct from only research) found within the design field’s literature were considered.

Within the literature reviewed for the present study, design research is often discussed as a specific type or category of investigation distinct from other forms of research. This differentiation is commonly discussed as important for distinguishing research conducted within the design field from the predominant approaches to research common in the sciences or humanities (Archer, 2012, pp. 6–10).

In an effort to make this distinction, Findeli extended Archer’s definition of research to posit that “design research is a systematic search for and acquisition of knowledge related to general human ecology considered from a designerly way of thinking, i.e.,
project-oriented, perspective” (Findeli, 2012, p. 128). This definition distinguishes design research from other types of inquiry by its subject matter and its epistemological stance from within the design field.

While Findeli’s definition effectively addressed the need to be succinct, specific and capable of including design practitioners’ purposes (which seek project-specific findings rather than fundamental knowledge), the term design research was found to be potentially confusing to adopt. This was because of its common use in the literature to refer to work of members of the design discipline rather than to the work of design practitioners. That is, in most literature collected in the review for the present project, while it is not often explicitly stated, the term design research is used to refer to the work of members of the design discipline; namely researchers, scholars or academics rather than to research work by design professionals. However, as acknowledged by Blessing and Chakrabart;

*It has to be noted that the term ‘design research’, and related terms such as ‘design research method’ and ‘design research methodology’ are also used in the context of design practice to refer to approaches and methods for designers, rather than researchers, to acquire knowledge for improving their work by doing research, e.g., as part of the task-clarification stage of a particular design project.* (Blessing & Chakrabarti, 2009, p. 6)

The fact that this note appears, almost as an afterthought, at the end of a lengthy discussion of design research in the context of academia, is a reflection of how secondary it is for design research to be considered an activity that professional practitioners might engage with. Consequently, to avoid confusion, the definition chosen for use in the present study referred to research rather than design research.

Buchanan has noted that within the design community there “is a tendency to think that research means a single kind of activity [when] there are, in fact, many kinds of research, some of which are very familiar to every designer and others of which are rare and unfamiliar” (Buchanan, 2001, p. 17).

Considering the various types of research helps in understanding which are most relevant to and used by professional practitioners. The OECD’s definitions of basic and applied research (quoted at the start of this section) constitute one of the most common distinctions.
Following a similar line to the OECD, Buchanan and Friedman have outlined the roles they see basic, applied, and clinical types of research playing in the design discipline and profession (Buchanan, 2001, p. 17; Friedman, 2000, pp. 17–18; 2003c, p. 510)¹. Corresponding with the OECD’s classification, Buchanan and Friedman both describe basic research as being the type that usually leads to developing theory and first principles, and acknowledge it to be an activity that is virtually exclusive to the academic discipline due to its abstract nature (Buchanan, 2001, pp. 18–19; Friedman, 2003c, pp. 510–511).

Buchanan and Friedman break down the OECD’s classification of applied research to two classifications; applied and clinical research. Both authors describe applied research as dealing with broader categories or classes of design cases and suggest it is more likely to be conducted by the design discipline; although it is also noted as important for qualification of knowledge by practitioners (Buchanan, 2001, p. 18; Friedman, 2003c, pp. 510–511). And clinical research, involving investigations about or for individual projects, is discussed as the most relevant and practical form of research for design practitioners to conduct (Buchanan, 2001, pp. 17–18; Friedman, 2003c, pp. 510–511).

Based on explanations and examples offered by Buchanan and Friedman the three research categories they discuss in relation to design were located on a diagram of the communication design field (as shown in Figure 2). This exercise illustrated which types of research, according to Buchanan and Friedman’s classifications, were regarded as commonly conducted by which areas of the communication design field. In doing so, the scope of the present study was further clarified as relating mainly to types of clinical research.

¹ From the publication dates and citations within these pieces of literature, it is unclear which author—Buchanan or Friedman—was first to publish the distinction between basic, applied and clinical research within design. Therefore, within this thesis, both authors are credited with development of this concept.
As illustrated in Figure 2, the descriptions of research found in the design literature locate certain types of research as more appropriate to expect design professionals to engage with than others. That is, no literature has been found that suggests communication design practitioners should be or would be conducting basic research to arrive at abstract theories. Rather, the literature contains arguments that clinical research, and to some extent, applied research (following Buchanan and Friedman’s definitions outlined earlier), are most relevant and useful for supporting design practice.

In addition to definitions of research and research types, discussions of what constitutes legitimate research methods for design practitioners were found in the literature. Research methods employed by design practitioners were discussed as sometimes unorthodox or necessarily different to conventional academic approaches to inquiry. Hanington offered a nomenclature that categorised the research methods employed within human-centered design practice as traditional, adapted or innovative (Hanington, 2003, p. 13).

Hanington’s classification recognises that while some methods that are employed by designers are well established and widely accepted within society as constituting research others depart from conventional methodologies. The widely accepted methods he describes as traditional include market research, focus groups, surveys, questionnaires, interviews, archival searches and experiments (Hanington, 2003, pp. 13–14).
Those that depart from conventional methodologies include methods that Hanington describes as *adapted* from conventional approaches, such as observational research and ethnographic methods (Hanington, 2003, p. 14–15), and *innovative* methods of inquiry that specifically serve the purposes of design, such as design workshops, card sorting, collage and visual diaries (Hanington, 2003, pp. 15–16).

Other authors have also argued that unconventional research methods are valid for inquiry in design practice, such as Gaver et al. (Gaver, Boucher, Pennington, & Walker, 2004; Gaver, Dunne, & Pacenti, 1999) who advocate the use of cultural probes that include multiple tools and activities for participants to employ and creatively respond with. And a broad range of research methods relevant to design practice have been described more extensively by authors such as Martin and Hanington (2012) and Curedale (2013).

Such advocacy of unconventional research methods in design aligns with the emerging areas of practice-led research and practice as research in academic research within other creative disciplines (Barrett & Bolt, 2007; H. Smith & Dean, 2009). And the growing credibility of creative research methods is evidenced by the Australian Research Council's recognition of creative outputs as Non-Traditional Research Outputs since 2009.

While the aforementioned authors from the design field have argued for the validity of unconventional research methods for use in design practice there have also been comments that highlight the necessity for maintaining a level of rigour in research. That is, many authors argue that even if they are unconventional, research methods used within the design discipline and profession must meet certain criteria to qualify as research.

While Archer and Findeli’s definitions referred to the need for rigour by defining research as *systematic*, Poggenpohl implied the need for rigour when she suggested it is perhaps easier to identify “what is not design research” (Poggenpohl, 2010). Poggenpohl declared that, “looking through trade magazines for inspiration is not research. Asking one or two people for their opinion about what you’re designing is not research. Fooling around with some design element in order to get a better idea or result is not research” (Poggenpohl, 2010).

Poggenpohl’s comments, like Archer and Findeli’s references to the need for systematicity, imply that research processes are expected to be rigorous through
careful, organised and thorough procedures in the interests of arriving at the most trustworthy findings possible. To seek a clearer understanding of what criteria must be met for an inquiry to be considered rigorous enough to be research, literature from the broad field of academic research was reviewed.

**Definitions of, and criteria for research from academic literature**

As discussed in relation to definitions of research found within the design literature, the reference to *research* implies employment of a more rigorous, focused, systematic and intentional process than vague browsing, pure opinion or playing with design elements. In an effort to identify those core qualities that distinguish research from less rigorous investigations, literature from the broader field of academic research (in disciplines outside design) was reviewed.

In the context of academia the definition of research is usually more specific than definitions from the design literature and yet it is still not universally agreed upon. As discussed extensively over the years by Lincoln and Guba (1989, 1998; 1985; 2011), essential axioms, including what is considered to be valid and reliable, vary substantially and at times even contradict each other, depending on the paradigm and methods a researcher is using. Prominent scholars have proposed different key criteria and evaluation strategies for research in the areas of science, social sciences and the arts.

To better understand the definitions of research accepted in the academic field the criteria for research discussed in the quantitative, qualitative and mixed methods research literature were compared. Through these comparisons, core criteria were identified that captured the qualities regarded in academia as essential for research to be legitimate. Table 1 summarises this comparison and reveals that within the academic literature there is a level of consensus that research must be: valid, reliable, transferable, confirmable, ethically and systematically produced, and original.
### Table 1: Core criteria for research found in academic literature

<table>
<thead>
<tr>
<th>Core criteria</th>
<th>Findings must be:</th>
<th>Which means:</th>
<th>Equivalent criteria from key research approaches</th>
<th>Common strategies to achieve quality</th>
<th>Possible ways to evaluate quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The data and findings are stable over time.</td>
<td>(Truthful (Krippendorff, 2009, p. 356)</td>
<td>Reliability or Reproducibility (Creswell &amp; Plano Clark, 2011, p. 266)</td>
<td>Dependability or consistency (Guba &amp; Lincoln, 1989, p. 242)</td>
<td>Dependability audit of documentation to track process (Guba &amp; Lincoln, 1989, p. 243; Lincoln &amp; Guba, 1985, pp. 385–392)</td>
</tr>
<tr>
<td>Transferable</td>
<td>The findings can be transferred to inform other situations and disciplines</td>
<td></td>
<td>Generalisability (Creswell &amp; Plano Clark, 2011, p. 13)</td>
<td>Transferability (Guba &amp; Lincoln, 1989, pp. 241–242)</td>
<td>Purposeful sampling strategies and description of context for qual. findings, and probabilistic sampling strategies and evidence of generalisability for quant. findings (Creswell &amp; Plano Clark, 2011, pp. 172–175)</td>
</tr>
<tr>
<td>Confirmable</td>
<td>The findings are clearly grounded in sources outside the researcher, and are therefore not purely the researcher’s opinion (Guba &amp; Lincoln, 1989)</td>
<td></td>
<td>Objectivity (Lincoln et al., 2011, p.101)</td>
<td>Confirmanity (Guba &amp; Lincoln, 1989, pp. 242–243)</td>
<td>Confirmanity audit of documentation to identify clear relationship between data and findings (Guba &amp; Lincoln, 1989, p. 243; Lincoln &amp; Guba, 1985, pp. 385–392)</td>
</tr>
<tr>
<td>Ethically produced</td>
<td>The research has been conducted with respect for the rights of others and the environment</td>
<td>(Systematic, 2013)</td>
<td>Ethics (Creswell &amp; Plano Clark, 2011, p. 179)</td>
<td>Clear, thorough documentation of process to demonstrate how findings were arrived at (Guba &amp; Lincoln, 1989, pp. 242–243)</td>
<td></td>
</tr>
<tr>
<td>Systematically produced</td>
<td>“Arranged or conducted according to a system, plan, or organized method”</td>
<td>(Systematic, 2013)</td>
<td>Ethics (Creswell &amp; Plano Clark, 2011, p. 179)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original</td>
<td>The findings generate new knowledge</td>
<td></td>
<td>New knowledge</td>
<td>Literature review to evaluate existing knowledge</td>
<td>Look for evidence of literature review</td>
</tr>
</tbody>
</table>
Each of the core criteria for research presented in Table 1 was individually assessed to determine its suitability for inclusion in the research definition in the present study. As explained in the following summaries, only some of the core criteria were reasoned to be essential and appropriate to retain in the definition.

**Research findings must be valid**

According to all the definitions of research found in the academic literature, to qualify as research an investigation must produce knowledge that is valid, that is “well founded and fully applicable to the particular matter or circumstances; … against which no objection can fairly be brought” (Valid, 2013). Krippendorff summarised this by stating, “in short, validity concerns truth” (Krippendorff, 2009, p. 356). Most definitions of research found within the reference and design literature also refer to validity as important for research.

While it is difficult to argue against the importance for knowledge to be well founded, fully applicable and truthful, literature was found from the design field that indicated the criterion for research to produce knowledge that is valid is not always possible, or important for informing design practice. For example, it has been argued that research may be useful to inspire and generate concepts for design solutions, such as generative research using constructive methods as proposed by Hanington (2007, p. 4) and Fulton Suri (2008, p. 56). In these contexts it is not necessary, or sometimes not even desirable, to seek data that accurately or comprehensively represent a subject or answers a question. Similarly, Gaver, Boucher, Pennington and Walker (2004) have described their use of cultural probes to gain “a deep sense of familiarity and engagement with the people who might use our designs” (Gaver et al., 2004, p. 56) and have asserted that seeking accurate answers misses out on the value of playful exploration and freedom it can provide (Gaver et al., 2004, p. 56). It must be acknowledged that this approach to research is unconventional, uncommon, and the authors themselves acknowledge the substantial criticism their methods have attracted. However, arguing that research can be valuable for inspiration alone challenges the notion that to be research, an investigation must produce accurate, applicable, truthful and thus valid findings.
On the basis of this literature it was concluded that the need for research to be valid (accurate or truthful) is closely linked to purpose and that while validity of findings may not be essential in all situations it would be important within the great majority of design projects.

**Research findings must be reliable**

In addition to the academic literature designating that research must produce valid findings it was also commonly stated that to qualify as research an investigation must produce knowledge that is also reliable, that is, the data and findings are stable over time and are thus trustworthy. As Krippendorff explained, “In short, validity concerns truth; reliability concerns trust” (Krippendorff, 2009, p. 356).

Like validity, the requirement for reliability in research findings is rarely challenged in the literature. This is understandable considering it’s difficult to envisage what untrustworthy knowledge could be useful for in any context, let alone design.

Krippendorff set out that the required level of reliability depends upon “the potential costs of drawing invalid conclusions” (Krippendorff, 2009, p. 354). Transferred to the context of design practice, this translates to become a question of what would be the cost or consequences to the design project of working from invalid (i.e. untrue or inaccurate) conclusions? The answer to this question is arguably intrinsically linked to the purpose of the research. For example, if the reason a designer conducts research is to test the efficacy of a design solution, then if the research is unreliable, it risks the design being incorrectly evaluated. If the purpose of the research is to understand the audience or client, then misunderstanding them is the risk. If the purpose were to simply collect more diverse ideas, then collecting a smaller range of concepts due to unreliable research methods or findings would seem a lesser consequence.

On the basis of this literature, it was concluded that the importance of research findings being reliable is—like validity—inherently linked to purpose, and while reliability could be argued as not essential in some contexts it is important for the vast majority of design practice situations.

**Research findings must be transferable**

The criterion for research findings to be transferable (or generalisable in quantitative inquiry) was discussed less frequently in the academic literature than validity and
reliability, yet the requirement for findings to be suitable for informing other situations and disciplines (Guba & Lincoln, 1989) was clearly an expectation within academic research definitions.

In contrast with the academic field, literature from the design field acknowledged that the requirement for all research knowledge to be transferable is difficult to meet in many commercial design projects. As discussed previously, Buchanan (2001, pp. 18–19) and Friedman (2003c, pp. 510–511) have suggested the majority of research conducted in design practice is clinical and therefore conducted to inform design decisions within a single project. Similarly, the OECD’s definition of applied research (discussed previously) sets out that “the results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods or systems” (OECD, 2002, p. 78). According to these definitions the research most likely to be conducted by practitioners is not required to be transferable.

In addition to this, members of the discipline and profession have acknowledged that most research conducted within the context of professional practice is proprietary and thus the intellectual property of the client who is paying for the work (Arnet, 2012; Breslin & Buchanan, 2008; Davis, 2008b, p. 75). The OECD’s broad guidelines acknowledge this too, noting “the knowledge or information derived from it [applied research] is often patented but may be kept secret” (OECD, 2002, p. 78). This prevents much design research produced in practice from being published and so also precludes it qualifying as transferable.

On the basis of the literature reviewed it was concluded that the requirement for research to be generalisable or transferable was not essential for research conducted within design practice.

**Research findings must be confirmable**

The criterion for research findings to be confirmable requires the knowledge produced by an inquiry to be clearly grounded in sources or evidence outside the researcher, as opposed to being based purely on the researcher’s opinion (Guba & Lincoln, 1989).

The requirement for confirmability has been attributed to the Enlightenment model of positivism and it’s “value-free inquiry” (Denzin & Lincoln, 2011, p. 22) that aspired to objective and unbiased knowledge, in the interests of validity and reliability.
Within the design field, Poggenpohl also argued that research findings must be confirmable by proclaiming:

*Research is based on evidence that can be analysed and synthesised to get an answer to the question being asked. Evidence may not be scientific, replicable or generalisable across many contexts and this is a problem for design research. There are so many variables embedded in design. But evidence may provide a robust pattern, specific to a situation, or provide scaffolding for further research investigation, but evidence is essential for research. It goes beyond isolated opinion or individual experience.* (Poggenpohl, 2010)

According to the literature reviewed the criterion for confirmability, typically met through collecting external data (as stated by Poggenpohl above), is explicitly required or favoured in both the academic and design fields. However, while the requirement for external data was predominant it was not universal.

The relatively recent emergence of some kinds of qualitative inquiry in academia that are based exclusively on internal data challenges the necessity of excluding the researcher’s opinion from the processes of research (Arnold, 2012, p. 238). As a consequence of these emerging methodologies the requirement for research to be confirmable via external sources is being disputed.

Examples of research that do not confirm to the requirement for all inquiry to gather external data for confirmability include auto-ethnography (Patton, 2002, pp. 85–87), duo-ethnography (Thomas & Sham, 2014) and “subjective academic narrative” (Arnold, 2012, p. 238). Within these approaches the researcher reflects on their own practice as a method of data collection and analysis and findings are therefore grounded exclusively in the personal experiences of the researcher.

Therefore, based on the literature found within the design and broader academic fields it was concluded that the requirement for confirmability through collection of external data was prevalent, although not beyond dispute.

**Research findings must be ethically produced**

Discussions of the criterion for research to be conducted ethically, that is, with respect for the rights of others and the environment, were found mainly in broad academic literature.
While ethical practice is accepted in Australian society and law as desirable in virtually any context, determining whether an investigation qualifies as research on the basis of whether it has been conducted ethically is problematic, particularly within design practice, for two reasons.

First, the difficulty of determining exactly *what is considered ethical* makes it challenging to make definitive judgments. Examples of past studies demonstrate that ethicality is highly contingent on context, in that what may have been considered ethical research in the past, or in another country, may not qualify as ethical in Australia today. One of the most notorious examples of this is Milgram’s Experiment 18 (Milgram, 1974) during which participants were led to believe they were inflicting electric shocks on other people. While this study controversially gained ethical approval when it was conducted in the 1970s it would be highly unlikely to receive an ethics approval today. Denzin and Lincoln note other ethically questionable studies as including “the Nazi medical experiments, the Tuskegee syphilis study, Project Camelot in the 1960s… Laud Humphrey’s deceptive study of homosexuals, and the complicity of social scientists with military initiatives in Vietnam” (Denzin & Lincoln, 2011, p. 22).

The second reason that the criterion of ethicality is problematic to include in a research definition for exploring the activities of communication design practitioners is the limited resources available to design practitioners for certifying ethical practices. In other words, if the criterion for findings to be ethically produced were included in a definition of research it could be difficult for design practitioners to meet because there is presently no organisation that reviews and independently verifies ethics for professional designers in the way that institutions such as universities do for design researchers. Consequently, even if designers do wish to demonstrate that their research was conducted ethically there is no governing body available to facilitate this.

Due to these two limitations the criterion for research to be ethically produced was not included within the definition of research used in the present study.

**Research findings must be systematically produced**

The requirement for research to be systematically produced, that is, to be conducted following a methodical, thorough and careful process, was common to all of the most widely accepted definitions of research found within the literature, including those of the OECD, OED, Archer, and Findeli, as discussed previously.
This need for systematicity is a key distinction that is commonly drawn between less formal or rigorous approaches to investigation and the more formal inquiry that research is commonly implied to be. Patton highlighted the importance of systematicity when he wrote, "When one examines and judges accomplishments and effectiveness, one is engaged in evaluation. When this examination of effectiveness is conducted systematically and empirically through careful data collection and thoughtful analysis, one is engaged in evaluation research" (Patton, 2002, p. 10).

While few authors articulate it, the requirement for research to be systematic is implied to be important for ensuring the validity and reliability of research findings. That is, if an investigation does not follow a structured system or plan in order to be thorough and careful it risks arriving at conclusions that are invalid, unreliable, or both, and are thus untrustworthy.

As discussed previously in relation to the requirement for research to be valid, Gaver, Boucher, Pennington and Walker (2004) have argued that while there may be value in systematic approaches for some purposes, conducting research methods in an intentionally unsystematic way can be effective for supporting generation of new ideas and fostering empathy. These authors’ advocacy of unstructured inquiry questions the importance of being systematic, particularly for exploratory and generative purposes. Yet as noted previously, arguing for the validity of unsystematic approaches to research is clearly an unconventional argument and was not found elsewhere in the literature.

On the basis of the literature reviewed it was concluded that being systematic is, more often than not, essential for research.

**Research findings must be original**

The criterion for research to generate original or new knowledge (as opposed to identifying or discovering existing knowledge) was found to be common in research definitions from the reference literature, including the OECD and OED definitions discussed earlier in this chapter, and in academic literature (summarised in Table 1).

Originality or novelty is one of the main criteria employed by the OECD’s definition of R&D to distinguish legitimate R&D activities from other investigations, The *Frascati Manual* explains the requirement for originality as follows:
The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty, i.e. when the solution to a problem is not readily apparent to someone familiar with the basic stock of common knowledge and techniques for the area concerned. (OECD, 2002, p. 34)

Beyond the above example, however, no explicit guidelines were found in the literature for determining which knowledge should qualify as new, making the criterion for originality problematic to employ for evaluating research in any context, let alone communication design practice.

Also, the above explanation states new knowledge from research should resolve scientific and/or technological uncertainty, however, as discussed previously, what might constitute new knowledge for addressing the less fundamental problems that arise within a design project remain undefined.

In light of the above difficulties of determining exactly what could qualify as new research knowledge within a design project, it is perhaps unsurprising that no explicit discussions were found within the design literature of the need for research to generate new knowledge. This lack of discussion suggested that research might not have to produce new knowledge to be still valid and reliable for informing design practice. Thus, it was concluded that the need to produce new knowledge was not essential to include within the definition of research employed within the present study.

**Definition of research used within the present study**

As discussed throughout the preceding summaries of the criteria for research that were found to be common in academic literature, some consensus was found within academia that research must produce findings that are valid, reliable, transferable, confirmable, ethically and systematically produced, and original. However, as also noted in the previous sections, arguments and examples of research were found within and outside of design that do not meet all of these criteria. These contrary examples offered evidence that the criteria may not always be essential for an activity to qualify as research and therefore challenged their suitability to adopt within the present study’s investigation of practitioner’s research engagement.

Archer recognised that conventional criteria for research may not always be applicable in design practice when he argued that:
In the case of research for the purposes of a practitioner activity, however, there may be circumstances where it does not matter whether the research was well done or badly done, or whether the research results turned out to be true or false, or whether the findings were situation-specific or generalisable. It may be sufficient to demonstrate that the practitioner outcome itself is satisfactory. In such a case, professional scholars and researchers would almost certainly protest that the investigation was, at best, Option Research² and at worst, not research at all, but mere speculation or exploration. (2012, p. 12)

Based on the range of discussions, definitions and criteria for research found during the literature review and summarised in the preceding sections, for the purpose of the present study, research was defined as:

**Systematic investigation conducted to produce trustworthy findings.**

In this context systematic was designated to mean organised, methodical and logical, and trustworthy findings were designated to be valid and reliable knowledge.

This definition was designed to encompass what were found to be the most widely accepted criteria for research in the reference, design and academic literature. That is, it defines research as being an act of investigation or its outcome (i.e. findings), being systematically produced and generating knowledge that is trustworthy (by being valid and reliable) for its purpose. The chosen definition was also designed to be relevant and functional for investigating the present study’s topic of communication design practitioners’ research engagement, in that the definition excluded the criterion to generate fundamental new knowledge, which was unlikely to be met by research in design practice.

While the definition adopted did not explicitly include reference to the criterion for confirmability, it was recognised that most definitions of research found within the literature required the collection of external data in the interests of the findings being confirmable beyond the researcher’s opinion.

And finally, while the other criteria of transferability and ethicality were discussed in the academic literature as essential for research the examples and contrary arguments summarised here were regarded to be sufficient evidence that these criteria are not

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² Archer describes Option Research as “systematic enquiry directed towards the acquisition of information calculated to provide grounds for decision or action” (Archer, 2012, p. 6)
necessarily essential for an investigation to constitute research, particularly for research within design practice.

**Engagement**

The most common ways that authors suggest design practitioners should be engaging with research are by personally conducting research (Sanders, 2008), or reading published research to remain up-to-date with new knowledge that they can apply in their practice (Friedman, 2003c, pp. 511–512).

Studies of practitioners’ engagement with research in fields outside design have also focused on conducting and reading research as the main ways that professionals could or should engage with research. For example Borg’s extensive investigations of research engagement of teachers (2007, 2009, 2010, 2012) have also explored conducting and reading research as the main modes of engagement.

**Conducting research**

A growing number of academics and practitioners argue it is important for designers to personally conduct research within their projects to inform their design decisions (Hanington, 2003, pp. 17–18; Sanders, 2006, 2008). It has been suggested that conducting research personally (as distinct from reading the research findings provided by others) establishes a deep understanding of the end user, client, or problem, and produces more effective outcomes and solutions (Hanington, 2010; Jönsson et al., 2004; Nini, 2006). These issues will be discussed further within Chapter 2.

As discussed earlier, the most common type of research described as being relevant for design practitioners to conduct is what Buchanan and Friedman have defined as clinical research (Buchanan, 2001, pp. 17–18; Friedman, 2000, pp. 17-18), typically conducted for an individual project. Within the literature, this kind of research is discussed as typically carried out for a wide range of purposes, for example to learn about the task and end-users, produce possible solutions, and test prototypes (Buchanan, 2001, p. 17; Hanington, 2007, pp. 3–4).

Hanington has suggested design research methods can fall into categories of being “traditional” (such as market research, surveys and focus groups), “adapted” (such as ethnographic methods), or “innovative” (such as participatory research) (Hanington,
To clarify the situation in relation to user-centered design specifically, Sanders developed a useful map that identifies the predominant types of research being conducted by professional designers in user-centered design (Sanders, 2008). She describes this as “a jumble of approaches that, while competing as well as complementary, nonetheless share a common goal: to drive, inspire, and inform the design development process” (Sanders, 2008, p. 13).

Figure 3: Map of types of inquiry within design research reproduced from Sanders (2008)

Sanders’ map locates research types according to their tendency toward an expert or participatory mind-set, as well as being either more design-led or research-led in approach. A map such as this is helpful to explain the range of user-centered approaches to design research being conducted by practitioners, although excludes other research methods that are not user-centered, such as methods of investigating marketplace competitors, materials, or technology.
Reading research

Reading research is the second mode of engagement discussed in the literature. The calls for designers to read research refer to reading peer-reviewed academic literature (such as journal articles, conference proceedings, standards developed from research findings or research commissioned for a specific project) as opposed to reading publications of non-research material including “looking through trade magazines” (Poggenpohl, 2010).

The suggestion that designers should read research literature to remain up-to-date with current knowledge is by no means revolutionary. As Schön famously recognised, every established profession requires its practitioners to have specialised expertise to distinguish them from amateurs and the general public (Schön, 1983, p. 21–22). Such specialised professional knowledge must remain current and informed to be trustworthy.

As will be discussed further in Chapter 2, many authors in the design field argue that professional practitioners should read research, including Friedman (2000), Breslin (2008), Buchanan (2001), Chen (2007), Davis (2008b), Kolko (2011), Littlejohn (2010), Bennett (2006b), Nemeth (2003) and Poggenpohl (2010). Despite these growing calls for design practitioners to read research a number of barriers to this form of research engagement have been discussed in the literature. For example, it has been acknowledged that there are very limited opportunities to read research findings produced outside of academia due, primarily, to most findings from investigations conducted for design projects being proprietary information within commercial projects, and is therefore rarely being published (Arnet, 2012; Davis, 2008b; Poggenpohl, 2002, p. 249; Roth, 1999, p.18).

The challenges involved in improving both the “research literacy” (Littlejohn, 2010) of designers and lack of accessible published research (Archer, 2012, p. 110; Bonsiepe, 2007, p. 32; Norman, 2010c) are well recognised. These have led to suggestions that we may need “translational developers” (Norman, 2010a, p. 12), reference centers for improving accessibility of existing information (Frascara, 1995, p. 27), or tools such as the “research summaries” provided by Informe Design (http://informedesign.org/), or Evidence Based Design Journal (http://ebdjournal.com/) to facilitate knowledge transfer through translating academic research into more user-friendly formats for use by practitioners.
Chapter 2: Literature Review

Introduction to Chapter 2

This chapter describes the review of literature that was conducted to inform the present study. The literature review was performed to gain a broad understanding of the relevant past discourse, the ongoing related debate, previous investigations of the issue and the dominant schools of thought. While the review itself is presented in this chapter, its findings also appear in the definition of terms presented in the previous chapter, as well as in the discussion of methods in Chapter 4.

This chapter contains five sections. The methodology of the literature review is outlined first, followed by the findings of the review. The knowledge gap is subsequently identified and the plan for filling the gap is outlined. Finally, the relevance and significance to the field are explained.

The review arrived at the following key findings that will be explained in this chapter:

• What constitutes research within the communication design field (and design fields generally) is unclear

• There are three distinct threads within the ongoing debate about communication design practitioners’ engagement with research:
  
  * Is research engagement important for practising design?
  * Is research important to design practitioners? And,
  * Do design practitioners engage with research?

• While mixed opinions were found in relation to the three threads of debate, very little empirical evidence has been published in relation to these issues

Literature review methodology and method

For the present study’s literature review, a systematic approach to searching and reviewing the literature was adopted. The approach employed was based on that of Hemsley-Brown and Sharp in their study of “the use of research to improve professional practice” (Hemsley-Brown & Sharp, 2003, p. 449) in which the authors compared practitioners’ research engagement in the fields of education and medicine.
As was discussed by Hemsley-Brown and Sharp, employing a systematic approach “attempts to identify the best available evidence to answer specific questions” (Hemsley-Brown & Sharp, 2003, p. 450) through extensive searches, clear documentation and explicit criteria for evaluation.

For the present study’s literature review key online databases were searched to find relevant literature from academic journals, past conferences, significant organisations, influential books and past dissertations.

For each database, the following two phrases were searched for:

- research AND practice AND (“graphic design*” OR “communication design*” OR “visual communication*”)
- “design methodology” AND (“graphic design*” OR “communication design*” OR “visual communication*”)

Additional searches were conducted in Google Scholar to seek literature about similar studies outside the design field and communication design specialism. Automatic notifications were set up with the major Web of Knowledge and ProQuest databases to regularly search for newly published articles and dissertations that were relevant to the present investigation.

Common parameters were used for all searches including limitation to English language publications only, in the period 2000 onwards, in order to capture key and current debates. Literature from before 2000 cited as particularly influential or significant by prominent scholars was also collected and considered.

For each item of literature that was found by the searches, the title was reviewed and, if considered potentially relevant, the abstract was read. A total of 174 papers were shortlisted via this process and saved into a database using EndNote X7 software. Additional literature that was found via citations in relevant papers or recommendations of colleagues was also saved into the EndNote database.

All the references collected into EndNote were then reviewed in more detail and items found to be highly relevant to this study’s research topic were scrutinised using a standard framework to identify and document the main position and basis of the argument in relation to the present study’s research questions (see Appendix B for standard framework employed). As was done by Hemsley-Brown and Sharp in their
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study, non-research material (which, for this study, included online blogs, discussion groups and industry magazines) was reviewed separately to “consider the prevailing arguments in relation to the evidence base” (Hemsley-Brown & Sharp, 2003, p. 451).

The key aspects of all highly relevant papers were then collated into a table (see Appendix C for a sample) and literature arguing for each key position in the debate reviewed together to gain a clear understanding of the existing discourse.

Empirical studies that specifically investigated practitioners’ engagement with research, both within and outside of the design field, were then reviewed further. Their findings, research methodology and methods were analysed with consideration for their transferability to the context of the present study. These aspects of prior studies are discussed in the forthcoming findings of the literature review as well as the description of methods in Chapter 4.

The majority of literature found and reviewed for this study came from the broad field of design, however, relevant studies and discussions about how practitioners engage with research were also found outside of the design field. These non-design studies were included in the review to learn from how other fields have approached this issue, what methods had proven reliable in similar past investigations and what findings they arrived at that may inform hypotheses for the present study. Such discussions were found in the fields of education (Borg, 2007, 2009, 2010, 2012; Hemsley-Brown & Sharp, 2003) nursing (Eckerling & Bergman, 1988; Ehrenfeld & Eckerling, 1991; Hutchinson & Johnston, 2004), occupational therapy (Karlsson & Tornquist, 2007), physiotherapy (Kamwendo, 2002), medicine, and public sector management (Hemsley-Brown, 2004).

Within the design literature the most widely cited seminal texts were found to come from areas such as architecture (Alexander, 1964), engineering (Gregory, 1966), philosophy (Schön, 1983) and the social sciences (Simon, 1969).

Findings of the literature review

The literature review arrived at three main findings, within which three threads of the ongoing debate were identified. To explain how these were arrived at, the following section presents a summary of the literature and evidence found in relation to each.

What constitutes research within the communication design field is unclear

As discussed within the definition of key terms in Chapter 1, the definition of research is highly contested within the design literature and also broader academic and reference literature.

While the full discussion of research definitions will not be repeated here it is important to note that the lack of consensus found within the literature of the design field generally and the communication design field specifically was a key finding from the review.

This finding was also supported by data from two surveys of design practitioners, with Manfra (2005) and Nini (1996) reporting that opinions of what constitutes research vary widely, particularly in terms of rigour.

Due to the diversity of research definitions found within the literature, in order to accurately compare arguments found within the debate, the definition set out at the end of the Chapter 1 was adopted. That is, for the purpose of conducting and reporting the literature review, research was designated to mean systematic investigation conducted to produce trustworthy findings. This definition was employed because, as discussed in Chapter 1, it was found to accommodate the most commonly advocated criteria for research found within the design literature, and broad academic and reference literature, while also remaining relevant to practitioners’ research activities.

Three threads exist within the ongoing debate

The ongoing debate about practitioners’ research engagement within communication design was traced back through the history of the field.

Some authors identify the emergence of research within communication design practice to have taken place in the 1940s and 50s as a flow on from worldwide general increase in research efforts conducted for World War II (Frascara, 1995, p. 24) or as a
result of the increasing interest in employing findings from psychology and marketing research in advertising (Young, 2005, p. 184).

However, most authors have attributed the emergence of research in design practice to the progressive transition of the field from its craft guild roots and apprenticeship model of education towards becoming an established profession within higher education and a fully recognised academic discipline (Beegan & Atkinson, 2008; Bonsiepe, 2007, pp. 27–28; Byrne & Sands, 2002, pp. 48–52; Chen, 2007, p. 1; Justice, 2000; Robertson, 2014, p. 111).

During this transition the relationship between research (described as conducted primarily by the discipline) and design practice (described as conducted primarily by the profession) has attracted increasing attention. For example, see Blauvelt and Davis (1997), Logan (1997), Bonsiepe (2007); Boulton (2014); Davis (2010); Fallman (2005, 2008); Fulton Suri (2008); Laurel (2003b); Noble and Bestley (2005); Norman (2010a); Robertson (2014); Saikaly (2005); Visocky O'Grady and Visocky O'Grady (2009).

These authors have debated many issues relating to research and design practice, one of which is the importance of research engagement for practising design professionally.

Approaches to practice that involve practitioners engaging with research (in both design and other professional fields) have been referred to as “evidence-based practice” (Friedman, 2014; Hemsley-Brown, 2009), “data based decision making” (Kowalski, 2009), “research-oriented design” (Fallman, 2005) and “evidence-based design” (LaMere, 2012).

The alternative approach to practice (i.e., without a practitioner conducting or reading research) is typically discussed as being when a designer solely relies on their own thinking, opinions, ideas or intuition for making design decisions. This approach has been described at times as “intuitive and interpretive” (Fulton Suri, 2008, p. 54), “best guess” (Nini, 2006, p. 117), “rules of thumb based on trial and error” (Olaisen & Friedman, 2000, p. 102), or even, derogatorily as “muddling through” (Friedman, 2003c, p. 513).

Within the debate of design practitioners' research engagement three distinct threads were identifiable. They were:

- Is research important for design practice?
- Is research important to design practitioners?
Do design practitioners engage with research?

Most relevant discussions of practitioners’ research engagement found within the literature referred to design practice generically, with little or no reference to any design specialism. While these discussions were not specific to communication design they were still found to be highly relevant to the communication design field and so were included within the review. As a consequence, the three threads of debate are presented here as a discussion of research engagement by design practitioners generally, rather than communication designers specifically.

To clarify the ongoing debate about design practitioners’ research engagement it was useful to represent the three threads of debate diagrammatically, as shown in Figure 4. It is important to recognise that while these three issues are clearly related, they are also separate, as it is possible to hold different opinions about each one independent of the others. For example, it is feasible to believe that research engagement is important for practising design but also that it is not important to design practitioners at present, and that practitioners do not engage with research, or any other combination of positions on the three separate threads.

![Figure 4: Key threads of the debate of practitioner research engagement in the design literature](image)

It is also important to recognise that, as shown in Figure 4, each thread of debate found within the literature is a spectrum, on which midpoints of opinion can be located between the two extremes. For example, on the first thread, literature was found that argued some forms of research engagement (but not others) are important for practising design (Van Praet, 2012), which could be best located towards the right (yet not at the end) of the first thread.
The literature and evidence found in relation to the three threads of debate shown in Figure 4 will now be discussed in more detail.

**Is research engagement important for practising design?**

The debate about whether conducting research or reading findings from others’ research is important for practising design (represented by the blue block in Figure 4) was vital to consider as it formed the background for the present study.

Mixed opinions were found in the design literature about whether research engagement is important for design practice in any design specialism, let alone communication design. Buchanan described the range of positions in 2001, suggesting,

> Those who practice, study, and investigate design in the contemporary world are themselves divided along paleotenic and neoteric lines. Some see no need for design research and some see in the problems of design the need for research that is modeled on the natural sciences or the behavioral and social sciences as we have known them in the past and perhaps as they are adjusting to the present. But others see in the problems of design the need for new kinds of research for which there may not be entirely useful models in the past—the possibility of a new kind of knowledge, design knowledge, for which we have no immediate precedents. We face an ongoing debate within our own community about the role of tradition and innovation in design thinking. (Buchanan, 2001, p. 7)

When the literature that debates the importance of research engagement for practising design was reviewed, well-reasoned arguments for a range of positions were found, yet surprisingly little evidence was provided to support them. While empirical evidence is not always essential in research (as noted in the definition of terms discussed previously), in relation to determining what is generally taking place in professional practice, empirical evidence is important for reliably evaluating the broad situation within the design profession. While expert opinions and narratives offer valuable insights derived from qualitative and reflective approaches, findings from these forms of inquiry are methodologically limited in their ability to be generalised, and so are less reliable for determining what is typically taking place in practice.

Many authors conceded that while they mainly favoured one of the two approaches, research engagement or intuitive thinking, at least some of the other approach was
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important—or even essential—for practising design (for example Fulton Suri (2008), Bonsiepe (2007) and Norman (2010c)).

Others offered arguments that could be best located at the midpoint of the opinions. These consisted of calls for an equal balance of both approaches (Taffe & Wragg, 2014) or arguments that one mode of engagement (i.e. either conducting or reading) is important for practising design, yet the other is not.

The literature and evidence found in relation to the affirmative and negative sides of the first thread of debate will now be discussed in more detail.

Yes, research engagement is important for practising design

Since the 1960s calls for design practitioners to engage more with systematic research as part of their practice have been increasing in the literature. Many writers have suggested that this is important—or even essential—for practitioners to improve the quality of their work, raise the status of their profession and further the design field as a whole. For example see Bennett (2006a), Bonsiepe (2007), Boulton (2014), Forlizzi and Lebbon (2002), Frascara (1995, pp. 27–29), Fraher and Martinson (2011), Friedman (2000, 2007), Hanington (2003), Heller (2006), Laurel (2003a), Lunenfeld (2003), Nemeth (2003), Nini (2006), Robertson (2014), Throop (2006), Olaisen (2000), Justice (2000), Sanders (2008), Holland (1997) and Davis (2010).

The aforementioned authors, who advocate research engagement for design practitioners generally or communication designers specifically, typically work from the premise that conducting and/or reading research is likely to improve design processes or outcomes for the benefit of designers, clients or end users. For example, conducting research within design projects has been recommended as an effective way for designers to measure the effectiveness of their concepts (Nini, 1996, p. 188), minimise risk or failure (Junginger, 2007; Yee, Lievesley, & Taylor, 2009), improve the success rate of their work (Chu et al., 2009; Cooke, 2006; Friedman, 2003c, p. 509; Poggenpohl & Winkler, 2010), successfully address complex problems in contemporary contexts (Buchanan, 2001, p. 6; Davis, 2008b, pp. 72–73; Norman, 2010c, para 2; Robertson, 2014, p. 15), generate innovative new solutions (Gaver et al., 2004; Hanington, 2007), foster creativity (Storkerson, 2006), empathise with end users through user-centered approaches (Forlizzi & Lebbon, 2002; Hanington, 2003, p. 9; Köppen & Meinel, 2012, Introduction para. 1), involve users to develop more
effective design solutions (Sanders, 2006, p. 75), highlight the value of design in business contexts (Logan, 1997) and raise the profile of the profession and field (Bennett, 2006a; Chen, 2007; Lunenfeld, 2003).

In contrast with conducting research, reading research was discussed less frequently in the literature. However, research literacy has been argued to be empowering for designers (Robertson, 2014, p. 114) and “a path to best practice in the communication design field” (Robertson, 2014, p. 110). Reading research has also been advocated as an important way for designers to capitalise on the experiences and expertise of others and thereby develop a far broader knowledge base than could ever be possible to attain by personal experience alone (Friedman, 2000, p. 18). To this effect, Friedman reasoned:

As designers take on increasingly important tasks, design has greater effects and wider scope than ever before. While the success of evolutionary artefacts and craft traditions suggests that many human beings are able to do a competent job of design, design failures are nevertheless common. The most common reasons include lack of method and absence of systematic and comprehensive understanding. These involve gaps in knowledge and preparation. It is here that research and theory play a role. (Friedman, 2003c, p. 509)

As cited earlier, Buchanan (2001, p. 7) recognised that among those who advocate research engagement as important for practising design, there are diverse, and sometimes opposing, ideas about what kind of research is most appropriate to employ in design practice. Hanington offered a succinct summary of this sub-debate when he wrote:

If the argument were simplified into extremes, two propositions would exist. Designers could ignore the critique of the established scientific (and social scientific) disciplines, highlighting a creative process that resonates with a strictly qualitative approach, small sample sizes, and anecdotal evidence, bolstered by an argument of relevance in connecting real-world research to real, human situations. At the other extreme, the design community could prescriptively follow the strategies and methods of science and the social sciences, recognizing the need for rigor in research, and understanding the necessity of employing established, replicable protocols, particularly when attempting to generalise
outcomes or target design applications to large, diverse audiences. (Hanington, 2010, p. 18)

Arguments for the importance of research engagement for practising design were found to come predominantly from the design discipline rather than the design profession. This is unsurprising considering the literature constitutes the main outlet for publication of knowledge produced by the discipline and, therefore, academic authors who argue for the value of research are effectively advocating their own type of practice.

Few opinions, either dissenting or assenting, from design practitioners were found within the peer-reviewed literature. However this was also unsurprising considering it has been reported that designers rarely engage with academic literature (Chayutsahakij, Jeamsinkul, Sawasdichal, Teeravarunyou, & Teixiera, 2002; Poggenpohl, 2010). The lack of practitioners’ voices does, however, highlight that the debate in the peer-reviewed literature is decidedly unbalanced. Consequently, otherwise-excluded opinions of design practitioners found in less academically recognised industry publications and online discussion forums were included in the literature review, and the underlying interests of the academic institutions that produce most academic literature were scrutinised.

Academic institutions have been discussed in the literature as having a vested interest in promoting research as the authority of knowledge due to the research skills and training that universities offer, and the new knowledge that academics produce ("Australia's universities: Key facts & data," 2014; Friedman, 2003a). Universities’ interests in privileging research over other kinds of knowledge has been discussed as evident during the appropriation of professional schools by universities that has taken place around the world since the early 1960s (Schön, 1983, p. 37) and, in relation to communication design in Australia, occurred during the late 1980s and early 90s (Croucher, Marginson, Norton, & Wells, 2013). Schön credited this restructuring with responsibility for practical knowledge being categorised as subservient to the more "superior" (Schön, 1983, p. 37) conventional positivistic scientific knowledge of academic disciplines (Schön, 1983, pp. 36–37), and identified this as “the roots of the now-familiar split between research and practice” (Schön, 1983, p. 37).

Therefore, due to universities’ interests in—and history of—privileging research, calls for design practitioners to engage with research that come from universities and
academics were considered with some caution. Careful consideration was necessary to determine whether research engagement was being advocated due to genuine merit and proven benefits or in the interests of further cementing universities as the authority for knowledge. Consequently, while many authors argue that various forms of research engagement are important for practising design, it remained important to give due consideration to opposing opinions and available evidence.

In terms of empirical evidence that supports the claim that research engagement is important for practising design the review of literature found no large-scale quantitative investigations or systematic reviews of existing evidence. Only a small number of case studies were found in which reading or conducting research evidently improved a professional design process or outcome. These included cases published in papers by Body (2008); Forlizzi and Lebbon (2002); Ancker, Chan, and Kukafka (2009); de Heij (2000), Hanshumaker (2010), Kim (2010); Logan (1997) and Madigan (1998).

While the above cases arguably offer some evidence that research engagement by a design practitioner has been found to benefit design practice, the evidence they present was determined to be insufficient on their own for supporting the broad claim that research engagement is important for practising design. The cases were inadequate in a number of ways, including unclear or weak methods for evaluating design processes and outcomes, lack of thick and rich descriptions of context for transferability, insufficient number of published cases to support a systematic review or testing for statistical significance for generalisation of findings, and a lack of reasoning or evidence to uphold that the same design project, if conducted without the inclusion of research engagement, would have been deficient in comparison.

In contrast, in other disciplines such as medicine, where research engagement through evidence-based medicine (EBM) is advocated as best practice, an extensive number of case studies and systematic reviews have been published that attest to the benefits of research engagement (Greenhalgh, Howick, & Maskrey, 2014).

No, research engagement is not important for practising design

In contrast to the volume of literature found that advocates research engagement as important for practising design far less literature was found for the opposing argument: that argues research engagement is not important for practising design. As discussed in the previous section, this is somewhat understandable considering the literature is
primarily produced by the design discipline, and therefore, it is unlikely to be a place where research, as a primary activity of any discipline, is argued to be not important.

A few authors have, however, argued the opposing case, contending that while it is desirable to improve the processes, outcomes and professional status of design, practitioners engaging with systematic research is either unnecessary, ineffective, too impractical within commercial practice, or not as effective as relying on knowledge from experience or intuition (for example see Norman (2011a), Raisanen (2012a, 2012b), Parnell (2014), Taffe and Wragg (2014), and Gaver et al. (2004)).

Norman summarised many of these opinions when he offered “five very different arguments to support the practical reality of starting by designing, not through design research” (2011a, para. 4):

First, the existence of good design that was not preceded by research.
Second, the argument that experienced designers already have acquired the knowledge that would come from research. Third, the research effort of a company ought to be continually ongoing, so that results are available instantly.
Fourth, and most controversial, research might inhibit creativity. And fifth, when the product is launched and the team assembled, it is already too late. (Norman, 2011a, para 4)

On first reading, Norman’s comments claim to argue for the value of not engaging with research to support design practice. However when read in detail several of his points imply that research is valuable for informing practice yet is impractical to engage with during a commercial project. Therefore he is advocating research engagement as a form of ongoing professional development, more than as inquiry to serve a specific project. Also, while Norman’s extensive experience and highly respected expertise speak to the validity of his claims he (like most authors) provides no empirical evidence to support them, acknowledging “we have many myths about the power of design research… but zero evidence” (Norman, 2010a, p. 11).

The impracticality of conducting research during design projects is often discussed as a major reason that practitioners do not follow a research-led approach (Frascara, 1995, p. 27; Hanington, 2005, p. 1; Norman, 2011a; Taffe & Wragg, 2014, p. 122). As Norman argued, “in the real world... time is always short and budgets limited, so it is almost impossible to start with research” (Norman, 2011a, para. 2).
Some authors argue that engaging with research is ineffective on the grounds that every design problem is unique and therefore unsuitable for being informed by findings from other studies, while others go one step further and claim (as Norman has) that reading or conducting systematic research can actually be counter-productive and inhibit design (Cross, 2004, p. 430; Dorst, 2006, p. 55). Several authors have argued that, in particular, employing systematic evaluative research methods can kill off creative concepts that don’t meet predetermined ideals, thereby resulting in a lack of innovation (Gaver et al., 2004; Gaver et al., 1999; Norman, 2010a, p. 11; 2010b; Parnell, 2014; Raisanen, 2012a, 2012b; Van Praet, 2012).

Rather than engaging with research to improve design practice it is often argued that it is more effective or practical to adopt an approach that values intuitive ideas, tacit knowledge, creative thinking, trial and error, personal experience, and reflective practice (Bennett, 2006a, p. 14; Cross, 2004, p. 440; Norman, 2010b, 2011a; Raisanen, 2012b; Taffe & Wragg, 2014).

No empirical evidence was found in the design literature to support the argument that research engagement is not important, or is detrimental for design practice. This was unsurprising considering research institutions produce the majority of literature. This lack of evidence has been described as “the absence of any real understanding of how research might serve practice performance in industry” (Robertson, 2014, p. 111).

Thus, while a large volume of literature was found that argued for the importance of research engagement for practising design, and only limited literature was found to disagree, due to the substantial vested interest that academic institutions have in privileging research and the lack of empirical evidence for supporting either position in the debate, it was concluded that it is unclear from the literature whether engagement with systematic research is important for practising design.

Is research engagement important to design practitioners?

Separate from the issue of whether research engagement is important for practising design is the question of whether research engagement is important to professional design practitioners (represented by the upper orange block in Figure 4, p. 52). That is, do design practitioners believe that reading or conducting research is important for their design practice? As will be discussed later in relation to the significance of the present study this was considered valuable to understand because the findings of past
studies have suggested that understanding the attitudes and beliefs of practitioners is important for evaluating their research engagement (Borg, 2007, p. 731; Ehrenfeld & Eckerling, 1991, p. 231).

Very little discussion of this topic was found in the design literature during the review and of the few discussions that were found most were based on the author’s limited personal experience alone and many were from non-research sources such as online discussion groups.

Yes, research engagement is important to design practitioners

The majority of literature found to support the argument that research engagement is important to design practitioners was found in the form of articles written by practitioners about their own preferred ways of using research (Boulton, 2014; Sanders, 2006, 2008).

Also, the growing number of instructional books written to explain how to conduct research within professional design practice (Curedale, 2013; Martin & Hanington, 2012; Noble & Bestley, 2005), and the publication of the peer reviewed journal *Visual:Design:Scholarship* by the Australian Graphic Design Association (AGDA) suggest there is a market for publications on this topic. These publications support the claim that design practitioners believe research engagement is important.

In terms of published evidence, only four publications were found that presented evidence that design practitioners value research engagement (Barnes, Bassani, & Wragg, 2014; Hanington, 2005; Manfra, 2005; O'Brien, 2014). Each of these pieces of literature will now be briefly discussed.

Manfra reports on a survey of 1,051 respondents by an industry magazine in North America. While the article offers very little detail about the process or data, Manfra concludes “most design academics and professionals consider research fundamental to their work” (Manfra, 2005, unpaged). However, Manfra also cautions “opinions of what counts as research vary widely” (Manfra, 2005, unpaged).

Another large-sample survey of design practitioners’ research engagement was found in the built environment design literature (O’Brien, 2014). O’Brien reports that 80 per cent of the 420 multi-national respondents perceived a need for using evidence in the design process (O’Brien, 2014, fig. 03).
Hanington reports on a study with only 14 participants who were all graduates from a research-strong North American university. While this study involved a far smaller sample than those reported by Manfra or O’Brien, Hanington acknowledged the survey sought to “elicit reflective insight, rather than scientific or quantifiable data” (Hanington, 2005, p. 3). While Hanington noted that the study’s findings could be strengthened via further investigation with participants who had not been involved with the research-based pedagogy, and that the findings are not suitable for generalisation, he concluded:

*There was a clear consensus on the specific value of a research-based education in design. From both alumni and employers, it was indicated that strengths included a solid understanding of the human-centered design process, user empathy, recognition of the importance of research in understanding products, culture and society, approaching, researching and structuring problems, and finding connections.* (Hanington, 2005, pp. 4–5)

Hanington’s finding that research skills were generally valued by the North American graduate designers who participated in his study aligns with general opinions expressed by Australian graduates in *Red Thread*, a special edition of industry magazine *IdN* edited by members of Swinburne University’s communication design program (Barnes et al., 2014). *Red Thread* constituted the fourth publication found that included empirical evidence of design practitioners’ opinions of research engagement.

While the *IdN* special edition does not claim to present any results from inquiry or analysis it was the only evidence specifically of Australian communication design practitioners’ opinions found in the literature. The edition included articles based on interviews with 15 recent graduates of Swinburne University’s communication design honours program. Within these, interviewees reflected on their transition from study to professional practice and all graduate designers anecdotally reported that the research skills they had acquired during higher education had proven valuable in practice. While the 15 reports clearly constituted evidence that these young professionals valued research the interviewers used no measurement tools or explicit analysis. Due to this, as well as the fact that a university that promotes its value of research edited these published accounts, this evidence was regarded with caution.
No, research engagement is not important to design practitioners

Very little literature was found that explicitly claimed that design practitioners don’t value engaging with research as part of their practice (Norman, 2010a, p. 11; 2010c, para 3). Rather, most authors implied that design practitioners do not value research engagement. For example, Fulton Suri writes that a shift in mindset is needed for designers to “get comfortable with the emphasis that design research places on informing our intuition” (2008, p. 57) thereby implying practitioners are not comfortable with design research at present. Taffe and Wragg also imply that designers do not value the predominant alternative of research-engagement when they refer to design practitioners’ “allegiance to intuitive processes” (2014, p. 122).

Somewhat tellingly, a survey of practitioners conducted by AGDA in 2014 (AGDA, 2014) included only one reference to research as constituting part of communication design practice. The reference was within one of nine response options to the question: Please rank these aspects in order of importance to you, with response options including finishing a project on time, quality of design work and market research. No other forms of research engagement or skills were referred to within the 28 questions of the survey, which suggested that the peak industry association of Australian communication designers did not expect practitioners to respond that research was a major part of their design practice. At the time this study concluded results from the AGDA 2014 industry survey were not yet published. So while it is possible that some respondents could have listed research engagement and skills as important for practising design the actual responses were unknown.

In contrast with the affirmative position on this thread of debate no empirical evidence was found to support the negative argument. That is, no published evidence was found that suggested research engagement is not important to design practitioners.

So while a few arguments and some limited evidence were found in the literature, for and against the claim that designers believe engagement with research is important for practising design, these were regarded to be inadequate for supporting a generalised conclusion about whether designers value research engagement.

Do design practitioners engage with research?

In parallel with the deliberations of whether research engagement is important for practising design and/or important to design practitioners, the third thread of debate
found within the literature discusses the extent to which design practitioners already engage with research (represented by the lower orange block in Figure 4, p. 52).

In relation to this thread of debate, a few authors were noncommittal declaring, “the degree to which practice engages with research is variable” (Chayutsahakij et al., 2002, p. 161), or that some specialist design practitioners do engage with research, while others don’t (Boulton, 2014, para 3). However, most authors adopted a clear affirmative or negative position.

**Yes, design practitioners do engage with research**

Claims that many or most designers do engage with various kinds of research within their practice were found in the literature (Bonsiepe, 2007, p. 32; Krippendorff, 2007, pp. 75–76; Norman, 2010c, p. para 9), although not all appeared to meet the definition of research being *systematic investigation to produce trustworthy findings* as it was defined within this study. Archer, for example, proclaimed, “clearly… a great deal of practitioner activity entails some research, of orthodox or unorthodox kinds, in support of the main thrust of the practitionership” (Archer, 2012, p. 10). And Buchanan asserted, “Many forms of clinical research are common in the design community and they play an important part in design practice as well as in design education” (2001, p. 17). Buchanan also noted, however, that while case studies are common in design, they range from being simple stories in popular design magazines to “methodical reports in some of the better academic design journals” (Buchanan, 2001, p. 18).

In terms of empirical evidence of design practitioners’ research engagement that supports this position, two relevant examples (Hanington, 2005; Manfra, 2005), which were discussed previously in relation to the second thread of debate, were found to be relevant to this third thread as well.

As already mentioned, Manfra (2005) reported results from a large-scale survey, which was conducted by a mass-market design industry publication. Manfra reported that “81 percent [sic] of practising designers engage in research on a regular basis” (Manfra, 2005), yet that “quality and consistency [in research] seem to be lacking” (Manfra, 2005, para. 4) and “opinions of what counts as research vary widely” (Manfra, 2005, para. 2).

Manfra’s article offers very limited detail about the study’s survey design and procedures for data collection and analysis. Therefore it is unclear whether designers
reported conducting or reading research, and whether the research activities respondents conducted would qualify as research under the definition adopted within the present study. Consequently, while the general conclusions presented by Manfra were interesting to consider in relation to the present study, their validity and reliability remained unconfirmed and so the study’s conclusion that most designers engaged regularly with research was interpreted with caution.

While Hanington’s investigation of research engagement by design practitioners was a qualitative inquiry, and therefore far smaller in sample than the study reported by Manfra, it too reported finding evidence that practitioners were engaging with research during design practice. While no indication is given for extent or frequency of the practitioners’ engagement, Hanington concludes:

*The specific role played by research in current work of alumni included the design and execution of research studies, interpreting and applying research findings, using research to inform and validate designs, relying on feedback and inspiration from the user to guide ideas and processes, helping clients to “see the forest for the trees”, helping clients listen and learn from their users, and studying, learning, or analyzing a new organization.* (Hanington, 2005, p. 4)

**No, design practitioners do not engage with research**

In contrast with the preceding claims and evidence many authors imply or explicitly argue that there is a significant lack of engagement with research in design practice (Friedman, 2000; Polaine, 2011; Taffe & Wragg, 2014; Throop, 2006).

Nini, for example, invokes Abraham Lincoln to point out,

“If I had eight hours to chop down a tree, I’d spend six sharpening my axe.”
– Abraham Lincoln.

*Mr. Lincoln’s advice is, of course, very good, and applicable to many pursuits. Yet many graphic design practitioners and students often routinely ignore this sentiment, and dive directly into formmaking [sic] activities when presented with a design problem. In most cases we [design practitioners] tend to rely on intuition and our ‘best guess’ to construct a solution, without the benefit of the various types of research that might provide a clearer insight as to how our efforts might*
be more effectively directed. Our profession might be characterized, if you will, as “swinging a dull axe”. (Nini, 2006, p. 117)

In terms of reading research in the context of design practice, Poggenpohl has proclaimed that “designers don't read” (Poggenpohl, 2010) and similar claims have been made in online discussions within the design discipline (Love, 2012).

As discussed already, the literature review revealed that the majority of these claims in the design field are based on the authors’ personal experiences with small numbers of design practitioners, their reasoning or pure opinion. Consequently, while these articles offered insights into what individuals have perceived to be taking place within design practice, due to limitations of the qualitative and heuristic methodologies they are based on, such papers are unable to reliably make claims about what is taking place within the population of professional practitioners.

The only studies that collected empirical evidence that suggested designers do not engage with research were reported by Nini (1996) and O'Brien (2014).

The study reported by Nini (1996) involved a survey that received 302 responses from professional graphic designers throughout the United States of America. It asked designers to report on their “information gathering and analysis, design planning, and end-user evaluation” (Nini, 1996, pg. 181) via responses to 22 multiple choice questions, and provided one open-ended opportunity for respondents to offer additional explanation or comments.

Notably, the questionnaire did not include the word research anywhere, instead referring to various stages of practice as “information gathering”, “analysis”, “planning” and “end-user evaluation” (Nini, 1996, p. 181), which (as confirmed via personal correspondence (Nini, 2011)) was a conscious decision to avoid influencing responses. Despite this, example responses quoted in the article show that many respondents interpreted these questions to be asking about research and thus their replies refer to the amount and nature of research they believe they conduct within their practice.

Through analysis of the responses received, Nini arrived at several key conclusions about the way graphic design practitioners in the USA utilise research in their work. Notably, he found that the majority of graphic designers were involved in information gathering prior to form-making, however only a minority of designers were involved in planning and user evaluation activities during and after the form-making process. Nini
also found that, regardless of when these investigative activities were conducted, they were usually conducted in a very informal way, without documentation or articulated methodology. Consequently, Nini concluded that design practitioners’ engagement in information gathering and analysis activities was low.

In the second study of design practitioners’ research engagement O’Brien (2014) reported very low levels of research engagement in built-environment design practice. Globally, on average, 68 per cent ($N = 286$) of designers responded that they never, or only occasionally read research literature, while Australian and New Zealander respondents were found to read research even less, with 88 per cent never, or only rarely reading research.

In terms of conducting research, 71 per cent ($N = 298$) of global respondents indicated they never conduct any form of post-occupancy analysis (POA), which, according to 37 per cent ($N = 155$) of respondents, is mainly due to a lack of client demand, or, when there was demand, a lack of client budget to undertake the investigation.

**Very little empirical evidence has been published in relation to the threads of the practitioner research engagement debate in design**

As discussed throughout the preceding summaries of the various discussion threads and positions, reasoned arguments were found within the literature for both affirmative and negative sides of the three threads of debate, yet very little empirical evidence was found for supporting any generalised claims.

While empirical evidence is not essential for all research findings, in circumstances such as these, where general claims are being made about a population, isolated opinions are insufficient on their own for determining what is taking place within the profession.

In light of how little evidence for practitioners’ attitudes and practices in relation to research engagement was found in the design literature, studies of practitioners’ research engagement in non-design fields were also reviewed. This line of investigation sought to discover findings and methods from similar past studies outside design that could offer starting points for hypotheses and research methods within the present study.
The data collection and analysis methods employed by studies of practitioner research engagement in fields outside design will be presented in Chapter 4. The key findings from the past studies in other fields are summarised in Table 2. These findings suggested hypotheses to explore and were considered when designing the present investigation.
Table 2: Summary of key findings from past studies of practitioner’s research engagement in fields outside design

<table>
<thead>
<tr>
<th>Past studies of practitioners’ research engagement in non-design fields</th>
<th>Key findings</th>
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</thead>
<tbody>
<tr>
<td><strong>Perceptions and attitudes of academic nursing students to research</strong> <em>(Eckerling &amp; Bergman, 1988)</em></td>
<td>Attitude and ability have a major impact on each other and on role perception. Confidence in the ability to do research activities had a marked relationship with the intent to do the same. Attitude represented only 4%, which was unexpected.</td>
</tr>
<tr>
<td><strong>Perceptions and attitudes of registered nurses to research: A comparison with a previous study</strong> <em>(Ehrenfeld &amp; Eckerling, 1991)</em></td>
<td>11 significant relationships were found between various parameters and education, job level, work domain, clinical area, ability, intent and attitude. Higher qualified nurses scored the four parameters significantly higher than less qualified nurses. Participants perceived research activities as important. Respondents’ expectations matched the calls in the literature for postgraduate educated nurses to conduct research, and lower-qualified nurses to read research, share findings with each other and apply them in practice.</td>
</tr>
<tr>
<td><strong>The undergraduate research fellows program: A unique model to promote engagement in research</strong> <em>(Vessey &amp; DeMarco, 2008)</em></td>
<td>Of the 18 research skills and activities that were surveyed, participants reported most commonly: retrieving articles <em>(n = 18, 69%)</em>, collecting data <em>(n = 16, 62%)</em>, inputting data <em>(n = 15, 58%)</em>. Skills and activities least mentioned included composing a biosketch <em>(n = 3, 11%)</em>, writing institutional review board applications <em>(n = 5, 19%)</em>, and helping to draft manuscripts <em>(n = 5, 19%)</em>. Respondents also indicated that they had little opportunity to participate in conference activities <em>(n = 26, 93%)</em>. p 361</td>
</tr>
<tr>
<td><strong>What do Swedish physiotherapists feel about research? A survey of perceptions, attitudes, intentions and engagement</strong> <em>(Kamwendo, 2002)</em></td>
<td>Swedish physiotherapists’ survey responses were generally positive about research. Easily accessible summaries could be provided to better support reading research. A cultural change within the profession, allowing more time for reading and discussing research reports should be encouraged.</td>
</tr>
<tr>
<td><strong>What do Swedish occupational therapists feel about research? A survey of perceptions, attitudes, intentions and engagement</strong> <em>(Karlsson &amp; Tornquist, 2007)</em></td>
<td>Occupational therapists considered research-related activities to be important to their practice and professional status. Reading research literature was considered the most important research activity. High workload and lack of time were the most commonly mentioned barriers to participation in research-related activities. Occupational therapists read a large variety of journals. The barriers to participation in research-related activities did not change from 1997 to 2003.</td>
</tr>
<tr>
<td><strong>Associations between research and teaching in Australian higher education</strong> <em>(Ramsden &amp; Moses, 1992)</em></td>
<td>No relation or a negative relation was found between teaching and research at the level of the individual and at the level of the department, across all subject areas with only minor exceptions. No evidence found to indicate the existence of a simple functional association between high research output and the effectiveness of undergraduate teaching.</td>
</tr>
<tr>
<td><strong>Filtering, fragmenting and fiddling? Teachers’ life cycles, and phases in their engagement with research</strong> <em>(Bevan, 2004)</em></td>
<td>Posits that research engagement varies according to three key phases of a teacher’s career: 1. Filtering (typically up to the 4th year) 2. Fragmenting (typically 4th-8th years) 3. Fiddling (typically 8th year onwards)</td>
</tr>
</tbody>
</table>
Table 2 (continued)

<table>
<thead>
<tr>
<th>Past studies of practitioners' research engagement in non-design fields</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research engagement in English language teaching</td>
<td>Moderate levels of reading and doing research were reported by survey respondents’ Research engagement levels were analysed in relation to teacher's conceptions of research and their perceptions of their institutional research culture.</td>
</tr>
<tr>
<td>(Borg, 2007)</td>
<td></td>
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<tr>
<td>English language teachers’ conceptions of research</td>
<td>Teachers’ conceptions of research aligned with conventional scientific notions of inquiry and participants reported moderate to low levels of reading and doing research. Lack of time, knowledge, and access to material were perceived to be key barriers. Research-engaged participants reported being driven largely by practical and professional concerns rather than external drivers such as employers or promotion.</td>
</tr>
<tr>
<td>(Borg, 2009)</td>
<td></td>
</tr>
<tr>
<td>Language teacher research engagement</td>
<td>Language teacher research is a minority activity due to many reasons beyond the teachers themselves, including powerful social, cultural, political and institutional factors.</td>
</tr>
<tr>
<td>(Borg, 2010)</td>
<td></td>
</tr>
<tr>
<td>University teacher educators’ research engagement: Perspectives from Saudi Arabia (Borg, 2012)</td>
<td>Evidence found to indicate modest levels of research activity by respondents. Participants held largely technical views of what research is. Several respondents noted the lack of time to read and do research inhibits their engagement.</td>
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</tbody>
</table>

The gaps in knowledge

The preceding findings from the literature review revealed four main gaps in knowledge.

The first gap in knowledge identified during the literature review was the lack of insights and evidence for what research is regarded to be within the communication design field. As discussed previously in Chapter 1 to this thesis as well as earlier in this chapter, substantial differences of opinion exist with the literature about what research is and what criteria should be used for its evaluation. This was particularly found to be the case within the design literature, as few authors who contributed to the three threads of the research engagement debate offered specific definitions or examples of what they regarded research to mean—regardless of which case they were arguing for.

The second gap in knowledge found during the literature review was the lack of empirical evidence available for determining whether research engagement is
important for practising design. That is, the small number of published examples of
design practice that include research engagement were found to lack the number,
depth and quality necessary to reliably conclude that research engagement of any type
has been proven beneficial for design practice or outcomes. While this lack of evidence
in relation to the first thread of the debate was a clear gap in knowledge, the question
of whether research engagement is important for practising design was not included
within the present study’s scope due to limitations of time and resources.

The third gap in knowledge found during the literature review was the lack of empirical
evidence for whether design practitioners believe research engagement is important for
practising design. Again, the findings from the known past studies (Hanington, 2005;
Manfra, 2005; O’Brien, 2014) were found to be insufficient in number and quality for
supporting any broad claims about practitioners’ beliefs.

And finally, the fourth gap in knowledge found through the literature review was the
lack of sufficient empirical evidence to identify whether design practitioners presently
engage with research, with the known previous studies (Hanington, 2005; Manfra,
2005; Nini, 1996; O’Brien, 2014) again providing only minimal support for the various
sides of the debate.

The past studies were also found to be invalid for addressing the present study’s
research questions due to being too different from the present study’s context. As
shown in Table 3, this was due to their age, differences between the cultural and
disciplinary context they were conducted in and the context of Australia, and the
limitations of using a single mode of inquiry.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Table 3: Comparison of past studies of design practitioners’ research engagement

<table>
<thead>
<tr>
<th>Study:</th>
<th>Year</th>
<th>Cultural and disciplinary context</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>What graphic designers say they do (Nini, 1996)</td>
<td>1995</td>
<td>USA Graphic design</td>
<td>Single mode (survey) Quant and qual</td>
</tr>
<tr>
<td>Research—Its Role in North American Design Education (Manfra, 2005)</td>
<td>2005</td>
<td>USA Multiple design disciplines</td>
<td>Single mode (survey) Quant and qual</td>
</tr>
<tr>
<td>Research Education by Design: Assessing the Impact of Pedagogy on Practice (Hanington, 2005)</td>
<td>2005</td>
<td>USA Multiple design disciplines</td>
<td>Single mode (survey) Qual</td>
</tr>
<tr>
<td>The Knowledge Problem (O’Brien, 2014)</td>
<td>2014</td>
<td>Global Built environment design</td>
<td>Single mode (survey) Quant and qual</td>
</tr>
</tbody>
</table>

For these reasons the findings of the past studies were found to be invalid or unreliable for understanding the perceptions of research held by current members of the Australian communication design profession and discipline, or what levels of research engagement exist within the communication design profession in Australia at present.

**Filling the gaps**

As discussed in the previous section, the review of literature and past studies revealed a lack of knowledge about the conceptions of research and present levels of engagement by practitioners within design fields generally and the Australian communication design field specifically.

Therefore, the present study was designed to investigate how research is characterised by communication designers and academics within Australia, how and why professional communication designers engage with research at present, and whether design practitioners perceived research engagement as important to practising their profession.

The perceptions of academics and practitioners within the communication design field were compared with each other and considered through the lens of Bourdieu’s theoretical concepts. This was done to develop deeper and richer understandings of
what factors and conditions have led to the present situation, what changes are taking place within the field with regard to research and what the role of research is likely to be in the future of the Australian communication design profession.

The following four main research questions and related sub-questions were investigated:

1. **How is research characterised within the Australian communication design field?**
   a) How do practitioners characterise research?
   b) How do academics characterise research?
   c) How do practitioners and academics’ characterisations compare with each other?

2. **How are practitioners engaging with research within the Australian communication design field and why?**
   a) What perceptions do practitioners hold of their engagement with research?
   b) What perceptions do academics hold of practitioners’ engagement with research?
   c) How do practitioners and academics’ perceptions compare with each other?

3. **How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?**

4. **What do these findings suggest about the role of research in Australian communication design practice in the future?**

The findings of this study were expected to:

- Reveal how research is characterised by professional practitioners and academics within the Australian communication design field, discover how these characterisations compare with each other and offer explanations for any similarities or differences of opinion

- Provide evidence of if, how and why professional communication designers currently conduct and read research in their practice in Australia

- Reveal how important research engagement by practitioners is considered to be by communication design practitioners and academics in Australia
A profession in transition: Practitioners’ research engagement in the Australian communication design field

- Offer theoretically and empirically supported predictions for the role of research in Australian communication design practice in the future

Relevance and significance to the discipline

Communication design has been chosen as the specific area for investigation in this study for two main reasons.

First, as described earlier in this chapter, this design specialism is at a particularly interesting stage of evolution as a field, as it is transitioning from its craft guild traditions to a profession taught within higher education (Beegan & Atkinson, 2008; Byrne & Sands, 2002; Chen, 2007; Frascara, 2007; Justice, 2000). This interesting stage of development makes the present study timely for investigating the role of research within practice.

And second, despite being recognised as an increasingly important industry within Australia’s knowledge economy (CIIC, 2013b), communication design practice has been under-explored in comparison with other far older and more established disciplines and design specialisms. Thus it presents as a profession with substantial opportunities yet a lack of knowledge base to support realising its full potential.

This study has been limited to communication design within Australia partially due to logistical considerations of what is achievable within a doctorate candidature but also because the Australian communication design field is unique compared with international communication design fields. For example, in terms of industry size, Australian communication design is very small in the global context, being located within the Oceania region which generated only 2.5 per cent of global revenue in the graphic design industry in 2011, compared with Europe and North America, which each generated 37.1 per cent of global revenue (2011, p. 17). Australian communication design is also unique in terms of its education model, in which it has been taught within Australian universities since the Dawkins Reforms in the early 1990s (Croucher et al., 2013). Since this time the Doctorate has existed as the terminal degree for communication design in Australia compared with the Master of Fine Arts being regarded as the terminal degree within the USA (Heller, 2007). Due to unique characteristics such as these the Australian situation warrants individual attention to understand the issues specific to its context.
Understanding the changes in relation to research that are taking place within the Australian communication design field helps explain how the field presently operates and how it is anticipated to evolve as a profession in the future. This knowledge is valuable for facilitating improvements within the communication design field in the interests of Australian communication design academics and professional practitioners, as well as clients and the wider community.

The findings of this study will provide the Australian communication design profession with evidence of how practitioners characterise, value and engage with research. The findings of this study will also provide insights into the possible reasons for designers’ beliefs and behaviour. Such insights can support effective planning for professional development activities that make clear the potential benefits for professional designers of conducting and/or reading research.

Understanding the way research is perceived and used in practice is significant for the communication design discipline—and specifically significant for universities that teach communication design in Australia—in two main ways.

First, universities need to understand the way that research is characterised and engaged with by design practitioners in order to meet their responsibility to educate future practitioners with the necessary skills, abilities and knowledge to practice professionally in the current design industry (Friedman, 2003b, p. 40; Hanington, 2005).

Second, universities are also responsible for producing knowledge that supports and advances the design field in the long term (Friedman, 2003b, p. 40). Ensuring new knowledge is transferred into practice is crucial to it having an effect and so a clear understanding of how practitioners are engaging with research—particularly as end consumers who read research publications—is essential to fulfilling this responsibility too. A deeper understanding of how published research is used by design practitioners will support more effective communication of research findings to professionals and assist academics to address any misconceptions about research that are found to be prevalent in the industry.

Therefore, it is in the interests of institutions to teach research skills that are relevant to design practice in order to produce employable graduates, facilitate knowledge transfer and encourage students to progress to postgraduate and doctoral study.
Conclusion of Chapter 2

As found within the literature discussed in this chapter, there is an ongoing debate in design generally and communication design specifically about practitioners’ research engagement. Within this debate three threads of discussion exist and there are substantial differences of opinion about what research is, and if, how and why professional communication designers engage with it.

The majority of discourse in the communication design field’s debate was found to be opinion-based and written by academic authors. Very few empirical studies of how designers engage with research within practice exist and the findings from those that are available could not reliably be transferred to inform the Australian communication design context.

The present study is therefore relevant and significant for better understanding the characterisations of research held by members of the Australian communication design field, and if, how and why communication designers are engaging with research in Australia at present.
Chapter 3: Theoretical Perspective

Introduction to Chapter 3

As recognised by Creswell and Plano Clark (2011, pp. 38–39) in their adaptation of Crotty's conceptualisation (1998, p. 4), every scholarly inquiry must include four elements: paradigm, theory, methodology and methods, with each of these elements informing each other sequentially. That is, the ontological and epistemological positions of the overarching paradigm the researcher is working within inform the choice of theoretical perspective, which then informs the methodological approach and selection and design of individual research methods.

This chapter sets out the theoretical perspective adopted for this study, while the other elements (the ontological and epistemological positions of the paradigms, methodological approach and the specific methods employed for the investigation) will be explained in Chapter 4.

A number of Bourdieu’s sociological concepts formed the theoretical perspective chosen for the present study. These were selected for their fit with the ontological, epistemological and methodological positions of the inquiry, and their suitability to investigate the main research questions of this study.

Choice of theoretical perspective

A number of different approaches for choosing a theoretical orientation are advocated in the literature. For example, Merriam suggests the theoretical perspective can be identified either via the disciplinary orientation of the study or through a review of literature to see what other similar studies have used (2009). Alternatively, Crotty has suggested that the theoretical perspective is informed by ontological and epistemological positions (1998, p. 4). Following a similar approach, Creswell and Plano Clark have also noted the influence of worldview on determining choice of theory (including the ontological and epistemological positions, as suggested by Crotty), but have also suggested that choice of theory must be appropriate for the chosen methodology and methods (Creswell & Plano Clark, 2011, p. 47).

All of these approaches to identifying the theoretical perspective were considered for the present study. When following Merriam's approach to identifying appropriate
theoretical perspective, the review of the design literature revealed a diverse range of references to theory within the design research literature (such as Tooming Buchanan’s discussion of phenomenological, structuralist and pragmatist approaches in relation to her research (Tooming Buchanan, 2013)). Predictably perhaps, considering design is a human activity, theoretical approaches from the social sciences appeared most commonly. For instance, see Satchell’s discussion of the general usefulness of cultural theory for design (2008), and Tonkinwise’s analysis using Bourdieu’s taste regimes (2011). This suggested that a theoretical orientation from the social sciences could be appropriate for the present investigation.

Previous studies of practitioners’ research engagement found in the design and non-design literature notably lacked explicit reference to a theoretical framework. For example see (Borg, 2012; Hanington, 2005; Karlsson & Tornquist, 2007; Nini, 1996). However, a number of other studies demonstrated the usefulness of sociological theories for exploring and understanding the complexity of factors affecting professional practice. Such as Lessard, Contandriopulos, and Beaulieu (2010), Sieger, Fritz, and Them (2011) and McDonough and Polzer (2012). These examples further suggested social science theory could be a useful perspective to adopt.

In accordance with Creswell and Plano Clark’s model the theoretical perceptive adopted for the present study was also chosen for it’s fit with the ontological and epistemological positions adopted for the study, which will be described in more detail in Chapter 4.

Following consideration of Merriam, Crotty, and Creswell and Plano Clark’s approaches, poststructuralist social theory was identified as the most appropriate orientation for the present study’s theoretical perspective. From this school of philosophy, Bourdieu’s field theory, theory of practice, and a number of his related theoretical concepts were selected. These were chosen as they have been credited with being especially valuable for exploring the social complexities of practice, which consequently offers particularly deep and detailed insights into the reasons behind people’s attitudes and behavior (Lessard et al., 2010, pp. 1954–1955) and how change can affect members of a field (McDonough & Polzer, 2012).

To explain the theoretical perspective employed within the present inquiry, a brief introduction to Bourdieu will now be presented, followed by an outline of theoretical concepts selected to inform the study.
Introduction of Pierre Bourdieu

As a particularly distinguished and extensively published French philosopher, Pierre Bourdieu (1930–2002), is widely recognised as one of the foremost thinkers of the twentieth century (Wacquant, 1989, p. 26). His extensive empirical research of society, and the poststructuralist cultural theories he developed as a result, has been described as "arguably the most significant and successful attempt to make sense of the relationship between objective social structures (institutions, discourses, fields, ideologies) and everyday practices (what people do and why they do it)" (Webb et al., 2002, p. 1).

The core objective of Bourdieu’s work was to explain the various social practices that surrounded him in order to reveal the underlying meanings and influences of people’s actions (Grenfell, 2012a, p. 15). Bourdieu argued society should be studied in this way because he believed that symbolic domination is the main way that social hierarchies, inequalities and resulting suffering are caused (Schubert, 2012, p. 179). Further, he described the value of such insights as being that they might provide “weapons” (Bourdieu, 1993b, p. 60) to interpret, understand and overcome social problems.

The social and political issues Bourdieu witnessed in France and also Kabyle, Algeria during the 1940s, 50s and 60s, are widely acknowledged as the inspiration for his research and philosophy. In particular, he was motivated by the French education system, which he regarded as a negative influence on social division, believing “the acquisition of knowledge had become a mechanism of social division rather than solidarity” (Robbins, 2012, p. 32). Bourdieu was also strongly influenced by his experiences growing up in peasant communities in the Béarn in rural France (Grenfell, 2012a) and with Algerian nationals fighting for independence from French colonization, when he was stationed in Algeria on military service in the mid 1950s (Bourdieu, 1962).

Bourdieu’s research and theory are recognised as being unique for their ability to bridge the subjective (existentialist) and objective (structuralist) approaches to explaining human behaviour and attitudes that had previously been dominant (Grenfell, 2012c, p. 44). Bourdieu employed his theoretical concepts to explore many areas of society including artists, intellectuals, religion, law, education, housing and matrimonial rituals (Wacquant, 1989, p. 38). His approach and theories have been widely adopted by others too, as will be discussed shortly.
Outline of key theoretical concepts employed

Bourdieu once proclaimed that he “never set out to ‘do theory’ or ‘construct a theory’… [yet] there is no doubt a theory in my work, or, better, a set of thinking tools visible through the results they yield, but it is not built as such” (Bourdieu, quoted in Wacquant, 1989, p. 50). Despite this apparent reluctance to refer to his concepts as being theoretical or producing theories, within the literature they are commonly referred to as such and even his own work at times referred to theory he produced. For example his book titled *Outline of a Theory of Practice* (Bourdieu, 1977). Thus, within this study, the “thinking tools” adopted from Bourdieu are referred to as theoretical concepts or theories interchangeably.

As a prolific researcher, writer and theorist, Bourdieu developed and published many theoretical concepts during his career of more than fifty years (Grenfell, 2012a). From this extensive collection the key concepts that relate to his field theory and theory of practice were selected as particularly useful for investigating the present study’s research questions because they had proven effective for investigating and explaining practices and how social fields transition through change.

These concepts will now be briefly outlined to explain what they have been taken to mean within the present study. First, Bourdieu’s seminal concepts of field, habitus and capital will be introduced. This will be followed by his theory of practice, which links the first three concepts together to explain how both objective and subjective influences shape practice. Next, the concepts of doxa, interest, symbolic violence and the hysteresis effect will be described. These concepts explain characteristics of social fields and offer insights into how and why they operate as they do. Finally, Bourdieu’s approach to field analysis will be outlined and a summary of key findings from his investigations into the academic field will be presented, including his related insights into the nature of knowledge production that are relevant to the present study.

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3 This paper includes quotations of original remarks Bourdieu made during a Workshop in 1987. Therefore, while the citation references Bourdieu as quoted within Wacquant’s article, this article constitutes the original source of Bourdieu’s comments.
Field

Bourdieu described any given field as a “configuration of relations between positions objectively defined, in their existence and in the determinations they impose upon the occupants, agents or institutions” (Bourdieu, 1992/1996, p. 72–73).

The concept of the field was developed by Bourdieu as a metaphor for any structured social space within which individual people (agents) operate, and he determined that fields have their own internal rules or laws of operation (nomos), normative beliefs (illusio), and truths (doxa), (Deer, 2012a, 120) to which the field members subscribe.

Within each field agents hold positions within a hierarchy. The various forms of capital held by the individuals determine their field position and field members compete to acquire further capital in order to maintain or improve their positions (Johnson, 1993, p. 6).

Bourdieu explained:

I define a field as a network, or a configuration, of objective relations between positions objectively defined, in their existence and in the determinations they impose upon their occupants, agents or institutions, by their present and potential situation (situs) in the structure of the distribution of species of power (or capital) whose possession commands access to the specific profits that are at stake in the field, as well as by their objective relation to other positions (domination, subordination, homology, etc.). (Bourdieu, quoted in Wacquant, 1989, p. 39)

Sporting analogies have been used to explain what a field is and how it operates. In these the social field is represented by a playing field and the elements of boundaries, players, rules, games and competition are employed to explain the similar elements and functions that Bourdieu identified within social fields (Thompson, 2012, pp. 66–67).

An individual agent may operate within many different fields at the same time (Thompson, 2012, p. 68). This could be due to the agent being a member of a specialist field that exists within a broader field (and thereby the agent effectively operating within both of them at the same time), or due to an agent operating in two completely unconnected fields in different areas of their life, such as their professional field and the field of their local residential community.
Fields exist within a broader hierarchy as well, with all fields being located within Bourdieu’s concept of the overarching field of power (Bourdieu, 1993a, pp. 37–38; Johnson, 1993, p. 14). The field of power represents the dominant power relations within broader society, and the position of a field within it indicates how powerful that field is perceived to be within its social context.

The Field was devised as a "scholastic device... which helps researchers make sense of the world" (Thompson, 2012, p. 72). However, Bourdieu’s concept of the field was never intended to be a "paint-by-numbers" (Thompson, 2012, p. 73) formula and must be applied on a case-by-case basis. Thus, Bourdieu developed a three-step methodology for field analyses (which will be further discussed later in this chapter) that applied his field theory to accurately investigate and interpret any given social field.

Over the duration of his career, Bourdieu investigated many specific fields, such as the field of cultural production (art and literature) (Bourdieu, 1993a), politics (Bourdieu, 1991), and academia (Bourdieu, 1984/1988), which will be discussed in more detail shortly. His purpose for investigating various fields was to understand the structured surrounding context that—along with habitus and capital—shaped agents' practices.

**Habitus**

Bourdieu describes habitus as being a "system of dispositions" (Bourdieu, 1977, p. 214 n. 1) or a "property" (Bourdieu, 1993b, p. 86) that is held by an entity. An entity can be an individual person, group of people, institution or even a whole field (Maton, 2012, p. 50). The dispositions that constitute the habitus inform the entity’s perceptions, values and practices (Bourdieu, 1980/1990, p. 53).

Bourdieu developed his concept of habitus while attempting to understand and explain the behaviour and beliefs of people who were affected by colonialism but whose dispositions were from a previous different context (Grenfell, 2012d, pp. 215).

Habitus has a “structured and structuring structure” (Bourdieu, 1987/1994, p. 170). In other words, habitus is an organised system (i.e., habitus is a structure) that is formed by factors such as past and present circumstances (i.e., habitus is structured), which influences present and future practices, beliefs, perceptions and values (i.e., habitus is structuring) (Maton, 2012, p. 50). In summary, “simply put, habitus focuses on our ways of acting, feeling, thinking and being. It captures how we carry within us our
history, how we bring this history into our present circumstances, and how we then make choices to act in certain ways and not others” (Maton, 2012, p. 51).

Bourdieu explained that while *habitus* is conceptually and linguistically close to the idea of *habit*, he intentionally did not use the latter term because, once acquired habitus maintains a deeper link to history and the underlying structures that generated it than a mere automatic reproduction of a practised action implied by the term *habit* (Bourdieu, 1993b, p. 86). Consequently, Bourdieu described habitus as being “durable” (Bourdieu, 1993b, p. 87), in that its dispositions are maintained for some time and may transform or adapt slowly—or possibly not at all—should the surrounding field context shift. The durability of habitus is the principal reason why a *hysteresis effect* may take place when field conditions change (Bourdieu, 1993b, p. 87) as discussed under the *hysteresis effect* section later in this chapter.

**Capital**

Bourdieu’s concept of capital extends the conventional, purely economic notion of capital to encompass the broader symbolic range of resources and assets valued and exchanged within a social field (Bourdieu, 1986a, p. 242). When explaining its nature, Bourdieu set out that “capital is accumulated labor” (Bourdieu, 1986a, p. 241) and that capital endows its holder with power, which, he remarked “amounts to the same thing” (Bourdieu, 1986a, p. 243).

Bourdieu conceived capital as existing in three fundamental forms: *economic capital*, *cultural capital* and *social capital*, with the value of each being dependent upon the field in which it functions (Bourdieu, 1986a, p. 243) as well as the habitus of those who hold the capital (Moore, 2012, p. 99). Bourdieu also described three “states” (Bourdieu, 1986a, p. 243) that forms of capital can exist in; “embodied… objectified… [and] institutionalized” (Bourdieu, 1986a, p. 243). Bourdieu offered examples of *institutionalised* states of economic, cultural and social capital (Bourdieu, 1986a, p. 243) and described *embodied* and *objectified* states of cultural capital as well (Bourdieu, 1986a, pp. 244–247). Table 4 summarises these species of capital and includes a selection of examples offered by Bourdieu.

As also shown in Table 4, Bourdieu distinguished *cultural* and *social* capital as *symbolic* types of capital and therefore different to *economic* capital which had substance (Bourdieu, 1986a, p. 245). This distinction has been discussed as useful for
identifying that transmission of economic capital is instrumental and transparent, whereas exchanges of symbolic capital can appear to be disinterested and thereby imply they are not conducted for capital gain (Moore, 2012, p. 100). Bourdieu named this process *misrecognition* (Moore, 2012, p. 101).

While Bourdieu's conception of cultural and social capital expanded beyond the boundaries of conventional economic capital he also maintained that these symbolic types of capital were still, ultimately, convertible or reducible to economic capital. He proclaimed that "economic capital is at the root of all the other types of capital" (Bourdieu, 1986a, p. 252) and there exists a "universal reducibility to economics" (Bourdieu, 1986a, p. 253).

**Table 4: Species of capital summarised from Bourdieu (1986a)**

<table>
<thead>
<tr>
<th>Types of capital</th>
<th>Form of capital</th>
<th>Description</th>
<th>Convertibility to money</th>
<th>Institutionalised state</th>
<th>Objectified state</th>
<th>Embodied state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic capital</td>
<td>Economic capital</td>
<td>Monetary assets or resources</td>
<td>Immediately convertible into money</td>
<td>Property rights</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Symbolic capital</td>
<td>Cultural capital</td>
<td>Symbolic representations of culture or cultivation</td>
<td>On certain conditions can be convertible into money</td>
<td>Educational qualifications</td>
<td>Cultural goods including pictures, books, dictionaries, instruments, machines etc.</td>
<td>Long-lasting dispositions of the mind and body (habitus) acquired over time, including physical states such as a sun tan or muscular build</td>
</tr>
<tr>
<td>Social Capital</td>
<td>Actual and potential resources linked to being a member of a social network</td>
<td>On certain conditions can be convertible into money</td>
<td>Title of nobility A great family name</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

**Theory of practice**

Bourdieu's theoretical "thinking tools" (Bourdieu, quoted in Wacquant, 1989, p. 50) of field, habitus and capital come together in his *theory of practice*. In essence, Bourdieu posits that it is the relationship between these three factors that provides the understanding and explanation of social practices (Grenfell, 2012c, p. 47).
While the comprehensive explanation of this theory is extensive and complex (see Bourdieu (1977)), its logic has been summarised in the following equation (Bourdieu, 1979/1984, p. 101):

\[(\text{habitus})(\text{capital}) + \text{field} = \text{practice}\]

This equation succinctly represents Bourdieu’s unique approach to explaining the subjective and objective factors that combine to enable or constrain all social practices. It sets out that a given behavior or attitude of an entity (i.e., practice) is determined by a combination of subjective forces (the dispositions of that entity, i.e., its habitus), the power that entity possesses (i.e., its capital) and the objective context within which the practice is located (i.e., its field). In other words, for example, a person’s actions or decisions are never entirely their own choice nor are they determined completely by their surrounding social context. Rather, they are decided by an unconscious and symbolic calculation of profit that takes into account the person's own preferences (developed through past experiences), the social world in which they are located at the time (which predetermines the rules of the game) and the resources or power at their disposal (Grenfell, 2012c, p. 44).

Bourdieu’s theory of practice is regarded as unique and valuable for its ability to combine the previously divided—and at times oppositional—traditions of objectivism and subjectivism (Grenfell, 2012c, p. 43). That is, Bourdieu’s approach respected the anthropological tradition that explored objective social structures while also valuing the more philosophical subjectivist traditions that explored the personal motivations and freedoms of individuals (Grenfell, 2012c, p. 43). Bourdieu described his resulting approach as “a science of dialectical relations between objective structures to which the objectivist mode of knowledge gives access and the subjective dispositions within which those structures are actualized and which tend to reproduce them” (Bourdieu, 1977, p. 3).

**Doxa**

Within a field, *doxa* is “a set of fundamental beliefs which does not even need to be asserted in the form of an explicit, self-conscious dogma” (Bourdieu, 1997/2000, p. 15). In other words, doxa is comprised of accepted truths that are “taken for granted” (Bourdieu, 1977, p. 168), are “self-evident” (Bourdieu, 1998, p. 56) and regarded as common knowledge by members of the field (Thompson, 2012, p. 68).
Bourdieu explained that it is “through misrecognition of arbitrariness” (Bourdieu, 1977, p. 168) that doxa is unquestionably accepted as legitimate.

Doxa has been described as “the cornerstone of any field to the extent that it determines the stability of the objective social structures through the way these are reproduced and reproduce themselves in the agents’ perceptions and practices; in other words in their habitus” (Deer, 2012a, p. 116). Further to this, the mutual reinforcement of the field and habitus strengthens the prevailing doxa (Bourdieu & Wacquant, 1992, p. 66, p. 74).

Within doxa, Bourdieu set out that there exists a “field of opinion” or “universe of discourse (or argument)” (Bourdieu, 1977, p. 168). This area of debatable doxa contains orthodox concepts, which are those that are recognised as arbitrary but regarded as “right” (Bourdieu, 1977, p. 169) at one end and heterodox ideas at the other, which are recognised as possible competing beliefs yet are regarded as “left or wrong” (Bourdieu, 1977, p. 169) (Deer, 2012a, p. 118).

Recognising and unveiling doxa played a crucial role in Bourdieu’s empirical investigations of social fields and practices. A noteworthy example of this is his investigation of the academic field that is reported in *Homo Academicus* (Bourdieu, 1984/1988). The study reported in *Homo Academicus* sought to understand and reveal the scholastic or academic doxa that played a part in the crisis in French universities in May 1968. Further, Bourdieu’s study also scrutinised academic doxa that underpins the academic field more generally (Deer, 2012a, p. 119).

**Interest**

*Interest, illusio or libido* were terms used by Bourdieu to refer to the personal interest that all agents have in the outcome of their practices (Grenfell, 2012b, p. 152). Bourdieu worked from the premise that interest is established during childhood and that “there can be no such thing as a disinterested act” (Grenfell, 2012b, p. 163).

The concept of *interest* has been described as “fundamental to his [Bourdieu’s] entire theory of practice” (Grenfell, 2012b, p. 164) due to its role in explaining the motivations of individual agents and fields. That is, according to Bourdieu’s *theory of practice* individuals’ actions are determined by a subconscious calculation of profit that takes into account their capital, field context and habitus, and seeks to “maximize profit” (Grenfell, 2012b, p. 152) for themselves. In this way, interest is integral to Bourdieu’s
theory as it explains the reason why agents compete, that is, for their own benefit by improving or maintaining their field position.

Within the theory of practice an agent’s interest constitutes part of their habitus, as a component of their personal disposition. For this reason interest has been referred to as “habitus incarnate, which itself is created by the field conditions through which individuals pass” (Grenfell, 2012b, p. 152). Or, in Bourdieu’s words, “interests… are both presupposed and produced by the functioning of historically delimited fields” (Bourdieu, quoted in Wacquant, 1989, p. 41). It is therefore understandable that Bourdieu set out that interest could only be known through historical analysis and observation (Bourdieu, quoted in Wacquant, 1989, p. 42).

**Symbolic Violence**

Bourdieu asserted that there are only two ways to attain and maintain control over a person: “overt (physical or economic) violence, or symbolic violence – *censored, euphemized*, i.e., unrecognizable” (Bourdieu, 1977, p. 191).

Bourdieu defined symbolic violence as being “the violence which is exercised upon a social agent with his or her complicity” (Bourdieu & Wacquant, 1992, p. 167) including such forms as “the violence of credit, confidence, obligation, personal loyalty, hospitality, gifts, gratitude, piety – in short, all the virtues honoured by the code of honour” (Bourdieu, 1977, p. 192).

He regarded this “gentle, invisible form of violence” (Bourdieu, 1977, p. 192) as a particularly effective and efficient mechanism through which the superior groups of a field dominate the subordinate members. This was because “the dominant class have [sic] only to let the system they dominate take its own course in order to exercise their domination” (Bourdieu, 1977, p. 190).

Examples of symbolic violence include individuals or groups being treated as inferior, denied resources and limited in their social mobility or aspirations under the rationale of some form of natural order. For example, the historical male domination of females has been discussed as a prime example of symbolic violence (Bourdieu & Wacquant, 1992, pp. 170–174; Webb et al., 2002, p. 25). Women have been denoted as mentally and physically inferior and therefore have been offered limited opportunities in areas such as education, religion and employment. As women have historically accepted these characterisations “we can say that gender domination took (and takes) place precisely
because women misrecognised the symbolic violence to which they were subjected as something that was natural, simply “the way of the world” (Webb et al., 2002, p. 25).

Bourdieu maintained that genuine reflexivity that could lead to unveiling symbolic violence is the exclusive domain of the expert social scientist and is out of reach of the common sense perception of lay people (Deer, 2012b, pp. 204–205). However, he did advocate increasing awareness of the arbitrary nature of symbolic domination (Schubert, 2012, p. 192) and sought to show how the social scientist could align with the dominated classes to provide them with a form of resistance or “counter-power” (Deer, 2012b, p. 204).

The hysteresis effect

The Oxford English Dictionary defines hysteresis as a phenomenon where “changes in a property (e.g. magnetization, or length) lag behind changes in an agent on which they depend” (Hysteresis, 2013). Bourdieu’s concept of the hysteresis effect draws upon this scientific meaning to refer to the mismatch or lag between the habitus and field, caused by change of some sort (Hardy, 2012, p. 144).

Bourdieu’s hysteresis effect is a necessary consequence of habitus and field being mutually generating (Hardy, 2012, p. 126). In other words, because they produce each other habitus and field are normally compatible or matched and, consequently, if one changes, so must the other.

While this suggests that such a mismatch could be caused by a change in either the habitus or field, most commonly, hysteresis effects are discussed as being due to changed field conditions that force habitus to adapt, rather than the other way around. That is, “structures change but dispositions do not—at best they take longer” (Hardy, 2012, p. 139). Bourdieu explained this as follows:

As a result of the hysteresis effect necessarily implicated in the logic of the constitution of habitus, practices are always liable to incur negative sanctions when the environment with which they are actually confronted is too distant from that in which they are objectively fitted. This is why generation conflicts oppose not age-classes separated by natural properties, but habitus which have been produced by different modes of generation, that is, by conditions of existence which, in imposing different definitions of the impossible, the possible and the probable, cause one group to experience as natural or reasonable practices or
aspirations which another group finds unthinkable or scandalous, and vice versa.  
(Bourdieu & Passeron, 1970/1990, p. 78)

When a field transforms it is not a homogenous process because some field subsections may adopt changes faster than others (Webb et al., 2002, p. 29–30). It may even take decades for the habitus of some members to adapt and it is also possible that some field members may find the differences too great to overcome and therefore choose to leave the field altogether (Hardy, 2012, p. 139). For those agents who choose to remain in a changed field, “given time, habitus is transformed so that it matches new field structures” (Hardy, 2012, p. 141). This suggests that a hysteresis effect will eventually be resolved one way or another.

Bourdieu does not often explicitly refer to the hysteresis effect in his work. However, the problems caused by field changes are clearly central to many of his investigations (Thompson, 2012, p. 78). For instance, his study of changes to Algerian society in relation to the Algerian War of Independence (Bourdieu, 1962; Hardy, 2012, pp. 132–133), the experiences of French peasants as their rural community was affected by progress (Hardy, 2012, p. 131–132; Robbins, 2009, p. 144) and dramatic changes in French academia due to the student revolt of May 1968 (Bourdieu, 1984/1988; Hardy, 2012, p. 133–134). Within these studies—and others—Bourdieu investigated how social fields behave when affected by various changes such as war, social progress and policy change.

Through his empirical investigations Bourdieu observed that when a field is affected by change new field positions are created and opportunities and risks arise (Hardy, 2012, p. 144). In these situations, Bourdieu observed, “in a general manner, it is the people who are richest in economic capital who are the first to head for new positions” (Bourdieu, 1992/1996, p. 262).

Bourdieu’s concept of the hysteresis effect “allows us to appreciate the nature and consequences of field change as experienced personally and at a social environmental level” (Hardy, 2012, pp. 144–3). In this way the hysteresis effect is a useful tool for identifying how change is affecting a field and its members and for predicting—to some extent—how the field and members are likely to evolve in the future.
Bourdieu’s field analysis methodology

Using Bourdieu’s terminology and ideas without employing his comprehensive approach has been condemned as “little more than a metaphorizing of data with Bourdieusian language” (Grenfell, 2012d, p. 224). To avoid such superficiality Bourdieu recommended a three-step process to investigate any given field, which he summarised as follows:

**Firstly, one must analyse the position of the field vis-à-vis the field of power…**

**Secondly, one must map out the objective structure of the relations between the positions occupied by the agents or institutions who compete for the legitimate form of specific authority of which this field in the site [sic]. And thirdly, one must analyze the habitus of agents, the system of dispositions they have acquired by internalizing a determinate type of social and economic condition and which find in a definite trajectory within the field under consideration a more or less favorable opportunity to become actualized. (Bourdieu, quoted in Wacquant, 1989, p. 40)**

This three-step methodology of field analysis was designed to reveal the underlying construction of the social world that informs social practices (Thompson, 2012, p. 73) and has been applied in many different disciplinary contexts with success, as will be discussed shortly. However, a number of limitations or challenges have been recognised in relation to employing Bourdieu’s approach to field analysis. Four key “problems with field theory” that have been raised by Thompson (2012, pp. 77–78) were addressed as follows.

First, “the problem of borders” (Thompson, 2012, p. 77), or the difficulty in determining where a field starts and ends was considered. Within the present study, as set out earlier in Chapter 1, national, professional and disciplinary boundaries were identified. That is, the present study focuses on the situation in Australia, specifically within the communication design specialism’s profession (commercial practice).

The second key problem considered was that of “too many fields” (Thompson, 2012, p. 77), where the number of sub-fields nested within each other can go on so far they require investigation of too many levels of context to be practical. As recommended by Thompson (2012, p. 77), to mitigate this problem in the present study, the number of field contexts investigated were limited and openly acknowledged. As noted previously, the key area of interest was Australian communication design professional practice.
While the opinions and positions of communication design academics were also included in the investigation, academics and their own research practices were intentionally excluded. Where relevant data or literature about sub, or parent fields outside of professional communication design practice were available, they were considered and are mentioned briefly where appropriate.

Thompson describes the third key problem of employing Bourdieu’s field analysis method as that of addressing “change in the field” (2012, pp. 77–78). That being, Bourdieu’s field analysis method has attracted criticism for not including any explicit steps to analyse change that might be taking place within fields. However, other authors have discussed that while Bourdieu rarely discusses field change explicitly, it is central to his work—even if only implicitly—and can be clearly seen within his investigations. For example changes in social fields generally (Bourdieu, 1993/1999), specific fields such as academia (Bourdieu, 1984/1988) and his conception of the hysteresis effect discussed earlier (Bourdieu, 1977, p. 83). While analysing changes that are taking place is important to the present study’s investigation, employing Bourdieu’s approach did not pose a problem to achieving this. When analysing the positions of the fields the history of communication design practice in relation to academia was necessarily reviewed and made it possible to identify any change or hysteresis effect evident within the communication design profession.

Fourth and finally, “the problem of inter-field connections” (Thompson, 2012, p. 78) was considered when employing Bourdieu’s approach. While Bourdieu asserted that fields hold either dominant or subordinate positions in relation to each other he also argued that there is no universal theory that explains how these relationships are determined or could be measured. Instead, he concluded that the inter-field connections that determine such hierarchies are always specific and can only be understood on a case-by-case basis (Thompson, 2012, p. 78). This challenge was particularly pertinent to the present investigation due to the academic participants being members of both the academic and communication design fields simultaneously. While analysing fields that are interconnected in numerous ways did pose a challenge, it was also this interconnectedness that helped explain the similarities and differences between the opinions of the academic and practitioner participants. Thus, this relationship was important and valuable to analyse, and made it necessary to evaluate the academic and communication design fields separately and compare them at the end of field analysis.
Connections between the communication design and academic fields and other fields were also a challenge within the present study as the number and nature of these connections was undetermined at the outset of the study. The approach employed to address this issue was to recognise possible connections as they became evident and acknowledge that there would be other connections that remain unknown and may be found to be relevant in future investigations.

While Bourdieu's approach to field analysis does not constitute a theoretical concept as such, it did offer a useful structure for authentically applying Bourdieu’s theories. Thus, this approach is outlined here as another of Bourdieu’s concepts that influenced the present study.

The academic field

Bourdieu investigated education in a number of formats in schools and universities with a particular focus on how formal education reinforces field hierarchies (Thompson, 2012, p. 73). Bourdieu maintained that “All pedagogic action (PA) is, objectively, symbolic violence insofar as it is the imposition of a cultural arbitrary by an arbitrary power” (Bourdieu & Passeron, 1970/1990, p. 5).

Bourdieu conducted two major studies in the area of higher education. First, he investigated French universities during the student revolt and dramatic field changes of May, 1968, described in Homo Academicus (Bourdieu, 1984/1988). And second, in The State Nobility (Bourdieu, 1989/1996), he discussed the importance of elite university education to attaining dominant positions in the field of power.

A number of Bourdieu’s insights from his investigations of higher education relate to the role of academics in society and their relationship to legitimising certain types of knowledge. Grenfell summarised, “For Bourdieu, ‘intellectualist universalism’ is at the heart of the scholastic illusion: to take its own ‘interest laden’ knowledge as universal truths.” (2012b, p. 167). This was exemplified when Bourdieu described the destiny of academics as being “to assert themselves as an international power of criticism and watchfulness” (Bourdieu, 1992/1996, p. 348).

Within his related study reported in Science of Science and Reflexivity (Bourdieu, 2001/2004), Bourdieu investigated the production of scientific knowledge (i.e. research findings) and their rise to becoming accepted truths or doxa.
In relation to his investigations of how scientific knowledge is produced and operates within fields, Bourdieu pondered the challenges of defining terms such as research within the changing context of academia. He concluded:

*The common terms ‘research’, ‘teaching, ‘laboratory direction’ etc., designate very different realities, and are no doubt all the more deceptive today since the generalization of a scientific model, under the combined effects of fashion and the homogenizing constraints of research administration, has led the whole body of teachers in higher education to pay homage to science by borrowing terms from the natural sciences to designate realities often very far from scientific reality… Thus… the medical faculties often undertake, in the name of research, activities which are very distant from what the science faculties call research.*

*(Bourdieu, 1984/1988, p. 54)*

These sentiments clearly align with findings from the literature review conducted for the present study and reported in Chapters 1 and 2, in that diverse interpretation and uses of the word research are also clearly evident within the communication design field.

Bourdieu’s research and theories about academia relate to the present study in a number of ways, as will be detailed shortly. It is worth noting, however, that these concepts were not completely transferable to inform the present study. For example, a number of his findings published in *Homo Academicus* (Bourdieu, 1984/1988) clearly do not resonate with the present situation in Australian academia, which highlights the importance of critically appraising his theories before application. For instance, based on his investigation of 405 randomly selected Parisian university professors, Bourdieu found that most of the privileged bourgeois members of the academic field were critical of science. However, examining the method of his evaluation reveals that one of his indices for calculating the field position of an academic was “social integration”, measured by whether they were single, married or divorced and how many children they had (Bourdieu, 1984/1988, pp. 36–37). Unsurprisingly, Bourdieu found that the privileged classes were made up mainly of Catholics and that they rejected science as it posed critical or heretical questions (Bourdieu, 1984/1988, p. 52). Such an index would not be appropriate to measure social integration in Australia today due to such differences as diversity of religious beliefs, declining birth and marriage rates and the shifting relationship between religious and scientific beliefs that is far more open to accommodating both.
Examples of previous studies

In addition to his own investigations, Bourdieu's theories have been extensively used to successfully investigate and explain very diverse practices in a wide range of contexts (Thompson, 2012, p. 79). The following selection of example past studies illustrate the flexibility of this theoretical perspective and its suitability to address the present study’s research questions.

The authors of the paper, *The role (or not) of economic evaluation at the micro level: Can Bourdieu’s theory provide a way forward for clinical decision-making?* (Lessard et al., 2010) argue that Bourdieu’s theories are especially appropriate for analysing the decision-making processes of family doctors. The authors describe clinical decision-making as a multifaceted process embedded in complex social contexts and argue that employing Bourdieu’s approach could substantially contribute to a more comprehensive understanding of the factors that influence doctors and their choices.

A specialist area of nursing is explored in; *The school nursing profession in relation to Bourdieu’s concepts of capital, habitus and field* (Morberg, Lagerstrom, & Dellve, 2012). This paper reports on an empirical study of nurses employed within Swedish schools. Morberg, Lagerstrom and Dellve evaluate the role of school nurses in terms of their capital, habitus and field to explain the nurses’ experiences of their professional roles and argue that to strengthen their profession, school nurses need to “show their competence in promoting students’ health” (Morberg et al., 2012, p. 355).

An example of research employing Bourdieu’s theories from the field of education is: *Bourdieu’s Notion of Cultural Capital and Its Implications for the Science Curriculum* (Claussen & Osbourne, 2013). In this paper, Claussen and Osborne use Bourdieu’s notions of capital and habitus in particular to critique the situation in primary and secondary schools’ science curricula and identify possible ways that science education could remediate social injustices. The authors discuss knowledge as a form of embodied capital and thereby demonstrate the flexibility of Bourdieu’s concepts for exploring and understanding social practices, particularly in relation to capital in the form of knowledge.

Within these papers, Bourdieu’s concepts have been advocated and employed for their ability to identify and explain the complex factors that impact on people and enable or constrain their attitudes and behavior. The present study’s research questions seek an
understanding of similar issues related to decision making in professional practice contexts, the nature of professional roles, and the value of scientific knowledge. While these are only a few examples, and there are many more that are also relevant, they illustrate the flexibility of Bourdieu’s theoretical concepts and their suitability to address the present study’s research questions. The way Bourdieu’s concepts were employed within the present study will now be described in more detail.

**Description of theory use in the present study**

Bourdieu’s theoretical concepts, as well as findings from his past studies were employed in the present study in the following four key ways.

**Adoption of Bourdieu's field analysis methodology**

The first way that Bourdieu’s theoretical concepts were employed within the present study was through conducting a modified version of his field analysis. This was conducted prior to the main empirical investigation of the present study, via review of existing literature.

As explained previously, Bourdieu developed his three-step approach to field analysis to comprehensively investigate both the subjective and objective factors that affect practices within any given field. This approach was modified for the present study to be achievable within the time and resources available for the investigation. While Bourdieu conducted his field analyses as primary research (by collecting and analysing empirical data), in the present study field analysis was conducted as secondary research (via a review of existing data and literature). The relevant literature related to each of the three steps in Bourdieu’s approach was reviewed to evaluate field positions, values, capital and professional habitus of the two main cohorts of interest (i.e., communication design practitioners and academics in Australia).

While Bourdieu’s field analysis is not usually a component of an explanatory sequential research design it was included in the present study as a preliminary stage to complement the mixed methods inquiry, address the questions in an in-depth manner and ensure that Bourdieu’s concepts were employed appropriately.
The findings of the field analysis are presented in the next section of this chapter and formed an important backdrop to the analysis and interpretation of the data collected during the subsequent empirical investigation.

**Use of Bourdieu's concepts to inform the research design**

The second way that Bourdieu’s theories and findings were used within the present study was to inform the research design. This resulted in the present study investigating design practitioners and academics separately then comparing them, collecting field members’ opinions as the main source of data, and collecting data about specific demographic variables that had proven relevant in Bourdieu’s past studies.

Findings from Bourdieu’s empirical studies and the theoretical concepts he subsequently developed suggested that it would be best to investigate academics and practitioners separately and then compare them. As discussed in the previous section, Bourdieu’s investigations of academia revealed a scholastic disposition that sought to assert itself as the authority of legitimate knowledge. Furthermore, Bourdieu identified that research technologies were becoming more prevalent across disciplines (Bourdieu, 2001/2004), and that terminology such as *research* was increasingly being employed to describe very disparate activities. Such insights suggested the hypothesis that communication design practitioners and academics could have disparate and possibly conflicting conceptions of—and interests in—research. To investigate this possibility it was important for the present study to investigate the opinions of both academics and practitioners in the Australian communication design field separately and then compare them to properly understand the role of research in the profession.

Bourdieu’s theories indicated that the personal opinions of field members would be an important source of data. For example, his theory of practice highlights that the habitus is one of the essential determinants of a person’s activities and beliefs. Therefore, as the present study sought to understand the practices and perceptions of research in the communication design profession, it was crucial to collect designers and academics’ opinions of research and research engagement. These insights contributed to developing an understanding of field members’ dispositions in relation to research and began to identify the likely reasons behind the existing practices of, and attitudes towards, research.
And finally, Bourdieu’s concepts also informed the research design on a more fundamental level by suggesting appropriate variables for which to collect data. His field theory, theory of practice and field analysis methodology all highlighted the importance of analysing particular data in order to investigate practice, habitus and field conditions. This informed the design of data collection methods. For example, whenever Bourdieu’s choice of indicator was considered relevant for the present study’s context it was adopted. Therefore, data were collected from participants in the present study for their age, level of qualifications and type of workplace. However other data collected by Bourdieu as indicators of capital, such as marital status and number of children (Bourdieu, 1984/1988, p. 43), were regarded as not relevant to the present study’s context.

**Use of theory during stage three analysis**

The third way in which Bourdieu’s concepts were employed within the present study was during analysis of the findings in stage three, which involved the comparative analysis of stage one and stage two findings and is presented in Chapter 7. The theoretical concepts of field, interest, doxa and hysteresis were employed to help explain the reasons for the similarities and differences between the perceptions held by communication design professional practitioners and the academics.

**Use of theory during discussion**

Finally, the fourth way that Bourdieu’s concepts were employed within the present study was through referencing the concepts of field theory and the hysteresis effect during the discussion (also presented in Chapter 7). Bourdieu’s in-depth descriptions of how fields operate, particularly with regards to adapting to change, were employed for identifying likely future scenarios. For example, his concept of the hysteresis effect offered insights into how any mismatch between the values of designers and the shifting priorities of the field might eventually be resolved.

**Field analysis findings**

As explained earlier in this Chapter, Bourdieu’s approach to field analysis was adapted for the present study and conducted as secondary research using the available
literature, prior to the present study’s main empirical investigation. This section briefly describes the process undertaken and presents the findings of the field analysis.

Bourdieu’s approach was employed to examine the subjective social contexts (i.e. the habitus) and the objective structures (i.e., field contexts) of the academic and practitioner participants. Through this process deeper understandings of practitioners and academics’ situations were developed to support interpretation of their comments later in the main empirical investigation. These findings were primarily used to address the third main research question—How can these similarities and differences be explained in terms of Bourdieu’s theoretical concepts? Yet they also supported analysis and discussion of the findings for the other three main research questions as well.

Bourdieu’s basic steps of field analysis (Bourdieu, quoted in Wacquant, 1989, p. 40) are as follows:

1. Analyse the position of the field in relation to the field of power
2. Map out the hierarchy of field members and institutions who compete for authority
3. Analyse the habitus (dispositions) of field members

Within the present study, these steps were modified slightly in that two field situations were analysed independently and then compared; the Australian communication design profession and the Australian academic field. This was done to understand the respective fields within which the two cohorts that participated in the study operate, and support comparison of their perceptions.

It was decided to investigate the communication design profession and academic fields separately. This was done because while the designers and academics that participated in the present investigation would be regarded as being agents within the same field—that of Australian communication design—communication design academics operate in the separate field of academia as well as within the communication design discipline. Considering that communication design academics co-exist within these two fields at once, in Bourdieu’s terms they are striving to play two games at the same time. Each of these games has different rules and values, with one game, academia, being arguably more dominant within the wider field of social power than the other, communication design, in terms of cultural and intellectual capital. Both the communication design and academic fields that communication design academics
co-inhabit influence their habitus, and they must deal with often competing—and sometimes opposing—concepts of what is valuable and important, particularly in terms of research. This is why, for the purpose of determining positions within the field of power, communication design academics were analysed as a separate field to professional practitioners.

**Analysis of field positions: Academia and communication design’s positions within the field of power in Australia**

Whilst the analysis of a given field’s position within the field of power was deemed important to do within his field analyses, Bourdieu did not offer specific indices for measuring or determining that position. Instead he concluded that there is no universal theory for understanding field-to-field relations and the position of each field can only be determined through an individual analysis of their specific relations to other fields (Thompson, 2012, p. 78).

In the absence of standard indices for evaluating field positions Bourdieu’s own empirical studies and analyses of fields were reviewed to seek examples that could inform the equivalent stage of investigation within the present study. A number of potentially useful indicators of field position were found. For example, in his analysis of the field of cultural production Bourdieu discussed a simple comparison of the capital valued within the literary/artistic, economic and educational fields to help locate the field of literary and fine art in relation to other fields within the field of power (Bourdieu, 1993a, p. 43). Through such exploration he concluded that the field of literature and art was located in a “dominated position” (Bourdieu, 1993a, p. 38) in relation to economics and education, and highlighted that the “economy of symbolic goods” (Bourdieu, 1993a) that operated within the field functioned in an inverse relationship to that of the economic field’s economic capital (Bourdieu, 1993a, p. 48).

To evaluate the positions of the communication design and academic fields in Australia at the time of the present study the most current industry reports and census data available were consulted. The following summaries describe the positions of academia and communication design practice within the Australian field of power at the time of the present study based on the literature reviewed and data collected.
Field position of the Australian communication design profession

While Bourdieu never explicitly investigated communication design as a field he did refer to "commercial art" occasionally during his exploration of the field of cultural production. These few references implied that commercial art was located in a subordinate position within the literary and artistic field, situated as the opposite of "pure art" (Bourdieu, 1993a, p. 64). Commercial art’s low status within the field was explained through Bourdieu’s conception that mass-market audiences and explicit pursuit of economic—as opposed to cultural or social—capital designate a product or activity as less valuable within the context of the field of cultural production (Bourdieu, 1993a, p. 97). As Bourdieu observed, "discredit increases as the audience grows and its specific competence declines, together with the value of the recognition implied in the act of consumption" (Bourdieu, 1993a, p. 48).

While Bourdieu concluded that commercial art occupied a dominated position within the field of cultural production due to its mass-market audience and pursuit of economic capital, it is arguable that outside the field of cultural production, within the greater field of power, these characteristics hold greater value. Bourdieu regarded economic capital as being superior within his species of capital and so financial profitability achieved through commercial practice could position commercial art higher within the field of power than the field of cultural production. Added to this, the field that is recognised as communication design within the present study involves a more complex and extensive range of services than was ever offered by its ancestor of commercial art that Bourdieu referred to. With a larger professional industry, communication design is regarded as offering more solid career prospects than that of fine art or some other forms of design within present day Australia (CIIC, 2013b), which is an indication that communication design holds a higher position within the field of power than commercial art would have.

In relation to the broad field of design within Australia specifically, past studies have concluded that design holds intermediate occupational prestige within Australia, within which there is little differentiation between design specialisms (Chung & Whitfield, 1999; G. Smith, 2006; G. Smith & Whitfield, 2005). Based on perceived levels of social standing, education, responsibility, income, and usefulness, designers were ranked higher in social standing than barpersons, cleaners, and mechanics and ranked lower than doctors, judges, solicitors, and architects (Chung & Whitfield, 1999; G. Smith & Whitfield, 2005).
To further determine the position of the Australian communication design field within the broader field of power in Australia, economic and symbolic capital held by the field was evaluated.

Bourdieu set out that all forms of capital are ultimately reducible to economic capital (Bourdieu, 1984/1988, p. 36; 1986a, p. 252) and thus economic capital was interpreted as the strongest indicator of the communication design field’s position within the overall social space of the field of power in Australia. To evaluate the field’s economic capital key reports were consulted for the “creative industries” (CIIC, 2013b) and “specialised design services” (Chia, 2013) as sectors of the Australian economy.

While the creative industries (CIIC, 2013b, p. 7) and specialised design services (Chia, 2013, p. 2) are clearly the sectors to which the communication design profession belongs, they are very broad categorisations that include many other design specialisms. So any conclusions about the communication design profession’s field position derived from these reports were necessarily regarded as indicative background only.

To evaluate the economic capital held by the Australian communication design field, indicators of contribution to Australia’s Gross Domestic Product (GDP), growth and employment were reviewed as follows.

The creative sector’s contribution to Australia’s economy, in terms of GDP, has been reported as valuable, despite being relatively small compared with other major sectors. In 2013 the sector was described as making a “large contribution to the national economy” (CIIC, 2013b, pp. 8–9), contributing $90.19 billion in turnover, adding $45.89 billion to GDP and generating annual exports of $3.2 billion (CIIC, 2013b, p. 12).

However, when compared with other sectors of the Australian economy, the creative sector’s contribution of around 3 per cent of Australia’s GDP (CIIC, 2013b, pp. 33-34) ranks it 13th within the 20 contributing sectors and it is clearly far smaller than the largest contributors; those being the mining, financial and insurance and manufacturing sectors that each contribute around 10 per cent to Australia’s GDP. Further, when it is considered that the design and visual arts segment has been determined to contribute around six per cent of the creative industries sector’s three percent contribution, communication design as an independent field is likely to contribute less than .2 per cent to Australia’s GDP.
In terms of economic growth the design and visual arts industry was identified in 2013 as one of three areas showing the strongest performance in terms of real annual output growth in the preceding five years and also one of only three areas that experienced employment growth within the seven sub-sectors surveyed (CIIC, 2013b, p. 9).

In terms of employment the communication design specialism was found to be an important sector within Australia, with 2011 Census data indicating graphic design was the largest employer of the design fields, employing 25,513 workers (Australian Bureau of Statistics, 2011, p. 7). It was found that employees within the creative industry sector are regarded as well paid, with average salaries found to be “significantly higher than those employed within other industries of employment” (CIIC, 2013b, p. 37) and increasing, being 13 per cent more in 2011 than in 2006. So the report concluded that “creative workers are highly valued and this is reflected in higher than average incomes” (CIIC, 2013b, p. 37).

A key distinguishing feature of the communication design profession in Australia is the employment situation of workers in terms of size and type of employing organization. In terms of size, the substantial majority of design and visual arts businesses are very small. Nearly 70 per cent of businesses in the design and visual arts industry are non-employing (consisting of one owner operator), with nearly all of the remaining 30 per cent of businesses employing less than 20 employees and only 1.3 per cent of businesses employ 20 or more people (CIIC, 2013b, p. 45). In terms of type of employing organization, the majority of workers in the design and visual arts industry (over 62 per cent) are employed as embedded workers within other industries (CIIC, 2013b, p. 57), reflecting that designers and visual artists are particularly valuable for their support of other key industries.

In addition to the various kinds of economic capital held by the communication design field in Australia indicators of the field’s symbolic capital were also evaluated, including the various species of cultural and social capital Bourdieu identified. These forms of capital proved more difficult to evaluate, as they are not easily quantified in economic terms and are thus rarely mentioned in industry reports. One of the few published indications of symbolic capital held by the communication design field in Australia was by the Federal Minister for Industry at the time, Ian Macfarlane, who referred to “the intangible but undeniable worth of knowing our nation creates great software, films, TV, radio, music, theatre, dance, design, media, writing, marketing and architecture” (CIIC, 2013b, p. 5). This statement was regarded as an indication that the field holds a
reasonable amount of symbolic capital within Australia, albeit acknowledged by a
member of government who holds some responsibility for the prosperity of the industry.

Perhaps the clearest indicator of the symbolic capital held by the communication
design field in Australia is its presence within universities. This endows the field with
symbolic capital of higher education qualifications, a research profile (albeit small) and
the status of a profession rather than a trade that is only taught within vocational
education (Beegan & Atkinson, 2008; Young, 2005, p. 203). The increasingly common
requirement for professional practitioners to hold a bachelor’s degree from completing
higher education positions communication designers as superior within the field of
power to vocationally educated service providers and tradespeople. That said the
cultural capital held by members of the communication design field would be unlikely to
surpass that of practitioners from fields that have been taught within universities for far
longer and require higher levels of qualification to practice, such as medicine and law.

The research profile of the Australian communication design field is low, although
growing, as evidenced by the number of academic publications, such as peer reviewed
journals in design (Cross, 1999, p. 5; Friedman et al., 2008), and occasional industry
reports such as the AGDA 2014 Industry Survey (AGDA, 2014) and Graphic Design
Forensic Report (CIIC, 2013a). The gradual growth in research is also evidenced by
the small, yet increasing number of postgraduate research students (Robertson, 2014,
p. 110). Major conferences such as agIdeas (http://ideasondesign.net), semi-
permanent (https://www.semipermanent.com) and Analogue/Digital
(https://www.analoguedigital.com.au) tend to feature presentations of design practice
more so than research. And industry associations focus predominantly on business
strategy and practice skills. For example see the Australian Graphic Design

On the basis of these indicators, equating to economic and symbolic capital,
communication design could be argued to occupy a middle-ground position within the
broad field of power in Australian society, yet was also found to demonstrate great
potential for future growth and development.
Field position of Australian academia

The Australian academic field’s position within the field of power was analysed to understand the social space within which communication design academics are employed.

Bourdieu’s comprehensive investigation of the Parisian academic field in the 1960s, reported in *Homo Academicus* (Bourdieu, 1984/1988), offered useful starting points for considering the Australian academic field. Bourdieu has been criticised for generalising or theorizing about the field of academia on the basis of his empirical investigation of the Parisian situation in the mid 1960s. In his defense he argued that due to the depth of his empirical and theoretical investigations his findings revealed the essence of the scholastic disposition and therefore held value beyond the French context in relation to academia in other countries. On this basis Bourdieu’s theories about the field of academia and individual academics were regarded as valid starting points for investigating the position of communication design academics in Australia.

As part of Bourdieu’s analysis, he described the position of academics within the broader field of power. He described academia as being outranked by the fields of economics and business due to academics holding primarily cultural capital, which he described as a form that is subordinate to economic capital (Bourdieu, 1984/1988).

In terms of economic capital, the Australian academic field is also outranked by more profitable sectors such as finance and mining (CIIC, 2013b, p. 34). However, key statistics for Australian Universities show that academia’s institutions still hold a respectable amount of economic capital, generating $26.6bn in revenue and $2.1bn in profit in 2014 (Magner, 2014, p. 3).

In terms of symbolic capital, the university within Western societies occupies a well-recognised dominant position in the field of power, primarily due to its claim to being the authority of legitimate knowledge and truth in the post-Enlightenment Age. This claim to superiority is particularly pertinent to the present study as it directly relates to claims from both within and outside of academia about the legitimacy of various types of research. In Bourdieusian terms, the academy’s superior position can be explained as being due to its accumulation of symbolic intellectual capital.

Research holds a particularly prominent position in the symbolic capital held by the Australian academic field, with the Threshold Standards of the Higher Education
Standards Framework (2013) designating that only institutions that conduct a specified minimum of research can be called universities in Australia. This differs from the situation internationally where most universities do not conduct research (Moodie, 2014). Conducting research appears to be required in Australia for the cultural capital it brings in the form of prestige and perceived authority. In a discussion of Australian universities’ relationship with research, Moodie noted “even modest research accomplishment adds to institutions’ and academics’ prestige and their ability to attract students. Even less prominent research universities would weaken their competitive position by relinquishing research. Research is important for universities’ marketing” (Moodie, 2014).

Australian academia is a small player within the global academic field, particularly in comparison with its key competitors in the United States and United Kingdom (Magner, 2014, p. 22). Due to Australia’s very small population in comparison to other countries there are far fewer universities in Australia in comparison with major tertiary education institutions overseas. For example, of the more than 18,000 universities worldwide, reported in the International Handbook of Universities (International Association of Universities, 2014), around 4,600 are located in the USA (NCES, 2013b), with 21 million student enrollments (NCES, 2013a). In comparison, Australia is home to only 39 universities, (2013) with around one million enrolled students (“Australia’s universities: Key facts & data,” 2014). However, as a developed country with a maturing knowledge economy higher education has grown to become a key export for Australia, constituting its largest service export (“Australia’s universities: Key facts & data,” 2014). Furthermore Australian universities actively market themselves to attract international students and also to establish their own campuses in other countries (Magner, 2014, p. 22). Therefore, the Australian academic field could be best described as small by global standards, yet productive for its size.

In Australia at the time of the present study, working as an academic within a university was a sought-after profession, typically requiring higher education qualifications and research credentials to secure ongoing tenure. Business, government and the media engage expert academics to advise and comment on policy decisions and current affairs. Substantial funding cuts by state and federal governments to tertiary education and the progressive deregulation of the tertiary education sector is increasing pressure on universities to run cost-effectively. While these increasing financial pressures have
impacted on the availability of academic positions industry forecasts predicted a shortage of academic staff in the long-term (Magner, 2014, p. 9).

Within universities communication design programs have been particularly affected by such financial pressures due to a historically high ratio of staff to students, because of the common studio-based model of learning, resulting in high operating costs. These pressures appear to be compounded by communication design’s short history within the university, its consequent small population of research-qualified staff (Melles, 2010, p. 757) and low research profile (Melles, 2010, p. 758). These factors have resulted in pressure for communication design programs in universities to improve performance in terms of both financial efficiency and research output.

Comparison of field positions of the communication design profession and academia in Australia

The capital held by the communication design profession and broad academic field in Australia were tabulated for comparison as shown in Table 5. This exercise highlighted that the broad field of academia (within which communication design academics operate as one of many disciplines) arguably holds greater economic and symbolic capital than communication design and thus occupies a higher position within the field of power in Australia.
Table 5: Comparison of capital for the communication design and academic fields in Australia

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<tr>
<th>Indicators of capital held by field</th>
<th>Australian communication design profession ¹</th>
<th>Australian academic field ²</th>
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<tr>
<td>Economic capital</td>
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<tr>
<td>Revenue</td>
<td>$4.4bn</td>
<td>$26.6bn</td>
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<tr>
<td>Profit</td>
<td>$305.5m</td>
<td>$2.1bn</td>
</tr>
<tr>
<td>Annual growth</td>
<td>0.9%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Wages</td>
<td>$846.8m</td>
<td>14.7bn</td>
</tr>
<tr>
<td>Number of businesses</td>
<td>8,399</td>
<td>39</td>
</tr>
<tr>
<td>Number of employees</td>
<td>11,538</td>
<td>121,260</td>
</tr>
<tr>
<td>Symbolic capital</td>
<td></td>
<td></td>
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<tr>
<td>Qualifications</td>
<td>No minimum requirement. While vocational</td>
<td>Minimum of postgraduate</td>
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<td>training is available, a design degree has</td>
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<tr>
<td></td>
<td></td>
<td>than course work) degrees</td>
</tr>
<tr>
<td>Research profile</td>
<td>Low. Mainly visible through work by</td>
<td>High. Established and well-</td>
</tr>
<tr>
<td></td>
<td>academics working in the communication</td>
<td>recognised research</td>
</tr>
<tr>
<td></td>
<td>design discipline</td>
<td>programs operate in all</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Australian universities</td>
</tr>
</tbody>
</table>

¹ Data taken from (E. J. Lee, 2012)  
² Data taken from (Magner, 2014)

Consequently, Bourdieu’s field theory suggests that when there are differences between the academic and practitioner members of the communication design field the superior position of the academic field within the field of power will result in academics’ views being more valued by broader society; and therefore having more power to assert their views. In addition to this, Bourdieu’s theory that field values are reproduced through education suggests that, as academics are responsible for the training and education of future practitioners, they have an undeniable influence on design practice and are likely to reproduce their own values, including those that relate to research.

Mapping of hierarchies within the communication design field

For the second stage of Bourdieu’s approach to field analysis, the hierarchy of members and institutions that compete for authority within the Australian communication design field was mapped.
For the purpose of this second stage (and in contrast with the first stage), communication design academics and practitioners were regarded as members of the one field of communication design in Australia. This approach returned to the concept of field structure shown in Figure 1 (p. 23), with the communication design field containing the profession and discipline. This approach enabled comparative analysis of the academics and practitioners who participated in the study.

In Bourdieu’s explanation of the concept of the field he explained that the positions of individual agents and institutions within the internal field hierarchy were primarily determined by the capital held by each individual. Therefore, to map the field positions of members of the Australian communication design field an evaluation of the various forms of capital generally held by the two key groups was conducted.

Within his own work, Bourdieu measured field position of individuals using indices such as profession of father, number of children and martial status to determine the position of an agent within their field (for example see Bourdieu (1984/1988)). While these attributes may have constituted economic and symbolic forms of capital in France at the time, many of them are clearly not relevant to the context of Australian communication design.

Bourdieu determined that the value of any form of capital is determined partially by the field context, that is, what field members collectively decide to value. Therefore, it was important to first recognise what is considered valuable within the communication design field.

Then, the capital generally valued within the communication design field, along with the capital generally valued in the academic field was listed as shown in Table 6. The clear differences between what is valued in the two fields highlight that the capital generally held by academics was not valued within communication design practice, suggesting that within the communication design field, academics arguably occupy a subordinate position in relation to practitioners. It was also noted that the reverse was also evident, in that the capital listed as valued by communication designers held little value within academia and would thus relegate professional communication design practitioners as subordinate within the academic field.
**Table 6: Comparison of capital valued by communication design practitioners and academics in Australia**

<table>
<thead>
<tr>
<th>Type of capital</th>
<th>Description</th>
<th>Example from Australian communication design</th>
<th>Example from Australian academia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic capital</td>
<td>Financial or monetary resources. Superior to forms of cultural capital</td>
<td>Income earned from winning large design commissions or design awards, and running a profitable design practice. Also, past and present funding available for self-education.</td>
<td>Income earned and funds at disposal through winning research grants, prizes, private research commissions, fellowships, or holding positions of authority within the university. Also, past and present funding for education.</td>
</tr>
<tr>
<td>Cultural embodied capital</td>
<td>Physically embodied qualities that are acquired or learnt over time, such as posture, accent, and general body language</td>
<td>Fashionable vernacular, jargon and 'cool' stance. Hand-eye co-ordination and drawing skills. Confident yet relaxed posture.</td>
<td>Scholarly rhetoric, articulate speech, and authoritative stance.</td>
</tr>
<tr>
<td>Cultural objectified capital</td>
<td>Objects that are considered valuable within the given field</td>
<td>Designer brand products, the latest technology (iPhone, iPad), stylish and unique clothing jewelry and accessories, stationery, clothing, studio space, car etc.</td>
<td>Technical scientific equipment (for research and/or teaching), prime office space, or extensive reference library.</td>
</tr>
<tr>
<td>Cultural institutionalised capital</td>
<td>Non-tangible asset of value that comes from an institutional body</td>
<td>Coursework degree, (followed by professional experience). Bachelor degree in design, or possibly masters degree (by coursework). Professional titles that reflect positions within a studio (principal, creative director, senior designer). Design awards.</td>
<td>Research degree qualifications. Institutional titles that reflect positions within the hierarchy of an Australian university (Associate, Distinguished, Emeritus, Professor, Director of a department, project or program).</td>
</tr>
<tr>
<td>Symbolic capital</td>
<td>Non-tangible asset that represents a valuable skill, ability or other commodity</td>
<td>Professional reputation based on successful track record, development of stand-out industry-awarded campaigns (particularly based on modernist values), number of years of practice, size of commissions, international experience and prestige of past employers and clients. The trust and goodwill of satisfied clients that take risks, return for business or refer other future clients on to designers.</td>
<td>Number of scholarly publications. Successful track record for winning research grant applications, or supervising successful research degree candidates. Teaching awards.</td>
</tr>
<tr>
<td>Social capital</td>
<td>Valuable relationships through social networks. Who you know.</td>
<td>Professional connections with highly respected designers and/or clients, e.g., through past commissions, collaborations, mutual acquaintances, meeting at industry events or online networking.</td>
<td>Professional connections with highly respected scholars within design as well as other disciplines, e.g., through collaborating on research studies, articles, teaching, meeting at conferences, or online networking.</td>
</tr>
</tbody>
</table>
Bourdieu investigated the superiority or subordinance of practitioners and academics in relation to each other in *Homo Academicus* (Bourdieu, 1984/1988). He observed that within established fields of practice such as medicine and law, professional practitioners usually occupied dominant field positions, with researchers and academics typically located lower. The relationship between practitioners and academics within the Australian communication design field appears to match this hierarchy, as the capital held by communication design academics, such as doctorate qualifications, academic publications and scholarly rhetoric is not valued within the communication design field.

While the comparison of capital highlights the differences between what is valued within the fields of academia and communication design in Australia, there were some indications found that suggest this is shifting. That is, some forms of capital that are valued in communication design and academia are becoming more valued within their counterpart fields. For example, bachelor level qualifications have become increasingly expected (Chia, 2013, p. 22) for entry into the profession, showing that educational capital is becoming more valued within the field. And inversely, professional experience in practice appears to be becoming more valued within academia with the growth of practice-led approaches to scholarly research and learning. For examples see (Durling, Friedman, & Gutherson, 2002; Haslem, 2011; Kaipainen, 2004).

Also of relevance to the mapping of hierarchies within the field is the imbalance between the number of design practitioners and academics within the Australian communication design field. As will be discussed in Chapter 5, data collected via surveys during stage one of the present study suggested the population of academics who work within the communication design discipline at Australian universities in early 2012 was around 117 academics. When compared with the population of communication designers, estimated at around 60,000 in Australia (Department of Employment, 2012), the communication design field is made up, overwhelmingly, of professional practitioners. This dominance holds a level of power within the Australian communication design field. However, when compared with the population of academics in any discipline in Australia, which is closer to 100,000 people, the communication design field is revealed to be a smaller entity within wider Australian society.

It was therefore concluded that while design practitioners were determined to generally hold a dominant position within the communication design field, based on their cultural
capital, the higher position of the academic field within the broader field of power meant that within the wider Australian social context, academics would hold a higher social position overall.

**Analysis of habitus of communication design academics and practitioners**

For the third stage of Bourdieu’s approach to field analysis, the habitus of communication design practitioners and academics were analysed.

As described previously in this chapter, Bourdieu developed habitus as a concept for the deeply entrenched personal dispositions developed by field members over time through experiences within the objective world in which they are situated. Bourdieu described habitus as *structured* by the field or fields within which the individual operates and also *structuring* due to its reciprocal effect of partially shaping the nature of the surrounding field as well.

Habitus is one of three elements of Bourdieu’s equation for explaining social practice (Bourdieu, 1986b, p. 101). This formula expressed Bourdieu’s theory that everything we do (our social practice), is determined by a combination of our personal disposition and power (habitus + capital), and the limits of what is permitted in our social space (field).

While the habitus of an individual will always be unique to their personal experiences including childhood and upbringing, family’s social status and education, for the purpose of the present investigation, a general understanding of the typical professional habitus of communication designers and academics was sought. This was similar to how Bourdieu described the collective habitus of other groups, such as peasants (Bourdieu, 1962), artists (Bourdieu, 1993a), academics (Bourdieu, 1984/1988) and sociologists (Bourdieu, 2001/2004).

To investigate the professional habitus of communication design practitioners and academics in Australia a number of sources of information were consulted. Literature about the history of the communication design profession and discipline was reviewed and popular academic and industry blogs were read to gauge general attitudes.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Emma Fisher

Australian communication designers’ professional habitus

Communication designers in Australia operate within a profession that has evolved during the past 20 years from a trade. That is, predecessors of communication design, such as commercial art, graphic art, finished art and typesetting originated as trade occupations that were taught through vocational training and apprenticeships (Melles, 2010, p. 758; Young, 2005, p. 204). While communication design has been taught within Australian universities since the early 1990s, faculties have evidently found the transition to academic approaches challenging (Melles, 2010) and design education globally has been reported as slow to change from vocational models to more conventional university formats (Davis, 2008a, para 6). Consequently, while the transition of communication design from vocational to higher education has resulted in the bachelor degree becoming increasingly required for entry into the profession (Chia, 2013, p. 113) the vast majority of current practising professionals have been trained within conventional studio-based curricula in either technical colleges or universities, combined with on-the-job work experience, which often values practical knowledge above theory (2008; Robertson, 2014, p. 110).

While communication design’s origins within vocational training and apprenticeships has resulted in minimal exposure to research training and culture in the past, at the time of the present study major university programs had begun to introduce design research subjects into their undergraduate curricula, particularly in Honours coursework programs (Barnes et al., 2014; Robertson, 2014) to meet Australian Qualifications Framework (AQF) requirements (Australian Qualifications Framework Council, 2011).

In addition to research training becoming more prominent within Australian communication design education, research skills and knowledge appear to be becoming more valued within the profession. This is evidenced by the peer reviewed journal Visual:Design:Scholarship, published by the peak industry association AGDA, and also by the establishment of the annual Design for Business: Research conference in 2000.

In addition to being affected by shifts in design education and research training the Australian communication designers have also been affected by the advent of postscript personal computers in the early 1990s and major technological advancements in graphic design software since. These technological advancements
have substantially shifted the role and skills of the communication designer within a relatively short period. Typesetting, desktop publishing and commercial quality printing were once the exclusive domain of expert professionals. But due to these technological advances, design and production of communication materials has become accessible and affordable to any business or the general public. This has led to graphic designers needing to expand their offering to include areas of more specialised expertise (E. J. Lee, 2012, p. 22), including business skills, strategy and research (2009; Norman, 2011b, para 8; Robertson, 2014, p. 110). As the industry has no formal accreditation, professional recognition tends to exist in the forms of design competition awards (as peer recognition), prestige of client base, size of commissions and reputation (E. J. Lee, 2012, p. 21).

**Australian communication design academics' professional habitus**

Communication design academics in Australia commonly originate from the communication design profession, often maintaining close engagement with the industry, as was found in the present study's survey and focus group analyses that are presented in Chapters 4 and 5. Consequently, many academics share similar histories, experiences and education with practitioners, which contributes to the habitus of individual academics.

However, as communication design academics are employed within the university, they primarily operate within the field of academia. As has already been discussed in relation to capital, the academic field has different—and sometimes opposing—interests compared with the communication design field, particularly with regard to research, as summarised in Table 7. Consequently, communication design academics must operate simultaneously in fields that often have opposing interests and values.
Table 7: Comparison of habitus and interests between fields

<table>
<thead>
<tr>
<th>Bourdieu’s concepts</th>
<th>Description</th>
<th>Example from the Australian communication design field</th>
<th>Example from the Australian academic field</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Habitus</strong></td>
<td>Disposition of an individual person within a field and/or general disposition of a field, that is gradually developed over time through upbringing, experiences, surroundings, family, education, etc.</td>
<td>Value aesthetic taste, practical vocational skills and knowledge from experience, and intuitive approaches to design practice (Taffe &amp; Wragg, 2014). Skepticism about systematic or formulaic methods of design and research-based academic knowledge (Melles, 2010, pp. 759–760).</td>
<td>Value empirical research findings, theory and scientific inquiry. Value problem solving, seeking ‘truth’ and valid and reliable new knowledge.</td>
</tr>
<tr>
<td><strong>Interests</strong></td>
<td>Interests are the personal or collective goals that inform the strategies and actions of individuals or fields. They are closely related to the habitus, arise from socio-historic conditions, and are ubiquitous. Due to the interests every individual holds, Bourdieu argues there is no such thing as a disinterested act (Grenfell, 2012b, p. 163)</td>
<td>Within fields of cultural production (and, arguably, design), there is an interest in expressing taste to distinguish oneself as being of a certain class or position within a field (Robertson, 1994). Commercial art is distinguished from fine art by having a legitimate interest in economic profit. Designers have an interest in aesthetics, functionality and mass appeal for their design outcomes. Communication designers seek to raise their positions within the communication design field, as well as the broader field of power by producing economically and culturally successful design outcomes. Accruing awards and economic capital for their work enables design practitioners to attain positions as authorities of taste and design expertise, and gain professional status to distinguish from amateur designers and gain respect of their peers.</td>
<td>Academics have an interest in serving their dual roles as institutionalised educators and intellectuals. Bourdieu argues that education has a vested interest to reproduce power hierarchies and interests that privilege the dominant classes, and that the academic field has an interest in using research and reason to generate universal truths. This knowledge brings with it capital, and subsequently power that enable the field to dominate (Grenfell, 2012b, p. 166–167). Academics seek to raise their positions within the academic field, as well as the broader field of power. They attempt this through seeking authority, status and respect of other academics and the general public, through successful, significant research, exercise of reason, acquiring economic capital, such as via research grants, and in some cases, teaching. Overall, universities have an interest in attaining and maintaining a position in society as an (or the) authority of knowledge. This is usually achieved through conducting research to produce new knowledge.</td>
</tr>
</tbody>
</table>

No past studies were found that offered evidence for understanding the professional habitus of academics from the communication design discipline specifically. However, a few relevant discussions of design academics generally were discovered in Friedman’s summary statements from the AHRC Practice-Led Research Review (Friedman, 2006) and also found within Melles’ program of research (Melles, 2007, 2008a, 2010).

Overall, Friedman’s workshop reflections and Melles’ empirical inquiry both concluded that design academics have an uneasy relationship with their university environments. Friedman cites the limited freedom within the academy and shift from practitioner schools to become research schools as the main reasons for academics’ discomfort,
yet he also proclaims “the change is here to stay. That’s the starting point. We cannot go back. This issue is how to move forward” (Friedman, 2006, para. 7).

Similarly, findings from Melles’ empirical investigation of an Australian design faculty found that “some design academics remain doubtful of the value of a research culture to design” (Melles, 2010, p. 757). Such reservations reveal design academics feeling conflicted in their roles, evidently struggling to embrace the traditions of academic scholarship and research values from the university, while apparently wishing for the freedoms afforded by roles in professional practice.

**Conclusion of field analysis**

The three-stage field analysis that has been reported here was conducted to understand the unique situations of academics and practitioners within the Australian communication design field that influence their opinions and practices. While findings from the field analysis informed interpretation of the data for all research questions to some extent, as will be discussed further in Chapter 7, they were particularly employed to address the third research question of *How can these similarities and differences be explained in terms of Bourdieu’s theoretical concepts?*

The analysis of field positions within the field of power revealed that academia generally holds a higher position within the field of power in Australia than communication design. Thus, it was concluded that communication design academics are likely to be more dominant or powerful within Australian society than communication design practitioners.

The analysis of hierarchies within the communication design field revealed that practitioners held more of the symbolic capital valued most within the field than academics tended to hold, such as professional experience. And the analysis of professional habitus typical of Australian communication design practitioners and academics revealed they share links to the history of the communication design field and thus a common value of design practice, yet they also hold different values of research due to academics’ relationship to universities.
Conclusion of Chapter 3

As discussed in this chapter, the theoretical perspective employed within the present study was chosen for its appropriateness to the ontological and epistemological positions of the investigation and suitability to investigate the research questions.

Bourdieu's empirical investigations and theories address the complex social contexts that surround, enable and constrain any social practice. Therefore, employing Bourdieu's concepts offered a deeper understanding of why designers and design academics characterise research as they do, why they perceive practitioner research engagement as they do and what this might suggest about the future role of research in communication design practice.

The next chapter will continue this explanation with more details of the ontological, epistemological and methodological positions of the present study as well as the specific methods employed to investigate the research questions.
Chapter 4: Methodology

Introduction to Chapter 4

As is recognised throughout the research literature, it is important to acknowledge the philosophical assumptions upon which any study is founded. This includes the accepted understanding of reality (ontology), what knowledge is and how it works (epistemology) and how these inform the methodology and methods employed for the investigation (Creswell & Plano Clark, 2011, pp. 38–42).

Further to the theoretical perspective described in Chapter 3, this chapter describes the methodological approach employed in the present study, including an explanation of the underpinning philosophical assumptions and how they informed the choice of methods. These are explained in terms of ontology, epistemology, mixed methods approach and methods employed.

As was the case for the theoretical perspective, these philosophical positions and specific methods were chosen for their suitability to investigate the main research questions of this study:

1) How is research characterised within the Australian communication design field?

2) How are practitioners engaging with research within the Australian communication design field and why?

3) How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?

4) What do these findings suggest about the role of research in Australian communication design practice in the future?

For the purpose of exploring the research questions, a combination of postpositivist and constructivist positions was adopted. Combining complementary paradigms is an approach that has only recently come to be accepted by the broad field of research. Up until the mid-1990s many purists argued for the incommensurability of paradigms (Creswell & Plano Clark, 2011, p. 25; Guba & Lincoln, 1998). Also, it has been argued that working within one paradigm, such as pragmatism, can still be the best approach. However, as recognised by prominent scholars from the mixed methods and qualitative
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traditions, combining philosophical positions can be the most appropriate way to explore the complexity of some research questions, as long as their differences and uses are explicitly stated (Creswell & Plano Clark, 2011, p. 45; Lincoln et al., 2011).

The key philosophical assumptions and methodology of the postpositivist and constructivist positions that form the foundations for this study (Creswell & Plano Clark, 2011, pp. 38–42) are presented for comparison in Table 8.

Table 8: Summary of characteristics of chosen philosophical positions

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Postpositivism</th>
<th>Constructivism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology</strong></td>
<td>“Singular reality” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>“Multiple realities” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
</tr>
<tr>
<td>“What is the nature of reality?” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>“Critical realism” (Lincoln et al., 2011, p. 100). Belief that there is a single reality, but we may not be able to fully apprehend it, because of the hidden variables in nature. (Lincoln et al., 2011, p. 102)</td>
<td>“Relativism” (Lincoln et al., 2011, p. 100). What is real is constructed by each individual, based on their personal experiences (Lincoln et al., 2011, p. 103).</td>
</tr>
<tr>
<td><strong>Epistemology</strong></td>
<td>“Distance and impartiality” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>“Closeness” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
</tr>
<tr>
<td>“What is the relationship between the researcher and that being researched?” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>“Modified dualist/objectivist; critical tradition/community; findings probably true” (Lincoln et al., 2011, p. 100) Researchers should minimise interaction with subjects (Lincoln et al., 2011, p. 103)</td>
<td>“Transactional/subjectivist; co-created findings” (Lincoln et al., 2011, p. 100) Knowledge and findings are created through the interaction between the researcher and subject. (Lincoln et al., 2011, p. 103)</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>“Deductive” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>“Inductive” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
</tr>
<tr>
<td>“What is the process of research?” (Creswell &amp; Plano Clark, 2011, p. 42)</td>
<td>Researchers typically use quantitative methods and data to approximate reality, and test hypotheses using the scientific method (Lincoln et al., 2011, pp. 104–105)</td>
<td>Researchers typically use qualitative methods and data, to interpret and compare multiple realities, and seek consensus (Lincoln et al., 2011, pp. 104–105)</td>
</tr>
</tbody>
</table>

Ontology and Epistemology

The ontological position of postpositivism assumes an objective, singular reality exists, as did its predecessor, positivism. However, in contrast to positivism, postpositivism considers it impossible to ever fully understand that reality, due to the “hidden variables
and a lack of absolutes in nature” (Lincoln et al., 2011, p. 102). Consequently, while postpositivist inquiry seeks generalisable findings, it is always acknowledged that these are probable facts or laws, rather than being absolute (Lincoln et al., 2011, p. 101).

In terms of epistemological tenets, within postpositivism, distance and impartiality are valued to maintain objectivity and minimise bias. Researchers working from this orientation typically favour empirical observation and measurement to gather appropriate data through quantitative methods, although qualitative methods are also regarded as useful for some applications (Lincoln et al., 2011, p. 100) and often seek to evaluate hypotheses with a view to reject, or fail to reject them (Creswell & Plano Clark, 2011, pp. 40–42). The goodness or quality of postpositivist inquiry is judged by conventional criteria for rigour, including internal and external validity, reliability and objectivity (Lincoln et al., 2011, p. 100).

Adopting a postpositivist stance was considered useful within the present study as it offered the opportunity to gain a reasonably generalised understanding of the situation in the Australian communication design field with regard to research perceptions.

In contrast with positivism the ontological position of constructivism is relativist, in that it assumes that multiple realities exist that are constructed by individuals based on their personal experiences (Lincoln et al., 2011, pp. 102–103). Researchers working from this stance seek to gather multiple perspectives to compare and identify patterns that might indicate consensus, rather than be generalisable to a population (Lincoln et al., 2011, pp. 104–105). They achieve this by “interpreting how the subjects perceive and interact within a social context” (Lincoln et al., 2011, p. 110).

In epistemological terms, within constructivism, knowledge is subjectivist in that it is regarded as a co-creation between the researcher and subject (Lincoln et al., 2011, pp. 103–104). As a consequence, closeness is favoured and bias is present but acknowledged (Creswell & Plano Clark, 2011, p. 42). The researcher is regarded as a “‘passionate participant’ [and] facilitator of multivoice reconstruction” (Lincoln et al., 2011, p. 110).

Adopting a constructivist stance was considered appropriate within the present study for exploring the perceptions of research held by members of the Australian communication design field in a particularly in-depth fashion.
Reflexive analysis of the researcher

Bourdieu's approach to reflexive analysis of the researcher offered a means to explore the close relationship between subject and object of investigation that exists within the constructivist stance adopted within the present study.

Bourdieu passionately advocated reflexive sociology as an approach to empirical research and theory production. He described reflexive sociology as a stage of "participant objectivation" (Grenfell, 2012d, p. 224) involving critical analysis of the researcher's own perspective. Bourdieu argued that participant objectivation was essential to include in any investigation to transparently disclose any pre-existing circumstances that could influence the way that research was conducted or analysed. Bourdieu's ultimate advocacy of this approach can be seen in his later publications that included his own reflexive analyses of himself in relation to his investigations (Bourdieu, 2001/2004; Bourdieu & Wacquant, 1992). This contrasted with his earlier work in which he disclosed little or nothing about his personal history or position.

In some ways the need for disclosing the stance of the researcher is met through stating the philosophical assumptions of the study, such as the ontological and epistemological foundations already set out in this chapter. However, Bourdieu’s concept of reflexivity involves a more specific reflection on the individual researcher’s position and motivations.

To meet this need within the present investigation this subsection is written in the first person, to describe the personal experiences and interests that lead to and informed this study.

In terms of the key demographics that Bourdieu referred to when describing an individual's habitus, I am a 38-year-old female Australian, of mainly British heritage and middle-class upbringing in suburban Melbourne.

My primary and secondary education was within a mixture of public and private school contexts. I hold a Bachelor of Design (Graphic Design) with Honours from RMIT University (Melbourne, Australia) completed in 1998.

My previous employment was primarily in communication design practice, where I worked for ten years at one of Australia's most prominent communication design studios on a wide range of local, national and international projects. This has since been followed by working in a small design studio partnership in Melbourne, Australia.
Since the mid 2000s, while practising design professionally, I have also been involved with casual (sessional) teaching communication design at two Melbourne universities. This has included tutoring, course co-ordination and program direction in various undergraduate and postgraduate levels of coursework.

The present study constitutes my first experience in primary and secondary research. I was drawn to investigating the role of research in communication design practice by my conflicting personal experiences in the design profession and academia. While I held substantial experience practising within a successful studio, I found it difficult to recall ever witnessing, or participating in explicit engagement with formal research, and I was unaware that academic journals existed for our design specialism. And yet, as my involvement in higher education increased it became clear that not only were design educators increasingly expected to hold research degrees in order to teach design at a university but that professional designers were being expected to increase their use of primary and secondary research methods as well. Such concepts appeared at odds with the values I had had seen operating within the industry, which led me to wonder what kind of role research really played within the Australian communication design profession at present and what role it was likely to play in the future.

My previous experience in the communication design profession and universities offered both benefits and challenges to the present study. The benefits included a close understanding of the experiences of communication design practitioners and also, to some extent, the experiences of communication design academics. This informed hypotheses, suggested data to collect, fostered genuine interest in perusing answers thoroughly and also offered the practical benefit of a personal network for recruiting prospective participants.

My personal experiences in the area of this study posed challenges in terms of maintaining appropriate impartiality, particularly with regard to the experiences of design practitioners, in order to analyse data without inappropriate bias. My personal network of contacts also resulted in a skewed data sample, with a disproportionately large number of participants from Victoria being represented in the survey response sample. And lastly, my personal opinions, or durable dispositions as Bourdieu would perhaps term them, developed over many years of experience, were important to recognise and actively manage to ensure findings were empirically or theoretically
supported and went beyond my pure opinion (no matter how informed it may have been).

Measures undertaken to address these challenges included: employing multiple methods of data analysis to confirm findings as reliably as possible; engaging supervisors, colleagues and participants to critique methods and tools of data collection; focusing on gathering external data rather than adopting an autoethnographic approach, and finally; employing multiple strategies to recruit a broader sample of participants to balance the samples as much as possible.

**Mixed methods approach**

The methodology or “process of research” (Creswell & Plano Clark, 2011, p. 42) for the present study required selection of the most appropriate combination of quantitative and qualitative methods for investigating the main research questions. As presented in Crotty’s conceptualisation (1998, p. 4), these decisions were informed by the ontological and epistemological assumptions the study was recognised to be working within, and through the Bourdieusian theoretical lens discussed previously. The choice of the mixed methods approach and how it was designed will now be discussed.

**Relevance of the mixed methods approach for this study**

The main research questions of this study seek an understanding of attitudes on a very broad level, being those of the population of around 60,000 communication designers (Department of Employment, 2012) and associated academics in Australia. However, the research questions also seek a deep and rich understanding of these perceptions by asking why they may be as they are, and what values and factors underpin them. As these questions seek both general as well as deep understandings they lend themselves to exploration through a combination of both postpositivist and constructivist worldviews, as discussed previously in this chapter. To facilitate this, a mixed methods approach was employed. This enabled the research questions to be investigated in both a broad, general way (using predominantly quantitative methods commonly associated with postpositivism), as well as in a more in-depth, specific context (using predominantly qualitative methods usually associated with constructivism). These methods were then mixed to produce findings that are as valid, reliable, confirmable and transferable as possible within the study’s limitations.
Creswell and Plano Clark have set out that the main benefit of a mixed methods approach is that it allows the researcher to capitalise on the strengths of both quantitative and qualitative methods, while also compensating for their respective weaknesses (Creswell & Plano Clark, 2011, pp. 53–106). Bryman describes this complementary compensation as “offset” (2006, p. 106). There are many different qualitative and quantitative approaches to research and each has its own particular strengths and weaknesses. A summary of the strengths and weaknesses of quantitative and qualitative approaches is presented in Table 9, derived from 10 typical examples discussed by Walliman (2005, pp. 112–125). As shown by this comparison the strengths of one approach often coincides with—and therefore has the potential to compensate for—the weaknesses of the other.

**Table 9: Strengths and weaknesses of quantitative and qualitative approaches**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Quantitative methods</th>
<th>Qualitative methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key strengths</td>
<td>Due to large sample sizes, findings can be generalised for reliable future predictions. Multiple variables can be measured simultaneously. Methods are objective and rigorous (Walliman, 2005, pp. 116–117)</td>
<td>Rich and detailed data result in highly relevant findings. Specific contexts and multiple perspectives are accommodated. Useful for investigating complex social issues. (Walliman, 2005, pp.119–121)</td>
</tr>
<tr>
<td>Key weaknesses</td>
<td>Findings can be over simplified. Findings can lack relevance as cause and effect relationships are not revealed. (Walliman, 2005, pp. 116–117)</td>
<td>Usually small sample sizes and therefore findings are usually not generalisable. Findings are often not verifiable due to shifting social contexts. Data can be distorted by researcher bias. (Walliman, 2005, p. 116)</td>
</tr>
</tbody>
</table>

Because this study’s research questions sought to understand common opinions and activities of a population, quantitative approaches were considered useful for their proven efficiency and reliability for measuring the attitudes and self-reported behavior of a large group of people. At the same time, as shown in Table 9, such quantitative approaches have been criticised at times for generalising too much and lacking deep or rich detail of cause and effect relationships that explain why certain attitudes or behaviours exist. Therefore, as shown in Table 9, obtaining deep, rich and relevant insights via qualitative approaches offered the opportunity to seek more relevant findings to explain why certain circumstances exist.

To illustrate the relevance of the mixed methods approach for this study, it is useful to consider the alternative approaches of a purely quantitative or a purely qualitative
methodological approach that could have been employed instead. If a purely quantitative approach had been adopted for this study (for example by only collecting data via a survey) it would have provided, at best, a broad yet basic snapshot of what designers believe and claim to do. Consequently, this would have limited the ability to explain why practitioners are doing what they do. Conversely, if a purely qualitative investigation had been conducted, (such as only interviews or ethnographic observations), at best it could have been expected to provide a detailed account of a far smaller population and may not have been representative of the majority of design practitioners due to the small sample size. Therefore, a purely quantitative or a purely qualitative approach was deemed to be less appropriate than a mixed methods approach for investigating the research questions of this study.

Relevance of the explanatory sequential design model

There are a number of different designs for mixed methods studies that are discussed in the literature. For example, Creswell and Plano Clark have described six major mixed methods study designs – *convergent parallel, explanatory sequential, exploratory sequential, embedded, transformative, and multiphase* designs (2011, pp. 68–104). Teddlie and Tashakkori have discussed several typologies in past years, however their latest is based on four families of mixed methods designs. This latest typology consists of three basic types of mixed methods designs: *parallel, sequential* and *conversion*, and a fourth complex type that combines the prior three (Tashakkori & Teddlie, 2010, p. 24).

As discussed by Greene “the design of a mixed methods study follows directly from the identified purpose of mixing” (2007, p. 112). The purpose of mixing methods in this study was to gain a broad snapshot of the present situation to understand which behaviours and attitudes are considered common then to explore the reasons behind the present situation in more depth. From the recognised approaches discussed in the literature the explanatory sequential design model proposed by Creswell and Plano Clark (2011, pp. 81–86) was chosen for its recognised ability to do this (Creswell & Plano Clark, 2011, p. 82). This approach was also considered well suited to the chosen postpositivist and constructivist worldviews.

As shown in Figure 5, the explanatory sequential model involves a three-stage approach, with collection and analysis of quantitative data first, followed by collection and analysis of qualitative data second and finally comparison, analysis and evaluation
Choice of methods

Many diverse research methods are employed in the social sciences to investigate the attitudes and behavior of people. The difficulty—if not impossibility—of how to best discover and confirm what is really taking place in the world is well recognised (Walliman, 2005, pp. 241–242). There are no absolute, reliable methods for verifying what happened or is happening in the world due to factors including; the shifting perception of researchers and participants; varying recollections of events; and the differing perspectives of multiple people. However, as Walliman has acknowledged “this does not mean, however, that progress towards useful ‘truths’ cannot be achieved” (2005, p. 241) and so identification and justification of the most suitable methods is important.

For the purpose of the present study the range of established and commonly used methods were investigated and evaluated to determine which might be the most relevant and useful for investigating the present research questions.

Review of methods from past studies of practitioners’ research engagement

As reported in the results of the literature review in Chapter 2, four investigations of practitioners’ research engagement were found in the design literature (Hanington, 2005; Manfra, 2005; Nini, 1996; 2014). All of these studies employed surveys as their main method of data collection and reported descriptive statistics, such as examining frequencies and percentages, as their main method of data analysis. None of these investigations conducted in-depth qualitative or qualitative analyses, and no
established or new scales were employed to measure the research engagement activities or beliefs of participants.

Due to finding so few empirical investigations of practitioners’ research engagement within design, past studies of professional practitioners’ research engagement in other fields were also reviewed. This literature was reviewed to discover methodologies and methods that have been successfully used to more extensively investigate practitioners’ research engagement.

As discussed previously in Chapter 2, papers reporting relevant studies were found in the fields of nursing (Eckerling & Bergman, 1988; Ehrenfeld & Eckerling, 1991; Vessey & DeMarco, 2008), physiotherapy (Kamwendo, 2002), occupational therapy (Karlsson & Tornquist, 2007), and various subfields of education (Bevan, 2004; Borg, 2007, 2009, 2010, 2012; Ramsden & Moses, 1992).

These papers were closely reviewed and their methods of data collection and analysis were evaluated for adoption in the present study (see Table 10).
Table 10: Summary of methods employed in past studies of practitioners’ research engagement in fields outside design

<table>
<thead>
<tr>
<th>Past studies of practitioners’ research engagement in non-design fields</th>
<th>Data collection and sampling methods</th>
<th>Measurement methods or indices</th>
<th>Data analysis methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Perceptions and attitudes of academic nursing students to research</em> (Eckerling &amp; Bergman, 1988)</td>
<td>Paper survey Convenience sample: 250</td>
<td>New scale. Measured 4 parameters for 4 research activities related to reading and conducting research. Measured via bipolar adjective, 5-point, and 7-point scales</td>
<td>Statistical analysis ANOVA Multiple regression</td>
</tr>
<tr>
<td><em>Perceptions and attitudes of registered nurses to research: A comparison with a previous study</em> (Ehrenfeld &amp; Eckerling, 1991)</td>
<td>Paper survey Convenience sample: 166</td>
<td>Employed scale from Eckerling and Bergman (1988)</td>
<td>Statistical analysis ANOVA Multiple regression t-tests</td>
</tr>
<tr>
<td><em>The undergraduate research fellows program: A unique model to promote engagement in research</em> (Vessey &amp; DeMarco, 2008)</td>
<td>Online survey Convenience sample: 26</td>
<td>Participants indicated frequency they conducted 18 specific research skills and activities while working 1) as an undergraduate research fellow, and then 2) once they moved into professional practice</td>
<td>Frequencies</td>
</tr>
<tr>
<td><em>Associations between research and teaching in Australian higher education</em> (Ramsden &amp; Moses, 1992)</td>
<td>Survey Random sample: 890</td>
<td>Research engagement measured by: number of academic publications and the number of research activities they reported conducting (from a given list of 18) within the previous two years. Quality of teaching effectiveness measured via a likert-type scale of self-reported commitment to teaching undergraduate students, supplemented by student ratings</td>
<td>Statistical analysis at both individual and departmental levels</td>
</tr>
<tr>
<td><em>Filtering, fragmenting and fiddling? Teachers’ life cycles, and phases in their engagement with research</em> (Bevan, 2004)</td>
<td>Literature review and 5 autobiographical episodes</td>
<td>n/a</td>
<td>Personal/reflective review of the author</td>
</tr>
</tbody>
</table>

(continued next page)
(Table 10 continued)

<table>
<thead>
<tr>
<th>Past studies of practitioners’ research engagement in non-design fields</th>
<th>Data collection and sampling methods</th>
<th>Measurement methods or indices</th>
<th>Data analysis methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language teacher research engagement (Borg, 2010)</td>
<td>Literature review</td>
<td>n/a</td>
<td>Personal/reflective review of the author</td>
</tr>
</tbody>
</table>

Of the studies summarised in Table 10, Borg’s program of research (Borg, 2007, 2009, 2010, 2012) was found to be particularly relevant for informing the choice of methods in the present study for two reasons. First, Borg’s research questions were very similar to those of the present study—albeit being in the context of education and in various international and institutional settings, rather than being in the context of communication design practice in Australia. And second, Borg’s series of studies were the most extensive and thorough examples found within the past studies of practitioners’ research engagement in any field.

The present study’s research questions aligned closely with those that Borg explored in his first study. Borg explained: “the aim of the programme of research is to understand the conceptions of research held by ELT [English language teachers] teachers [sic] working in different contexts, the role which both reading and doing research plays in
these teachers’ professional lives, and the factors which influence their research engagement” (Borg, 2007, p. 733).

In terms of methods employed to address his research questions, (and as was the case with all of the studies summarised in Table 10), Borg mainly collected data using surveys. In three of his four published studies he also followed his surveys with qualitative interviews to further explore the survey findings.

Borg utilised a similar survey design for all of his empirical data collection. This design was introduced in his 2007 paper (Borg, 2007) and included a mixture of multiple-choice, scale-response and open-response questions. The survey contained three sections. The first section sought demographic information about the respondent. The second section presented ten scenarios and asked respondents to indicate whether the given scenario constituted research on a four-point scale (ranging from definitely not research and probably not research to probably research and definitely research). And the third section of Borg’s survey sought to identify what qualities respondents considered to be essential for research.

In terms of analysis of quantitative survey data, some studies summarised in Table 10 reported simple frequencies and basic descriptive statistics, for example Vessey and DeMarco (2008). But the more extensive studies employed advanced statistical tests. For example Eckerling and Bergman (1988), Ehrenfeld and Eckerling (1991) and Karlsson and Tornquist (2007) all reported reliability coefficients for measurement scales they employed and analyses of variance were conducted to identify statistically significant relationships within the data.

In terms of analysis of qualitative data the few past studies that included collection of qualitative data reported simple frequencies of themes found within the data based on qualitative analyses without offering details of specific frameworks employed.

Reflections of the authors reported in the studies listed in Table 10 included valuable insights in how to refine the established methods and improve validity and reliability in future investigations. These were taken into consideration when selecting and designing the methods for the present investigation. For example, that reading and conducting research would be best evaluated via measuring specific activities and sources of reading material, rather than asking about investigating or reading in general (Eckerling & Bergman, 1988). Also that measurement should be via clear levels of frequency within a prescribed timeframe, rather than ambiguous descriptions.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

(Borg, 2009, p. 372). And that interpretation of respondents’ self-reported investigative activities and beliefs should take into consideration respondents’ characterisations of research (Borg, 2007).

Data collection and analysis methods chosen for the present study

Based on the review of established methods within the social sciences and the methods employed in past studies of practitioners’ research engagement, online surveys and focus groups were chosen as the most appropriate methods of data collection for the present study. Combining these methods in a study is a well-established approach as Teddlie and Tashakkori recognised when they wrote that “probably the most commonly occurring MM [mixed methods] combination in the literature is closed-ended questionnaires and QUAL interviews” (Teddlie & Tashakkori, 2009, p. 240). In this context, QUAL interviews arguably include focus groups, as authors such as Morgan (2001, p. 141) and Krueger and Casey (2009, p. 2) have described focus groups as group interviews.

Strengths and weaknesses of online surveys

The advantages and challenges of using surveys for research have been discussed in the literature since the method first appeared in the 1930s (Dillman, Smyth, & Christian, 2009, pp. 1–2). The specific benefits and disadvantages of using the internet to conduct surveys online have also been widely discussed since this was first attempted in the mid-1990s (Dillman et al., 2009, p. 8).

Key strengths of online surveys have been discussed as:

- Cost efficiency and speed to conduct (Dillman et al., 2009, p. 3; Sheehan, 2001, in Literature Review section) which assists in gaining maximum coverage within time and cost limitations
- Proven reliability for making predictions about a population, based on a carefully selected sample (Dillman et al., 2009, p. 1)
- Remoteness of the researcher allowing for consistency of questions, and anonymity of participants, which can facilitate more honest and accurate responses (Walliman, 2005, p. 282)
Self-administration of online surveys allows participants time to consider responses, thereby facilitating more accurate data (Walliman, 2005, pp. 281–282).

Key challenges to using online surveys have also been discussed in the literature by Joinson (2007), Couper (2001), de Leeuw et al. (2008, p. 9), Sheehan (2001, Literature Review section), Dillman et al. (2009, p. 9), Manfreda and Vehova (2008, p. 269) and; Solomon (2001). Table 11 summarises the key challenges discussed by these authors and the strategies employed during this study to address those challenges.
### Table 11: Limitations, risks, challenges and strategies for online surveys

<table>
<thead>
<tr>
<th>Recognised limitation, risk or challenge of online surveys</th>
<th>Strategies employed to address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response rates are often low</td>
<td>Publicity strategy employed to maximise response rates. Personalised salutations were included, survey length was minimised, invitations were only sent to relevant prospective participants to ensure salience, and question stems, instructions and response options were carefully designed and tested for usability to maximise response rates (Dillman et al., 2009, p. 92; Sheehan, 2001, Response Rate Influences section).</td>
</tr>
<tr>
<td>Online survey responses are often incomplete</td>
<td>Wording, layout, navigation and instructions were carefully designed with attention to proven methods to make them as user-friendly as possible (Couper et al., 2001). Response to all questions on each screen was required before progression to the next screen to prevent participants missing or skipping questions.</td>
</tr>
<tr>
<td>Responses can be ambiguous</td>
<td>Response spaces were designed with multiple-choice response options (for quick, easy and clear response and easy analysis) plus optional ‘other’ fields to allow for extra explanation. This combination of quantitative and qualitative data was intended to seek the clearest possible responses to all questions.</td>
</tr>
<tr>
<td>Self-reported responses can be inaccurate, for example, due to participants’ sense of obligation to respond favourably</td>
<td>Surveys were anonymous to reduce sense of obligation to respond favourably. Question stems and response spaces were designed to support honest and accurate self-reporting. Surveys were supplemented with follow-up qualitative investigation as has been found effective in past studies (Borg, 2007, p. 745; 2010).</td>
</tr>
<tr>
<td>Technical programming of online materials can be difficult</td>
<td>Utilising specialised survey software, Opinio, enabled the researcher to gain training and support within the University and to overcome technical problems as they arose.</td>
</tr>
<tr>
<td>Collected data can be difficult to analyse and interpret</td>
<td>Intensive statistics training was undertaken by the researcher to learn statistical analysis methods. Four expert statisticians were also consulted for advice throughout the study to ensure high quality data were collected and appropriately analysed.</td>
</tr>
<tr>
<td>Sampling can be difficult due to no easy way to contact all eligible participants</td>
<td>Multiple sampling strategies employed including: convenience sampling (personal contacts); snowballing (networks of the researcher’s contacts); and structured sampling to target specific under-represented states. All Australian Universities that teach and research communication design were individually contacted and invited to participate.</td>
</tr>
<tr>
<td>Establishing and maintaining trust is important in surveys, yet difficult to achieve online</td>
<td>Personalised salutations and tailored messages were used wherever possible. Clear, approachable wording was included, and simple, professional graphic layout designed to establish a respectable image for of the study.</td>
</tr>
<tr>
<td>Variation of user equipment can greatly affect the way online surveys appear</td>
<td>The survey was pilot-tested on four common devices (a Windows computer, Macintosh computer, iPhone and iPad) to check the questionnaire appeared and functioned correctly.</td>
</tr>
<tr>
<td>Limited computer skills and access to the internet can lead to coverage error for internet-based surveys</td>
<td>Coverage error has been acknowledged to be less critical for online surveys of “special populations where all or most of the members have internet access” (Manfreda &amp; Vehovar, 2008, p. 269). Virtually all professional design work today requires use of a computer and the internet, as was confirmed as far back as 2004 in a study of Victorian graphic design enterprises (Lane, 2004, pp. 66–67).</td>
</tr>
</tbody>
</table>
Strengths and weaknesses of focus groups

Focus groups were chosen as a highly appropriate qualitative method for speaking with members of the communication design profession and discipline due to their particular ability to “understand, and explain, the meanings, beliefs and cultures that influence the feelings, attitudes and behaviours of individuals” (Rabiee, 2004, p. 655).

The key strengths of focus groups that have been discussed in the literature include:

• The ability to generate particularly powerful insights (Kamberelis & Dimitriadis, 2011, p. 559) through group interaction in comparison to alternative qualitative methods such as one-on-one interviews or observations.

• The ability to generate “a range of opinions ideas and experiences” (Litosseliti, 2003, p. 2), through the interaction of the participants that would be unlikely to occur in other contexts.

• The ability to offer a “more natural environment” (Litosseliti, 2003, p. 2), which facilitates more accurate contributions by participants.

• Cost and time efficiency. That is, one focus group with six participants requires less time—and potentially less funding—than six individual interviews, and can reveal information about activities that would require days or weeks to obtain via observation (Litosseliti, 2003, p. 17).

The main methodological limitations, risks and challenges of focus groups have been discussed in the literature by Teddlie and Tashakkori (2009, p. 239), Krueger and Casey (2009), Litosseliti (2003, p. 17, p. 21), and Rabiee (2004). Table 12 summarises these, along with the strategies employed in this study to address them.
Table 12: Limitations, risks, challenges and strategies for focus groups

<table>
<thead>
<tr>
<th>Recognised limitation, risk or challenge of focus groups</th>
<th>Strategy employed to address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential for bias and manipulation by the researcher</td>
<td>Questions and activities were carefully planned to prevent influencing or pre-determining the outcome of discussions. A focus group protocol was independently reviewed by supervisors and an ethics committee prior to the sessions. All known conflicts of interest or biases of the researcher in relation to the topics being discussed were openly disclosed at the start of each session.</td>
</tr>
<tr>
<td>Producing ‘false’ consensus due to imbalances of power within the participant group</td>
<td>Participants were selected as carefully as possible to prevent major imbalances in power within the focus groups. Also, clear structuring of the discussion and activities ensured that all participants were offered equal opportunity to contribute, rather than only allowing contributions to be made purely at random. The groups were also carefully moderated to balance the conversations as much as possible.</td>
</tr>
<tr>
<td>Individual opinions or behaviour being inappropriately influenced by group context, for example by being dominated by one or two participants, or by intellectualizing unnecessarily</td>
<td>Guidelines were provided to all participants before the sessions to clearly communicate the importance and validity of each individual’s contribution and to request all participants to demonstrate respect for other group members by being conscious of not inadvertently or inappropriately influence other people. Proactive moderation was also employed to balance conversation as much as possible.</td>
</tr>
<tr>
<td>Difficulty to generalise findings</td>
<td>The limited generalisability of the focus group findings was acknowledged during analysis. Also, the mixed methods approach allowed the survey findings to offer a more generalisable perspective on the research questions, which compensated for this limitation.</td>
</tr>
<tr>
<td>Difficulty of analysis and interpretation</td>
<td>Transcripts from the sessions were reviewed and analysed at multiple levels using Krueger’s framework for analysis (Krueger &amp; Casey, 2009; Rabiee, 2004). Nvivo software was also employed to check for unexpected patterns within the data.</td>
</tr>
<tr>
<td>Focus groups require participants to be familiar with the key topics of discussion</td>
<td>Participants were chosen for their relevant experience and/or expertise, and were provided with preliminary information to help them arrive well prepared to participate. This provided clear expectations of how the sessions were planned to run and allowed the participants time to think about topics they’d like to discuss and points they wished to raise.</td>
</tr>
<tr>
<td>The researcher has less control over direction of conversation and data produced</td>
<td>As explained by Litosseliti (2003, p. 17), good planning and careful moderation by the researcher can ensure that their lack of control over the conversation is used to advantage and that the conversation is always productive, regardless of where it may lead.</td>
</tr>
<tr>
<td>Results may not be dependable</td>
<td>The focus groups were carefully documented and analysed to enhance the validity and reliability of the results. Results were also compared with stage one’s survey results to check dependability.</td>
</tr>
</tbody>
</table>
Strengths and weaknesses of analysis methods

To analyse the data collected in the online surveys and focus groups, the range of established analysis methods were considered, including those employed in previous similar studies (as summarised previously in Table 10, p. 126).

As discussed by Walliman “there are often strong links between the type of data collected and the type of analysis appropriate for them” (2005, p. 269) and therefore the quantitative and qualitative data collected, and findings being sought, often identified the most useful analysis method.

Based on the review of available data collection methods, and those that had proven effective in previous studies of practitioners’ research engagement in other fields (see Table 10, p. 126), quantitative analysis via a number of statistical tests and qualitative analysis using an established framework were chosen as the most appropriate and useful for the present study. These well-established analysis methods were employed to minimise researcher bias, enhance rigor and enable the data to be thoroughly reviewed to arrive at the most credible findings possible.

The key strengths and weaknesses of each analysis method were reviewed, and the methods were combined to compensate for each other’s weaknesses as much as possible, as described in Table 13.
Table 13: Summary of chosen data analysis methods

<table>
<thead>
<tr>
<th>Data analysis method</th>
<th>Description and purpose</th>
<th>Key strengths</th>
<th>Key weaknesses</th>
<th>Use within present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive statistics and frequencies</td>
<td>Mean, standard deviation and counts of frequency to summarise and describe quantitative data for analysis and interpretation</td>
<td>Efficient method of summarising large volume of quantitative data to directly address questions</td>
<td>Statistics can be deceptive, for example if categories are not appropriate or if causality or inferences are incorrectly drawn</td>
<td>Used to summarise quantitative data collected in the survey and (to some extent) the focus groups for analysis and interpretation</td>
</tr>
<tr>
<td>Exploratory Factor Analysis (EFA)</td>
<td>Advanced statistical test to search for underlying factors within the data, thereby reducing data and identifying collections of variables that form scales that reliably measure the factors identified</td>
<td>Effective method of reducing data and identifying underlying factors within large data sets</td>
<td>Complicated method to employ correctly. Dependent on the data including appropriate variables that are theoretically valid for measuring desired phenomenon. Many techniques available and many aspects of EFA are subject to differences of opinion, Reliability can be problematic to establish (Hair, Black, Babin, &amp; Anderson, 2010, p. 149)</td>
<td>Used within the present study to identify statistically significant factors that measure various types of research engagement by survey respondents</td>
</tr>
<tr>
<td>Multiple Analysis of Variance (MANOVA)</td>
<td>Statistical test to search for significant correlations between multiple dependent and independent variables</td>
<td>Efficient method for searching for significant correlations within a large number of dependent and independent variables, while minimising the risk of type I statistical errors</td>
<td>Results can be ambiguous due to multiple variables being involved, and therefore, additional testing may be required to fully address a question</td>
<td>Used within the present study to test whether any of the demographic variables collected correlated with any of the four scales of research engagement identified during EFA</td>
</tr>
<tr>
<td>Qualitative analysis framework</td>
<td>Analysis of qualitative data to identify important points by their frequency, extensiveness, specificity, and the level of emotion with which they were offered. “Classic Analysis Strategy” by Krueger and Casey (2009, p. 121)</td>
<td>A well-established approach that accounts for multiple ways that participants’ comments can be recognised as important, beyond pure counts of words or concepts</td>
<td>Very time consuming approach, with substantial documentation required to maintain consistency and thereby ensure reliability and validity</td>
<td>Used to identify important points within the large quantity of qualitative data collected from open survey questions and focus group discussions</td>
</tr>
</tbody>
</table>
When incorporated into the sequential explanatory design model, the chosen data collection and analysis methods completed the structure of the present study, as shown in Figure 6.

The way that each of these data collection and analysis methods was employed within the present study will now be explained.

**Methods**

**Stage one: quantitative investigation**

Stage one of the study involved employing predominantly quantitative methods, complemented with a few relevant qualitative methods, to appropriately collect and analyse data. The following section explains the specific methods that were employed during stage one and the related findings are presented in Chapter 5.

The primary task of the stage one investigation was to obtain data to understand how communication design practitioners and academics in Australia characterise research, and to also understand how and why communication design practitioners engage with research. Employing a quantitative approach that collects data from a large sample offered the possibility of arriving at statistically significant and potentially generalisable findings in relation to these questions.
A survey was designed for professional communication designers in Australia to report their own research practices and beliefs. To gain additional insight, a second survey was also designed to seek the perspective of communication design academics that research and teach communication design at Australian universities.

Surveys used by Nini (1996) and Borg (2007) were used as initial starting points for the survey design. Each of Nini and Borg’s survey questions was first evaluated for its ability to address the present study’s key research questions. Those questions that were considered relevant were then evaluated using Dillman’s nine “Guidelines for choosing words and forming questions” (2009, p. 79–89) and the question stem, response space, or both, were edited as necessary. Questions that were considered irrelevant to the present study were omitted. Modifications were also made to ensure the questions communicated clearly within an Australian context and to address potential misunderstandings that the authors identified took place during the original studies. Then, where necessary, additional new questions were also introduced to ensure appropriate and sufficient data would be collected to address the research questions as thoroughly as possible.

The online surveys were constructed and run using the content management system Opinio. Functions offered in Opinio such as piping, branching and automatically adjusting question numbering allowed the survey questions to tailor to individual respondents as they participated, thereby ensuring all questions were relevant to all participants.

Preliminary feedback on the two surveys was sought from the study’s supervisors, a professional proofreader and an expert in statistical analysis. The surveys were also pilot tested with five volunteer participants (three communication designers and two academics) to refine the survey designs for usability and estimate time required to complete. Pilot test volunteers were specifically asked to comment on length of survey, ease of understanding eligibility criteria, general ease of completing the survey, appropriateness of response options, navigation, challenging questions, flow, and any other aspects they wished to comment on. Also, a sixth volunteer completed the pilot survey while informally speaking aloud their thoughts to the researcher. Observing this process provided additional insight into the experience of and interpretation by survey participants.
Feedback from the pilot testing was used to further fine-tune the surveys before the final questions were submitted to a Swinburne Human Research Ethics Subcommittee (SHESC) for consideration.

Upon receiving approval from the ethics committee on 11th June 2012, the two surveys were made live on 12th June 2012, and the following publicity strategy was implemented to attract as many eligible participants as possible for both surveys.

In June 2012 the first stage of publicity was conducted. As noted previously in Table 11, personalised salutations have been proven to improve online survey response rates (Joinson, 2007) and so the first stage of the publicity strategy involved the researcher sending personalised invitations to prospective participants through email and the online professional networking website, LinkedIn. Between June and July 2012, messages were sent to 199 personal and professional contacts of the researcher within the Australian design profession and the Australian design discipline. Recipients were also asked to forward the invitation to other professionals or academics that may be willing to participate to recruit participants via snowballing.

The second stage of publicity specifically focused on disseminating the invitation to participate to academics at universities around Australia. A list of 22 Universities in Australia that teach and research communication design was collated. In July 2012, the director or co-ordinator of the communication design (or equivalent) program at each of these institutions was personally invited to complete the online survey and a request was made for them to forward the invitation to all permanent and sessional academic staff within the communication design area of their institution. 19 institutions replied to the correspondence and agreed to circulate the invitation to their staff. Responses were not received from the remaining three institutions.

At the time that each institution was contacted, data were requested for the number of continuing and sessional staff working as academics in communication design programs at their institution in semester 1 of 2012. These figures were then collated in a spreadsheet and tallied. While these data are partially incomplete due to the three universities that did not reply, final totals suggest that there were around 117 continuing academics working in communication design programs at Australian universities in early 2012. Knowing that there were so few academics working in communication design in Australia at the time of the online surveys was useful for the present study as it offered an indication of the size of the population being surveyed. It
should be noted that these figures exclude sessional or casual academics. This exclusion was intentionally made because a large proportion (or possibly even all) of the sessional academics were likely to primarily be practising designers. So if they agreed to participate in the study they would complete the practitioners’ survey, rather than the academics’ survey. In addition to this, data were not specifically collected about the number of researchers (who do not teach) in the communication design field in Australia. So while the number of researchers that would be considered communication design academics was expected to be small, data for this population were not collected from Australian universities and so its actual size remains unknown.

In August 2012 a third stage of publicity was conducted. Generic invitations were distributed to broad groups of prospective participants in an effort to attract a larger and more randomised sample. This was done by circulating invitations via the PhD-design online discussion group, the Australian Graphic Design Association (AGDA)’s e-newsletter, industry magazine Desktop Magazine, the InDesign Users Group (IDUG) and the Design Institute of Australia (DIA).

A fourth and final stage of publicity was conducted in September 2012 to specifically seek participation from designers who were working in Australian states that were under-represented in the responses received at the time. Prospective participants were found through personal contacts of the researcher or via Google searches for appropriate businesses within the under-represented states. Designers were individually contacted via details found within their self-promotional material. A total of 240 invitations were emailed to individual design enterprises.

Both the academic and design practitioner surveys were closed on 1st October 2012, after being live for a total of 115 days. The final surveys collected the following data from communication design practitioners and academics (with wording tailored to one of the two cohorts as noted below—see Appendix C for full surveys including design of exact question stems and response spaces).

Respondents were asked to identify their:

- Gender
- Age
- Australian state or territory of main workplace
A profession in transition: Practitioners’ research engagement in the Australian communication design field

• Number of years worked as a communication designer or academic:
  a) within Australia and;
  b) outside Australia

• Qualifications (if any held) including:
  a) Level, specialisation and year of completion of highest design qualification
  b) Level, discipline and year of completion of highest non-design qualification

• Frequency of engagement in the past 12 months with:
  a) University-level education activities (asked to practitioners), or;
  b) Professional communication design practice activities (asked to academics)

• Employing organisation (asked to practitioners):
  a) Type (design, advertising, other kind, freelancer)
  b) Total number of employees
  c) Total number of communication designers employed

• Types of other (non-communication design) professionals regularly worked with (asked to practitioners only)

• Location of clients (international, national, regional, local or purely online) (asked to practitioners only)

The following questions were asked to both academics and design practitioners. Practitioners were asked to report on their personal experiences; while academics were asked to report what they believed commonly took place in practice:

• Reasons that information was gathered in the past 12 months including:
  a) Topics about which information was gathered
  b) Proportion of projects that information was gathered for

• Methods of investigation conducted for design projects in the past 12 months including:
  a) Type of methods conducted
  b) Proportion of projects that methods were conducted for

• Reading for design projects in the past 12 months including:
  a) Sources of reading material
  b) Proportion of projects that a source was read for
• Applications that gathered information was used for

• How systematically information was gathered and used

• Respondent’s personal opinion of:
  a) What is research? (asked to academics and practitioners)
  b) What is design research? (asked to academics only)

• Respondent’s personal opinion of how important engaging with research is to
  practising professionally as a communication designer. For practitioners this was
  explained as being regardless of how able they presently were to engage with
  research during their design work

• Key benefits engaging with research offers designers (asked to academics only)

Data analysis was conducted at the end of stage one, in accordance with the mixed
methods approach and the chosen explanatory sequential design (Creswell & Plano
Clark, 2011, p. 84). Collected data were output directly from Opinio into SPSS 20 for
statistical analysis.

Descriptive statistics and frequencies were examined as a preliminary level of analysis.
Then, in accordance with past investigations of practitioners’ research engagement in
other fields, the practitioners’ survey responses were analysed via in-depth statistical
analysis. This included Exploratory Factor Analysis (EFA), and Multiple Analysis of
Variance (MANOVA).

EFA was conducted to identify underlying factors within the variables and thereby
reduce the data. This produced scales that measured various forms of research
engagement and produced a statistic for each survey respondent that indicated their
level of engagement with four types of investigation activities.

Then, MANOVA was conducted to discover whether higher levels of research
engagement correlated with any of the demographic variables that data were collected
for. This was able to test, for example, whether the more highly qualified designers
engaged with research (in various forms) differently to those who held lower
qualifications.

Four expert statisticians were consulted to ensure the appropriate statistical tests were
conducted correctly.
In addition to the preliminary and in-depth statistical analyses of quantitative data collected during the surveys, the open questions from the surveys were analysed via a standard qualitative framework based on Krueger and Casey’s “classic analysis strategy” (Krueger & Casey, 2009, p. 121).

The findings from the first stage of investigation were then used to inform the design of the second stage of the study by assisting to identify which survey results warranted further explanation, who would be most appropriate to invite to participate in focus groups, and the appropriate protocols for the sessions (Creswell & Plano Clark, 2011, p. 84).

Stage two: qualitative investigation

Stage two of the present study involved employing predominantly qualitative methods, as well as a few relevant quantitative methods, to appropriately collect and analyse rich contextual data. The following section explains the data collection and analysis methods that were employed during stage two and the related findings are presented in Chapter 6.

In accordance with the explanatory sequential design adopted, the primary task of stage two’s investigation was to arrive at findings that might explain those of stage one and thereby indicate why communication design practitioners and academics characterise research as they do; and why practitioners engage with research as they do. As discussed previously, employing a qualitative approach that collects in-depth, detailed data is recognised as particularly well suited to achieving this.

Focus groups were conducted in both Sydney and Melbourne, as they are the largest cities in New South Wales and Victoria, which are the states that have the largest populations of communication design businesses in Australia (E. J. Lee, 2012, pp. 17–18). Five focus groups were conducted in total, three of which were held in Melbourne and two in Sydney. Each focus group was allocated a code (from FG1 to FG5), according to the order in which the groups took place.

The activities and content presented during the focus groups was designed once the stage one survey data had been analysed and key research questions arising from it that justified further investigation were identified. The proposed focus group activities and discussion topics were pilot tested with three colleagues of the researcher (PhD candidates) using paper prototypes. A focus group protocol was prepared and
submitted to a Swinburne Human Research Ethics Subcommittee (SHESC) for approval.

To recruit focus group participants, a purposeful sampling strategy was adopted, as is appropriate for focus group research (Krueger & Casey, 2009, p. 204). That is, “information-rich” (Patton, 2002, p. 230) participants were invited to participate and separate groups were formed on the basis of their primary occupation, being communication design practitioner or academic, and their experience in both academia and the communication design profession. Homogenous groups were assembled within which most—or sometimes all—participants knew each other. This approach has been recognised as most appropriate for focus groups (Krueger & Casey, 2009, p. 205) and proved beneficial for fostering productive conversations and generating diverse, useful insights.

Each focus group was designed to include the researcher plus six participants, as this number has been found to be optimal in most situations for facilitating a diversity of views and flow of discussion (Litosseliti, 2003, p. 3). Due to unforeseen last-minute withdrawals and changes to who was available to attend the focus groups, the sessions ended up with varying numbers of participants, as shown in Table 14.

**Table 14: Summary of focus groups conducted**

<table>
<thead>
<tr>
<th>Focus group code</th>
<th>Date</th>
<th>Location</th>
<th>Number of participants</th>
<th>Type of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG1</td>
<td>25.2.13</td>
<td>Melbourne</td>
<td>5</td>
<td>Hybrid practitioners/academics 4 designers who lecture sessionally, plus one designer with limited lecturing experience</td>
</tr>
<tr>
<td>FG2</td>
<td>27.2.13</td>
<td>Melbourne</td>
<td>6</td>
<td>Practitioners 3 designers who have previously lectured sessionally, plus three other designers with no lecturing experience</td>
</tr>
<tr>
<td>FG3</td>
<td>8.3.13</td>
<td>Melbourne</td>
<td>6</td>
<td>Academics 6 design academics, some with past experience in design practice</td>
</tr>
<tr>
<td>FG4</td>
<td>12.3.13</td>
<td>Sydney</td>
<td>7</td>
<td>Practitioners 7 designers with no lecturing experience</td>
</tr>
<tr>
<td>FG5</td>
<td>12.3.13</td>
<td>Sydney</td>
<td>5</td>
<td>Academics 5 design academics, some with past experience in design practice</td>
</tr>
</tbody>
</table>
The following three discussion topics were developed to explore the key findings from the stage one surveys.

**Topic one**

The first topic explored in each of the five focus groups was the definition of research. This topic was included in the sessions to explore the finding from the online surveys (which will be presented in Chapter 5) that the understanding of research was extremely diverse within the responses from practitioners and academics. Therefore, the focus groups were designed to seek a better understanding of which specific qualities participants from the design profession and discipline considered important for research and why.

An exercise was developed to help focus group participants reflect upon and articulate their own values and criteria for research. This approach was developed from Borg’s use of scenarios in questionnaire surveys to gather teachers’ opinions about what qualifies as research (Borg, 2007, 2009, 2012).

As Borg had done previously, 10 fictitious scenarios that could reasonably occur in professional practice were conceived and each briefly described in a paragraph of text accompanied by four ranking categories. The scenarios were specifically designed to include or exclude the key qualities commonly discussed in the literature (and previously summarised in Table 1 on p. 35 of this thesis) as either important or essential for research. The ranking categories were adopted from Borg’s questionnaire design, with tick boxes provided for: *definitely not research, probably not research, probably research, and definitely research*.

While Borg included his scenarios in a questionnaire survey, for the present study, each scenario was set out on an individual card as shown in Figure 7. Each card was allocated an alphabetical code to identify the 10 individual scenarios easily and each set of ten cards was colour-coded according to which participant within a group ranked them. These randomly allocated colours were used, in conjunction with the focus group code, to identify all participants in all focus groups. For example, FG1Pink refers to the participant who was allocated pink response materials within the first focus group.
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Figure 7: Topic one scenario cards

A set of ten scenario cards was provided to each focus group participant for them to independently rate by ticking the appropriate box on each card. Once group members had rated all scenarios, the whole group’s cards were collated on wall posters, forming column graphs for group discussion.
When assembled into the column graphs, the scenarios were arranged horizontally in alphabetical order along the bottom edge of each category poster. Columns were formed whenever multiple participants ranked a particular scenario in the same way. For example, as shown in Figure 8, scenario A was ranked as definitely research by two group members (FG2Purple and FG2Blue), as probably research by FG2Pink, as probably not research by FG2Yellow, and as definitely not research by the remaining two group members (FG2Red and FG2Orange). While the sequence of colours within each column of the graphs was irrelevant, the distribution of colours across the four ranking categories showed the general position of any individual participant. For example, it is easy to see in Figure 8 that FG2Red has all of his scenarios rated in the top definitely research section except scenario A. In contrast, FG2Blue had a far broader spread of opinion as is evident in the broader distribution of blue cards.

Figure 8: Focus group 2 topic one scenario rankings
The column graphs formed by the collated scenarios were discussed immediately with each group. General observations were invited from any group member and a few individual members were individually invited to explain their choices, particularly when their ranking stood out as unique within the group.

**Topic two**

The second topic discussed during the focus groups explored the differences between working within Australian and international contexts in design practice. This topic was chosen for discussion to further investigate the tentative finding from the in-depth statistical analysis that designers who had some level of international experience had significantly higher levels of engagement with conventional research (which will be presented in Chapter 5). That is, if a survey respondent had any experience working outside Australia as a designer they were more likely to conduct conventional research methods, such as surveys, focus groups and questionnaires, as part of their work.

As will be explained more in Chapter 5, this finding was considered to be only tentative due to concerns regarding its reliability and validity. However, as no other studies were known to have arrived at similar findings (within design or any other field) this finding was unexpected and deemed worthy of speculative exploration. Discussion of this topic during the focus groups aimed to identify possible explanations for why this might be the case and seek insights to open this issue up further for more detailed investigation in the future.

To explore the possible impact that experience practising design outside Australia might have on research engagement, responses were collected from focus group participants to two questions: 1) what are the differences between working within Australia and overseas as a designer? And 2) what are the differences between working for local (Australian) clients, and working for clients who operate outside Australia? Where deemed appropriate participants were asked how these differences might affect research engagement of designers, but broad discussion that was not immediately relevant to research was also welcomed to encourage development of ideas.

In order for the groups to productively discuss the issue of how international exposure might affect research engagement a common definition for research and how designers engage with it was essential. For this reason the definition presented in
Chapter 1 was introduced at the start of topic two. This defined research as being systematic investigation conducted to produce trustworthy findings. A poster of this definition was displayed from the start of the discussion of topic two to remind participants of the definition of research being employed. Engagement was explained as being through either conducting research or by reading the outcomes of other people’s research.

In contrast with the discussion of topic one, topic two had no precedents or hypotheses from the literature upon which to structure discussion. Therefore, the participants were invited to offer their thoughts and personal experiences on the topics while the conversation was mapped on large posters. When appropriate, probe questions were posed to encourage participants to think of all relevant experiences. For example, those who had international work experience were asked about their impressions of differences in work ethics, studio culture, professional culture, clients and projects. Participants were also asked to think about any foreign designers they had worked with and discuss how their approaches to practice differed from Australian colleagues.

The discussions of topic two sought to collect a list of possible factors that could explain why designers with international experience and exposure might engage with conventional research more.

**Topic three**

The third and final topic discussed in each of the focus groups explored possible barriers to communication designers engaging with research. This topic was chosen for discussion because, as will be explained in Chapter 5, an overwhelming majority of respondents to the online survey indicated that they believed research engagement was either very important or extremely important to practising as a communication designer, however, they also reported reading and conducting research only infrequently.

As was explained to the focus group participants when introducing topic three for discussion, the disparity between designers believing research engagement to be very important, yet engaging very little with it, could be explained in a number of ways. This includes the indisputable possibility that despite designing the survey to minimise it, participants felt obliged or encouraged to respond that research is important, while actually believing otherwise. It is also important to acknowledge that those designers
and academics that agree to participate in such a study are likely to also be predisposed to valuing research generally. However, another possible explanation for the disparity is that despite personally valuing research engagement in principle, designers are unable to read or conduct research within their design practice due to any number of barriers. As discussed previously in Chapter 2, possible barriers have been explored in other fields in order to seek ways to overcome them and foster practitioners’ research engagement.

As was done for topic one, for topic three an exercise was designed to encourage participants to think deeply about the issue at hand and articulate their opinions. Seven possible barriers were presented to focus group participants as hypothetical reasons why designers might not be engaging with research as much as they thought it was important. The barriers were; cost, lack of time, lack of relevance, personal disposition, client disposition, accessibility, and research skills. These were chosen from the findings of research-engagement studies in communication design (such as reported by Nini (1996, p. 186)) and other fields (as summarised previously in Table 2, p. 68). Also, participants were encouraged to offer suggestions for other barriers they considered relevant. This approach sought to be time-efficient yet also thought provoking, and open to a broad range of possibilities.

A poster was prepared for each barrier with a five-point horizontal scale. The points on the scale were labeled left to right as: not a barrier, minor barrier, moderate barrier, substantial barrier and major barrier. After the barriers were explained, all group members were invited to approach the posters with post-it note arrows, colour-coded according to each participant, and to rate how big they believed each barrier was for research engagement. For the groups made up predominantly of communication design practitioners participants were asked to vote on the basis of how substantial that barrier was for their research engagement in their own design practice. For the groups made up of communication design academics participants were asked to rate how substantial they believed the barrier was to Australian communication designers generally. For FG1, which was composed of hybrid academic/professional design practitioners, participants were asked to vote twice; once for how substantial the barrier was to their own design practice (below the scale line) and a second time for how substantial they believed the barrier was to the Australian communication designers generally (above the scale line).
Whenever time permitted, suggestions were also received for other barriers and participants also voted for those.

Once all participants had placed their votes the completed posters were reviewed and discussed by the group. Patterns were identified and contrasting votes discussed to explore what reasons prompted participants to vote as they had.

All dialogue from the three discussion topics covered in the focus groups was audio recorded and the collated visual material developed during the discussion topics was photographed after the session. The audio recordings were later professionally transcribed into text and de-identified for analysis.

The discussions that took place during the five sessions were analysed qualitatively using an established qualitative analysis framework developed by Krueger and Casey (2009) and recommended by Rabiee (2004), and Harrell and Bradley (2009). Use of this established approach sought to identify important points by their frequency, extensiveness, specificity and the level of emotion with which they were offered. Referred to as the “Classic Analysis Strategy” by Krueger and Casey (2009, p. 121), this distilled the large quantity of qualitative data into the most relevant information, which facilitated reliable and valid analysis.

While the data collected in the stage two focus groups were predominantly qualitative, some quantitative data were also collected in the form of scenario rankings from topic one, and barrier ratings from topic three. The participants’ rankings and ratings were summarised quantitatively in Excel to explore similarities and differences between the academic and practitioner participants.

**Stage three: combined analysis**

In accordance with the explanatory sequential design chosen for this study, after completion of the predominantly quantitative first stage (online surveys) and predominantly qualitative second stage (focus groups), a third stage of the investigation was conducted to combine and interpret the findings of both quantitative and qualitative investigations. As there were no data collected during stage three only analysis methods were employed.
The stage three analysis sought to identify how the qualitative conclusions explored and explained the quantitative results (Creswell & Plano Clark, 2011, p. 84). This combined analysis specifically addressed the first two main research questions of:

• How is research characterised within the Australian communication design field?
• How are communication design practitioners engaging with research, and why?

To compare the key findings from stage one and stage two a detailed table was developed. This table was used to map all of the relevant key findings from each stage of data collection and analysis in relation to which research question or sub-question they addressed. Through cross-referencing findings from stages one and two of the study overall findings were arrived at for the first two main research questions.

In addition to the combined analysis of stage one and two findings to address the first two main research questions, Bourdieu’s theoretical concepts were employed to address the third and fourth main research questions:

• How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?
• What do these findings suggest about the role of research in Australian communication design practice in the future?

The findings from the stage three analyses for all four research questions are presented in Chapter 7 in conjunction with the overall discussion of the study.

**Conclusion of Chapter 4**

As has been explained in this chapter, the present study employed a combination of constructivist and postpositivist ontological and epistemological positions within a three-stage mixed methods approach to investigate the project’s four main research questions and six related sub-questions.

The data collection methods of online surveys and focus groups, and the data analysis methods of statistical, qualitative and comparative analyses were selected as most appropriate to combine in the explanatory sequential model.

This approach was implemented to conduct an investigation that is credible and thus arrives at findings that are as valid, reliable, transferable and confirmable as possible.
Chapter 5: Stage one survey analysis and findings

Introduction to Chapter 5

In accordance with the explanatory sequential design employed for the present study data collected via the online surveys were analysed at the end of stage one and the key findings were used to inform design of stage two of the study. This chapter explains how the stage one analysis methods were conducted and what key findings were arrived at.

Complete responses were received from 218 communication designers and 56 communication design academics after the two online surveys were open for 112 days. Additional incomplete responses were received from a further 43 designers and 14 academics.

Due to the multiple publicity strategies employed and a combination of snowballing, convenience, random and strategic sampling, the final number of designers and academics who received the invitation to participate was unknown and an accurate response rate was not possible to calculate.

There is no universally accepted number of responses that is deemed to be sufficient for survey findings to qualify as generalisable to a population. Some guidelines do exist, however, such as the widely cited table of recommended sample sizes for given populations developed by Krejcie and Morgan (1970). According to Krejcie and Morgan’s table, for the population of 60,000 communication design practitioners in Australia (Department of Employment, 2012), a sample of 382 responses would be needed for precise and confident generalisations to be made. And for the population of 117 communication design academics in Australia estimated from the present study’s data, a sample size of around 90 responses would be needed.

While the number of responses received to the practitioners’ survey was less than ideal according to these guidelines, the 218 responses that were received still compares favourably with some other past surveys that have had far smaller sample sizes, yet collected sufficient evidence to make broad claims about levels of research engagement within other professions and other countries. For example, Borg’s study of higher education English teachers at a Turkish University to investigate their engagement with research was based on a sample of \(N = 50\) survey responses (Borg,
2007, p. 734). Also his subsequent study of teacher educators at a Saudi Arabian university was based on a sample of $N = 82$ survey responses (Borg, 2012, p. 347). In both of these studies Borg acknowledged the limitation of such small sample sizes yet argued that as other strategies, such as a second phase of qualitative investigation were also employed, he was still able to arrive at trustworthy conclusions about the levels of teachers’ engagement with research in those contexts, and the barriers and facilitators that affect research engagement generally.

Further to this, while the number of responses received to the academics’ survey was also less than ideal according to Krejcie and Morgan’s guidelines, receiving 56 responses from the estimated population of 117 communication design academics in Australia was also considered to compare favourably with past studies. And, considering this sample represented nearly half of the estimated population, while responses from 56 academics is not ideal for supporting generalisations, it was considered a substantial cross section of the discipline in Australia that could still provide useful insights.

Prior to statistical analysis, missing value analysis was conducted and all incomplete survey responses were removed from both surveys. Univariate outliers were identified via box plots and managed through a square root transformation of the relevant variable, or recoding the variable to become categorical. For all compulsory survey questions that included an open response space, for example to identify a year, all responses were examined and coded. To facilitate appropriate statistical analysis scale data were recoded to become ordinal or categorical. Specific details of how this was completed can be found with the results for individual survey questions in Appendix E and Appendix G. All string responses to optional open questions, such as answers that identified a topic, method or source not included in the pre-populated response options, were individually evaluated. They were then either grouped into to an existing response option if deemed reasonable, or removed. For example responses were removed when it was clearly an error by the respondent, or their response named an activity that virtually all respondents were likely to indicate they do, if they had been asked about the same topic.

The findings from the analysis of both the practitioners and academics’ survey data will now be presented. First, the data collected for the practitioners’ survey will be discussed. This will include a review of descriptive statistics for the respondents, followed by a preliminary analysis of dependent variables by frequencies, and the
results of the deeper level of statistical analysis will be presented. The data from the academics’ survey will be discussed second, primarily on the basis of descriptive statistics for the respondents and preliminary analysis of dependent variables by frequencies. Finally, a comparison of preliminary findings from the two surveys will be presented that compares the key data collected from the two cohorts’ survey responses. This comparison was conducted to see how closely the two surveys correlated and thereby evaluate how accurately Australian communication design academics perceive the activities and attitudes of professional practitioners.

Practitioners’ survey findings

Descriptive statistics for respondents to the practitioners’ survey

The first 18 questions of the practitioners’ survey collected a range of demographics and workplace information about the respondents. Data for these independent variables were collected for two purposes; first, for evaluation of whether the sample of respondents could be considered representative of the population, and second, to later allow testing of hypotheses that suggested the level of research engagement of a respondent was related to any of these variables. For example, whether a higher level of qualification, or more years of experience might be related to more engagement with research, as was found by Borg when he investigated this hypothesis in the field of education (Borg, 2009).

The distribution of data for variables such as gender, age group, years of experience and level and year of highest design qualification were all reviewed as bar graphs (see Appendix E).

Gender was reasonably even with 55.7 per cent \((N = 118)\) females and 44.3 per cent \((N = 94)\) males. This is close to the population’s gender distribution, but not the same. The most current industry data from the Australian Bureau of Statistics suggest that slightly more males than females work in the communication design specialism in Australia, with 54 per cent males and 46 per cent females (Australian Bureau of Statistics, 2011, in section 15.4 Persons Involved in Design, By selected characteristics). While this differs around 10 per cent from the survey’s sample and is based on census data from 2007, this was not considered enough of a difference to deem the sample substantially unrepresentative of the population’s gender balance. In
addition to this other past studies of professional practitioners’ engagement with research have found no significant relationship between gender and engagement level (for example see Borg (2012, p. 350)) and therefore gender was not expected to be of high importance.

Despite extensive searches the distribution of age, experience level, and qualification level within the population of communication designers in Australia remains unknown. While this makes it impossible to determine whether the sample is representative of the population in terms of these variables their distribution was still regarded as important to examine in order to ensure respondents from all levels of the population were included in the sample. While it is not strictly required to look for normality within ordinal data such as these, as shown in Appendix E, the age groups, experience levels and qualification levels are reasonably normally distributed within the sample and include a diverse range of respondents, which was considered beneficial for analysis.

No practitioner respondents indicated that they held a doctorate qualification. This was not surprising within such a young field that only entered Australian universities in the 1990s and is described as still transitioning from the apprenticeship model of education to a higher education model (Barron, Zeegers, Jackson, Barnes, & Taffe, 2010; Beegan & Atkinson, 2008). That no practitioners held a doctorate qualification was regarded as an indication that, as is common in most professions outside academia and medicine, higher research qualifications are not required or sought after within the Australian communication design profession.

In terms of Masters level qualification, 14.2 per cent ($N = 30$) of respondents to the practitioners’ survey held Masters level qualifications; 9.0 per cent ($N = 19$) held a Masters in design, 4.2 per cent ($N = 9$) held a Masters in a non-design discipline and .9 per cent ($N = 2$) held both a Masters of design and a Masters in a non-design discipline. It was not known what proportion of these Masters degrees were earned by coursework compared with being earned by research degree. While all Masters level qualifications in Australia are required to teach a component of research skills in accordance with the Australian Qualifications Framework (Australian Qualifications Framework Council, 2011), this has only been a formal requirement since 2011 and so only very recent Masters graduates could reliably be expected to hold greater research skills.
The geographical distribution of respondents to the survey was not representative of the population, with Victoria over-represented in comparison to all other states. This imbalance was attributed to the researcher’s professional network of contacts being located predominantly in Victoria. The best indication of how the population of communication designers was nationally distributed was found in IBISWorld’s 2012 industry report on *Graphic Design in Australia* (E. J. Lee, 2012). This presented the percentage of graphic design enterprises in each Australian state or territory, with New South Wales being home to the largest number of design enterprises in Australia (38.1 per cent), followed by Victoria (28.9 per cent), Queensland (15.9 per cent), Western Australia (8.1 per cent), South Australia (6.1 per cent), Tasmania (1.3 per cent), the Australian Capital Territory (1.1 per cent) and the Northern Territory (0.4 per cent). As recognised by Lee, this distribution generally matches the distribution of the national population (2012, p. 18).

While it was considered valuable to include responses from all states it is important to acknowledge that due to the low frequency from some states the data were not suitable for comparing the respondents from the states with one another.

The distribution of small, medium and large businesses within the sample was found to not be representative of those in the Australian communication design industry. The distribution of business sizes within the population was estimated on the basis of the most recent available data from the Australian Bureau of Statistics (Australian Bureau of Statistics, 2011, 15.2 count of Australian businesses in selected design industries (a), By employment size and type (b) – June 2007) and IBISWorld Australian graphic design industry report (E. J. Lee, 2012, p. 19). Data from these sources were cross-referenced to estimate the percentage of communication design organisations in Australia that employed one (owner operator), 2–20 employees, and more than 20 employees. These were compared with data from the practitioners’ survey responses as shown in Table 15, to evaluate how representative the response sample was of the population in terms of size of organisations. As shown in the last column of Table 15, this revealed that individual self-employed owner-operators were under-represented in the sample and designers who work in organisations of 2–20 and 21 or more people are over-represented. These discrepancies were taken into consideration during data analysis.
Table 15: Comparison of survey respondents to population of Australian communication designers by size of employing organisation

<table>
<thead>
<tr>
<th>Total number of staff in employing organisation</th>
<th>Survey sample</th>
<th>Population Percentage (organisations in Australia)*</th>
<th>Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (self employed)</td>
<td>26% ((N = 55))</td>
<td>64.7% ((N = 5814))</td>
<td>-38.7%</td>
</tr>
<tr>
<td>2–20</td>
<td>50% ((N = 106))</td>
<td>33.7% ((N = 3029))</td>
<td>16.3%</td>
</tr>
<tr>
<td>21 or more</td>
<td>24% ((N = 51))</td>
<td>1.6% ((N = 144))</td>
<td>22.4%</td>
</tr>
</tbody>
</table>

* Data taken from (Australian Bureau of Statistics, 2011, 15.2 count of Australian businesses in selected design industries (a), By employment size and type (b) – June 2007) and (E. J. Lee, 2012, p. 19)

During the survey, practitioners were asked to indicate what type of organisation they mainly worked in from four categories. Responses indicated 45.3 per cent of respondents \((N = 96)\) worked in design studios, 23.6 per cent of respondents \((N = 50)\) worked within an in-house design department of a non-design and non-advertising organisation, 22.6 per cent of respondents \((N = 48)\) worked as freelancers and 8.5 per cent of respondents \((N = 18)\) worked in advertising agencies. Recent data for the design and visual arts segment in Australia, which includes industries unrelated to the present study such as photography, jewelry, fashion and interior design, along with graphic design, indicate that over 70 per cent of designer/visual artists are embedded within other industries (CIIC, 2013b, p. 57). These data suggest that embedded designers could have been substantially under-represented in the survey sample, however the inclusion of unrelated professions and lack of additional detail of other workplaces made the population data unreliable for confidently determining whether the sample was representative of the population in this dimension. Despite these limitations these data were collected to explore the hypothesis that designers who worked within a particular type of organisation might engage with research more than others, and so it was useful during later statistical analysis.

Data collected from respondents about the nationality of their clients indicated that around half, 49.06 per cent \((N = 104)\) worked for foreign clients.
Respondents were asked to indicate the frequency with which they engaged with university level education and research activities in the preceding 12 months. From these data, 27.83 per cent (N = 59) of respondents indicated they had regularly participated in activities with universities and were therefore deemed to engage with higher education, while the remainder of the sample that engaged with universities infrequently, in limited ways, or not at all, was deemed to not engage with higher education.

To measure the extent to which a respondent collaborated with other disciplines, practitioners were asked to indicate which other professions (from non-design fields) they worked with regularly. The total number of other professions that each respondent reported having regular contact with was summed to form a new statistic. This variable was used as an indication of the extent of interdisciplinary collaboration that each respondent engaged with on a regular basis. As detailed in full in Appendix E, the data followed an approximately normal distribution, with practitioner respondents engaging with an average (mean) of 3.35 other professions.

Based on these 18 independent variables it was not possible to determine whether the sample of respondents accurately represents the population of communication designers in Australia, mainly due to a lack of appropriate data for the population. However, the descriptive statistics reported here show that the sample included a balance of genders, and a broad range of ages, experience and qualification levels, local and internationally experienced designers and designers from a diverse range of workplaces in terms of size, type and geographic location. Therefore, while the sample could not be unequivocally claimed to be representative of the population, it was the best sample attainable within the present investigation and was considered to include a sufficiently wide range of members from the Australian communication design field to proceed with the investigation.

**Preliminary analysis of the practitioners’ survey**

Survey questions 19, 20, 21 and 25 of the practitioners’ survey sought to gain insight into communication designers’ engagement with research and also how important they considered research engagement to be for practising communication design. These questions asked about what designers gather information about, what investigative methods they conduct, what sources of information they read, and how important they believed research engagement was to practising communication design generally.
In order to analyse how the data from these survey questions addressed the main research questions of the present study each of the 30 items that these survey questions contained were output as bar graphs and reviewed in relation to whichever of the main research questions they addressed.

As has been done in previous similar studies, (for example by Borg (2007, p. 735)) appropriate response categories within the ordinal scale data were combined or collapsed to form a binary variable. That is, all respondents who indicated they did an activity either for a few, half, most, or all of their projects in the past 12 months were added together to determine the total proportion respondents who reported they did do the activity (i.e., irrespective of how frequently they did it). All respondents who indicated they had done the activity for none of their projects in the past 12 months were left unchanged to determine the proportion of designers who did not do the activity.

Each of these binary variables was then individually evaluated. If more than 50 per cent of respondents indicated they had not conducted the activity in question in the past 12 months, it was concluded that the designers who responded to the survey did not engage in that activity. Conversely, if more than 50 per cent of the respondents indicated they had conducted the activity in question, it was determined that respondents did engage in the activity in question. Where exactly 50 per cent of respondents reported they did an activity, this was noted accordingly as borderline.

While these conclusions based on binary variables were useful for answering the main research questions of the present study to some extent, the level of simplification in the approach adopted from Borg resulted in some important details being lost. That is, there is a substantial difference between most designers engaging in a particular activity for most or all of their projects, compared with designers only conducting it for a few of their projects in the past 12 months, yet this level of analysis grouped these respondents all together.

Therefore, a second binary statistic was developed to discover whether designers had conducted a given activity regularly, which was calculated by adding together all responses for half, most and all projects in the past 12 months. Or whether they had conducted it rarely or not at all, which was calculated by adding a few times and not at all responses. Grouping these responses together was considered a more useful way to identify which activities were being done frequently enough to genuinely inform
design decisions, compared with activities that were only conducted for a minority of projects, and so would not be reasonable to consider as contributing to research-led or evidence-based practice.

The results of these analyses will now be presented in relation to the present study’s second main research question:

- How are practitioners engaging with research in Australian communication design field and why?

And, in particular the related sub question:

- What perceptions do practitioners hold of their engagement with research?

What perceptions do practitioners hold of how they engage with research?

Based on data for the first binary statistic, which indicated whether a respondent ever or never conducted an activity, respondents to the practitioners’ survey reported they did conduct five out of the 10 specific methods of investigation they were asked about (see Table 16). Of the four types of research literature surveyed, practitioner respondents reported they read from two of them; research their clients had commissioned, and conference materials. On a very simplistic level this suggested that most respondents reported that they engaged moderately with research.

However, when the second statistic was examined, in which frequency of engagement was taken into consideration, of the 10 specific research methods surveyed, most respondents indicated they only conducted three regularly, and these were less conventional methods of in-person meetings, observations and online searches. A fourth item, site visits and evaluations, was borderline as half of the practitioners claimed to conduct them regularly. Of the four types of research literature designers were asked about, which were: academic journals, results from research research commissioned by the client, results from research commissioned by the designer, and conference materials, respondents to the survey read none of them regularly.

It is important to note that most designers reported that they did regularly read social media and half of respondents reported regularly reading mass-market publications and design publications to gather information for their projects. While these sources may be part of a designers’ own investigations, and thereby could possibly be part of a designer legitimately conducting research, these sources were not regarded as
sources of research findings in themselves. Therefore, while responses to these items, show that many designers read widely to inform their work, these data were not regarded as evidence of designers reading research.

Overall the data indicated that while more than half of respondents reported that they did engage with research through reading or conducting it sometimes, their engagement was for a minority of their projects, via informal methods of investigation, and would be unlikely to qualify as evidence-based or research-led practice under the definition of research being systematic investigation to produce trustworthy findings.
Table 16: Summary of practitioners’ survey data relating to if and how designers conduct research

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Conduct archival searches</th>
<th>Conduct focus groups and workshops</th>
<th>Conduct cultural probes</th>
<th>Conduct questionnaire surveys</th>
<th>Conduct experiments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archival searches</td>
<td>52 per cent</td>
<td>52%</td>
<td>77%</td>
<td>52%</td>
<td>77%</td>
<td>52%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus groups and workshops</td>
<td>72 per cent</td>
<td>72%</td>
<td>90%</td>
<td>72%</td>
<td>90%</td>
<td>72%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural probes</td>
<td>63 per cent</td>
<td>63%</td>
<td>90%</td>
<td>63%</td>
<td>90%</td>
<td>63%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questionnaire surveys</td>
<td>70 per cent</td>
<td>70%</td>
<td>92%</td>
<td>70%</td>
<td>92%</td>
<td>70%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiments</td>
<td>65 per cent</td>
<td>65%</td>
<td>85%</td>
<td>65%</td>
<td>85%</td>
<td>65%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(Table 16 continued)

<table>
<thead>
<tr>
<th>Research Methods</th>
<th>Description</th>
<th>Results</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>60 per cent of respondents conduct interviews.</td>
<td>71 per cent of respondents conduct interviews rarely, if ever.</td>
<td>2.16</td>
<td>1.27</td>
</tr>
<tr>
<td>Site visits and evaluations</td>
<td>83 per cent of respondents conduct site visits and evaluations.</td>
<td>50 per cent of respondents conduct site visits and evaluations regularly.</td>
<td>2.78</td>
<td>1.28</td>
</tr>
<tr>
<td>Observations</td>
<td>74 per cent of respondents conduct observations.</td>
<td>56 per cent of respondents conduct site observations regularly.</td>
<td>2.94</td>
<td>1.51</td>
</tr>
<tr>
<td>Online searches</td>
<td>92 per cent of respondents conduct online searches.</td>
<td>83 per cent of respondents conduct online searches regularly.</td>
<td>3.89</td>
<td>1.26</td>
</tr>
<tr>
<td>In-person meetings</td>
<td>92 per cent of respondents conduct in-person meetings with clients.</td>
<td>76 per cent of respondents conduct in-person meetings with clients regularly.</td>
<td>3.61</td>
<td>1.27</td>
</tr>
</tbody>
</table>
Table 17: Summary of practitioners' survey data relating to if and from where designers read research

<table>
<thead>
<tr>
<th>Reading</th>
<th>Percentage of respondents</th>
<th>Frequency of reading</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading academic journals</td>
<td>54%</td>
<td>Rarely, if ever</td>
<td>1.72</td>
<td>.98</td>
</tr>
<tr>
<td>Reading research the designer has commissioned</td>
<td>60%</td>
<td>Rarely, if ever</td>
<td>1.71</td>
<td>1.09</td>
</tr>
<tr>
<td>Reading research the client has commissioned</td>
<td>67%</td>
<td>Rarely, if ever</td>
<td>2.12</td>
<td>1.10</td>
</tr>
<tr>
<td>Reading conference materials</td>
<td>55%</td>
<td>Rarely, if ever</td>
<td>1.75</td>
<td>.85</td>
</tr>
<tr>
<td>Reading mass-market publications</td>
<td>88%</td>
<td>Rarely, if ever</td>
<td>2.81</td>
<td>1.21</td>
</tr>
</tbody>
</table>
(Table 17 continued)

**Reading design publications**
- 94 per cent of respondents do read design publications.
- 50 per cent of respondents read design publications rarely, if ever.
- Mean: 3.16
- Standard Deviation: 1.19

![Chart showing frequency of reading design publications](chart1)

**Reading Australian or international standards**
- 57 per cent of respondents do read Australian or international guidelines.
- 83 per cent of respondents read Australian or international standards rarely, if ever.
- Mean: 1.84
- Standard Deviation: .94

![Chart showing frequency of reading Australian or international standards](chart2)

**Reading social media**
- 88 per cent of respondents do read social media.
- 57 per cent of respondents read social media regularly.
- Mean: 2.89
- Standard Deviation: 1.22

![Chart showing frequency of reading social media](chart3)

Also of relevance to understanding how designers perceived their research engagement were the data collected in response to the survey question: *When you gather and use information, how systematically do you usually do it?* As shown in Table 18, while a substantial majority of designers claimed to be systematic to some extent, a great majority, 76 per cent (\(N = 161\)), responded that they were *not at all* or only *somewhat* systematic. This located most communication design practitioners in the lower half of the scale, indicating that when they do engage with research by gathering and using information the activities were relatively unsystematic.
Table 18: Practitioners’ survey data relating to how systematic they claimed to be in gathering and using information

<table>
<thead>
<tr>
<th>How systematic information gathering and usage is</th>
<th>81%</th>
<th>76%</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 per cent of respondents indicated they are systematic to some extent in their information gathering and use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 per cent indicated they are only somewhat systematic or are not at all systematic in their information gathering and use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean: 2.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation: .76</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What perceptions do practitioners hold of why they engage with research?

Data received in response to question 19 of the practitioners’ survey indicated how frequently respondents investigated typical topics for their projects, thereby identifying some common purposes or reasons why designers engage with research. As shown in Table 19, the data indicated that respondents did report gathering information to investigate all of the 11 topics listed in the survey at least sometimes. When the frequency that designers investigated these topics is taken into account, most topics were still categorised as investigated regularly by most of the survey respondents. The only topics that were revealed to be rarely investigated were investigating technology, and testing draft designs with end users.
Table 19: Summary of practitioners’ survey data in relation to why designers engage with research

| Investigate a client's previous design efforts | 92 per cent of respondents do investigate a client’s previous design efforts. 70 per cent of respondents investigate a client’s previous design efforts regularly. | Mean: 3.53  
Standard Deviation: 1.28 |
| Investigate a client's current competitors | 94 per cent of respondents do investigate a client’s current competitors. 70 per cent of respondents investigate a client’s current competitors regularly. | Mean: 3.54  
Standard Deviation: 1.27 |
| Investigate whether the client's brief is appropriate and/or ways to improve it | 95 per cent of respondents do investigate whether the client’s brief is appropriate and/or ways to improve it. 80 per cent of respondents regularly investigate whether the client’s brief is appropriate and/or ways to improve it. | Mean: 3.83  
Standard Deviation: 1.23 |
| Investigate who the end users are | 97 per cent of respondents do investigate who the end users are. 89 per cent of respondents regularly investigate who the end users are. | Mean: 4.26  
Standard Deviation: 1.07 |
| Investigate the end users’ values | 92 per cent of respondents do investigate the end users’ values. 78 per cent of respondents regularly investigate the end users’ values. | Mean: 3.69  
Standard Deviation: 1.30 |
### Investigate what the end user wants in the design solution
89 per cent of respondents do investigate what the end user wants in the design solution.
76 per cent of respondents regularly investigate what the end user wants in the design solution.
Mean: 3.57
Standard Deviation: 1.34

### Investigate materials
86 per cent of respondents do investigate materials.
63 per cent of respondents regularly investigate materials.
Mean: 3.18
Standard Deviation: 1.35

### Investigate production processes
92 per cent of respondents do investigate production.
56 per cent of respondents regularly investigate production.
Mean: 3.38
Standard Deviation: 1.29

### Investigate the success of the final design once on market
90 per cent of respondents do investigate the success of the final design once on the market.
58 per cent of respondents regularly investigate the success of the final design once on the market.
Mean: 3.08
Standard Deviation: 1.27

### Test draft designs with end users
72 per cent of respondents do test draft designs with end users.
61 per cent of respondents test draft designs with end users rarely, if ever.
Mean: 2.48
Standard Deviation: 1.33

### Investigate technology
84 per cent of respondents do investigate technology.
57 per cent of respondents investigate technology rarely, if ever.
Mean: 2.94
Standard Deviation: 1.29
In addition to the ordinal data collected via question 19 of the practitioners' survey about topics commonly investigated, question 22 asked respondents: *What do you do with the information you gather?* To ensure the survey was not too long or complicated for respondents, question 22 requested only binary responses (as opposed to the 5-point likert-type scale used in the three preceding questions) with an open response space also provided for other answers. This question sought further details about the purposes for and factors due to which practitioners engage with research.

As shown in Figure 9, the most commonly reported use for gathered information was to *generate or develop design options*, 92.9 per cent (*N* = 197), closely followed by *to explore or define the design problem*, 86.3 per cent (*N* = 183) and *verbally communicate it to clients*, 82.5 per cent (*N* = 175).

In contrast, the least commonly reported uses for gathered information were to *do nothing with it*, 0 per cent (*N* = 0), *sell it*, 0.9 per cent (*N* = 2), and to *publish it*, 2.4 per cent (*N* = 5).

Interestingly, while 61.8 per cent (*N* = 131) of practitioner respondents reported they use gathered information to evaluate draft designs in question 22 of the survey (see Figure 9), in question 19, 61 per cent (*N* = 129) responded they test draft designs with users rarely, if ever (see Table 19).
Do communication designers perceive research engagement as important for practising design?

Question 25 of the communication designers’ survey asked designers; Regardless of how you are currently able to engage with research during your design work, how important do you believe engaging with research is to practising professionally as a communication designer?
Responses were collected on a five-point ordinal scale (irrelevant, of little importance, of moderate importance, very important, extremely important).

As shown in Table 20, the vast majority of respondents, 92.45 per cent (N = 196), indicated they considered engagement with research to be very, or extremely important to practising as a communication designer. No respondents indicated they considered engagement with research to be irrelevant to practising.

Table 20: Practitioners’ survey data relating to perceived importance of research

<table>
<thead>
<tr>
<th>How important is engaging with research to practising as a communication designer in Australia?</th>
</tr>
</thead>
<tbody>
<tr>
<td>92 per cent of respondents indicated they believe that engaging with research is very important or extremely important</td>
</tr>
<tr>
<td>Mean: 4.37</td>
</tr>
<tr>
<td>Standard Deviation: .72</td>
</tr>
</tbody>
</table>

In-depth statistical analysis of the practitioners’ survey

Following preliminary analysis of the practitioners’ survey data through examining frequencies for dependent variables, more in-depth statistical analysis was performed that examined the dependent and independent variables in relation to each other. This level of analysis was undertaken in accordance with the statistically rigorous approaches of previous studies of practitioners’ research engagement in other fields (as summarised previously in Table 10, p. 126).

For the present study in-depth statistical analysis was conducted in two stages. First, Exploratory Factor Analysis (EFA) was conducted to discover whether the data collected could be used to measure a designers’ level of research engagement in terms of reading and conducting research. This sought to reduce the volume of data, identify underlying factors that existed within the variables and develop preliminary scales for measuring communication design practitioners’ research activities.
While previous studies of practitioners’ research engagement did not conduct EFA, they did employ scales of measurement that were proven effective across multiple studies. Therefore, due to the absence of an established relevant scale for the measurement of practitioner research engagement in any design profession EFA was undertaken as a necessary first step in the present study.

For the second stage of in-depth statistical analysis, factorial Multivariate Analysis of Variance (MANOVA) was conducted to discover whether any significant differences in research engagement existed between groups based on 13 independent variables hypothesised to be related to practitioners’ research engagement. For example, to learn: do higher qualified respondents generally engage more with conventional research than lower qualified respondents? Or, do less experienced designers read for more of their projects than more experienced designers do?

While past studies of practitioners’ research engagement commonly conducted ANOVA (see Table 10, p. 126), MANOVA was more appropriate for this step in the present study. This was because while ANOVA and MANOVA both analyse variance within data, MANOVA was able to simultaneously test multiple dependent variables in one test.

While the in-depth analysis arrived at some interesting results, multiple assumptions of theoretical and practical limitations of EFA and MANOVA were not met or were violated, so the reliability and validity of the results were unproven. Due to substantial concern about these limitations, as well as the sufficiency of multiple other methods of quantitative and qualitative analysis employed within the investigation, it was deemed most appropriate for the in-depth statistical tests to be treated as secondary to the main study, and the results to be regarded as tentative or speculative only.

Therefore, the full description of in-depth statistical analysis and results is included within this thesis as an appendix only and the results were retained in the subsequent stages of the study only for speculative exploration and discussion.

As the findings from the in-depth statistical analysis were retained in a limited role for stages two and three of the study a brief summary of the statistical results are presented next. For the full report of in-depth statistical analysis and findings, including explanation of the extent to which the tests’ assumptions were met, please see Appendix F.
Through EFA four factors were identified within the data. The value for each of these factors represented the extent to which each respondent to the practitioner survey engaged with the four activities of: investigating context, investigating production, reading, and conducting conventional research in the preceding 12 months.

The mean value of data for these factors indicated that, on average, respondents reported they had been investigating context and investigating production for just over half of their projects. On average respondents reported conducting reading for just under half of their projects and conducted conventional research for only a few of their projects.

Following EFA, MANOVA was conducted to discover whether any significant differences in research engagement existed between distinctive types of respondents in terms of their engagement with research.

The final results of the MANOVA were as follows:

- Designers who had worked overseas reported conducting conventional research significantly (albeit slightly) more frequently than designers who had not worked overseas.

- Designers who worked in design studios reported investigating production issues the most; followed by in-house designers who worked in non-design organisations, freelance designers, and respondents who worked in advertising agencies.

- There was a positive linear relationship between how systematic a designer claimed to be and how much they investigated context and conducted conventional research. That is, those respondents who indicated that they were not at all systematic in their information gathering and use reported they investigated context and conducted conventional research the least often, while respondents who indicated they were highly systematic reported that they investigated context and conducted conventional research the most of all respondents.

- Finally, those who reported the belief that research is extremely important for practising communication design reported higher levels of investigating context and reading than those who indicated they believed that engaging with research was of little importance.
While these findings supported some hypotheses about which practice situations might be conducive to, or require, more research engagement, it was surprising that other hypotheses were not supported. For example, these findings indicated that no other demographics, including how highly qualified a designer is or how many years of experience they have, correlated with the extent the respondents engaged with research through investigating production, reading, investigating context, and conducting conventional research.

Analysis of open questions from the practitioners’ survey

While the survey data collected during stage one was predominantly analysed via the quantitative methods described already, the data collected via the two open questions were analysed qualitatively. Responses to these questions were considered particularly valuable for understanding respondents’ beliefs because no pre-determined response options were offered that could have potentially influenced answers. Also, analysis of the responses was based on the themes found within data received, rather than pre-determined categories.

The first open question in the practitioners’ survey asked respondents: In your opinion, what is research? The data collected were analysed via Excel spreadsheet to identify the qualities and criteria that respondents most commonly referred to.

Within the practitioners’ responses, 47 different themes were identified. 83 per cent of respondents, \( N = 176 \) described research as a verb, that is, an activity, with only a few, 4.2 per cent \( N = 9 \), referring to research as a noun, that is, being an outcome or product of investigation with the remaining definitions being non-specific.

Most practitioners explained what research was by describing the purposes research fulfills, what kinds of activities are involved in research, or by describing a combination of both, as shown in Figure 10. Only 11 practitioners didn’t define research by describing a type of activity or purpose of research. These 11 participants either didn’t respond to this question or responded in a highly ambiguous way, for example by responding that research was “taking a wider view”.
Of the practitioner respondents, 73.6 per cent \( (N = 156) \) expressed their opinion of what research is by describing its purpose or purposes. The practitioners referred to a total of 17 different purposes of research. The purposes referred to most often were:

- Gain deeper or more accurate understandings, 27.8 per cent \( (N = 59) \)
- Inform decisions or processes, 25.9 per cent \( (N = 55) \)
- Understand context of a project, for example; background, marketplace, competitors, previous similar projects, or current trends, 17.9 per cent \( (N = 38) \)
- Explore or define the brief, problem or project, 14.2 per cent \( (N = 30) \)
- To produce the best design outcomes, 11.8 per cent \( (N = 25) \)

Of the practitioner respondents, 72.2 per cent \( (N = 153) \) expressed their opinion of what research is by describing what kind of activity or activities it involved. The following six types of activity were identified most commonly within the responses:

- Collecting or gathering information, 41 per cent \( (N = 87) \)
- Investigating, searching or discovering, 37.7 per cent \( (N = 80) \)
- Analysing, synthesizing or interpreting, 14.6 per cent \( (N = 31) \)
- Referencing design precedents, 3.8 per cent \( (N = 8) \)
• Communicating or publishing the findings, 1.9 per cent \((N = 4)\)

• Being systematic, methodical or thorough, 1.9 per cent \((N = 4)\)

Of the practitioner respondents, 12.3 per cent \((N = 26)\) referred to one or more specific methods that would constitute research. All of these responses mentioned specific methods in addition to describing a type of activity, a purpose, or both. A total of 11 method-related themes were referred to, with the following five being most common:

• Reading, 6.6 per cent \((N = 14)\)

• Observing, 3.3 per cent, \((N = 7)\)

• Interviews or talking to people, 2.8 per cent \((N = 6)\)

• Searching online material including blogs, 2.8 per cent, \((N = 6)\)

• Experimenting, 2.4 per cent, \((N = 5)\)

The final open question of the practitioners' survey invited participants to enter any extra comments they wished to offer. These were also analysed via Excel spreadsheet to identify the most common themes within the data. Of the 212 practitioner surveys included in the analysis, 60 offered additional comments. The most common points offered in the open feedback were:

• Research is important to communication design practice and/or me, 13.2 per cent \((N = 28)\)

• The cost of research is a barrier, 5.7 per cent \((N = 12)\)

• Client disposition can be a barrier, 4.2 per cent \((N = 9)\)

• Client size can be a barrier in that small clients can’t afford research, 3.3 per cent \((N = 7)\)

• Lack of time is a barrier, 2.4 per cent \((N = 5)\)

• Intuition of a designer is important, separate, or in addition to, research, 1.9 per cent \((N = 4)\)
Academics’ survey findings

Descriptive statistics for respondents to the academics’ survey

As noted previously, the sample size of respondents to the academics’ survey (N = 56) was not unexpected due to the small size of the population of communication design academics in Australia, found to be around 117 people during data collection. While this meant the survey results were not ideal for generalisation, and unfortunately were unsuitable for in-depth statistical analysis, they were interesting to compare with the practitioners’ survey responses on a simple level to gauge how similar the academic and practitioner responses were.

The distribution of gender, age, years of experience, and level of qualification was unknown for the population of communication design academics in Australia and therefore it was not possible to determine whether the sample of respondents was representative of the population in these dimensions. However, these independent variables were still examined to ensure responses were received from a broad range of academics (see Appendix G for details) as was done for the practitioners’ survey.

Gender was somewhat unbalanced with 60.7 per cent (N = 34) females and 39.3 per cent (N = 22) males. The distribution of respondents by age group covered a slightly smaller range compared with the practitioners’ survey, with the most common age group being 40–49 years and therefore slightly older than the average of 30–39 years for the practitioners. The distribution of years of experience as a designer was very similar to the practitioners’ survey, as was the proportion of respondents who had worked as a designer overseas, which was 28.6 per cent of academic respondents (compared with 26.9 per cent of practitioners).

The distribution of highest level of design qualification was broader within the academic sample than that of the practitioners’ survey and was negatively skewed, as no design practitioners indicated they held a design doctorate, yet 11 academic respondents did. The most common qualification for academics was a Masters degree, compared with a Bachelor degree for practitioners. Also, a substantially greater proportion of the academic respondents held no design qualification, 17.86 per cent (N = 10) compared with 9.43 per cent (N = 20) of design practitioners who did not hold a design qualification.
A greater proportion of the academic respondents held a non-design qualification, 53.57 per cent ($N = 30$) compared with 39.62 per cent ($N = 84$), of design practitioners. And again, the range of non-design qualifications held by academic respondents was larger than those of practitioners due to doctorates only being held by the academics.

The geographic distribution of academic respondents was substantially weighted towards Victoria, as was the case with practitioner respondents, which was attributed to the researcher’s personal network of contacts at Melbourne universities. The only known indication of the geographic distribution of the communication design academics’ population was the data for the number of continuing staff collected from most universities during stage one of the present study. These data indicated that, in contrast to the distribution of graphic design enterprises, the majority of communication design academics at universities work in Victoria, 37.61 per cent ($N = 44$), closely followed by New South Wales, 35.89 per cent ($N = 42$), with Queensland and South Australia equal third largest, each being 9.40 per cent ($N = 11$), then the Australian Capital Territory, 5.13 per cent ($N = 6$), Western Australia, 1.71 per cent ($N = 2$), and the Northern Territory, 0.95 per cent ($N = 1$). No data were received from Tasmania, however, as one of Australia’s smallest states in terms of population, Tasmania was not expected to have many communication design academics. In comparison with this distribution of communication design academics around Australia, the survey sample’s geographic distribution is over-represented for Victoria (by more than twice the required number) and is missing any responses from Tasmania, but the other states were represented in the approximately correct proportions to each other.

As was the case with the practitioners’ survey it was not possible to determine whether the sample of academic survey respondents was representative of the population of communication design academics in Australia, mainly due to a lack of data about the population. However, based on the review of these independent variables, the sample was deemed to include a broad enough range of respondents to gather useful insight and comparisons with practitioners’ opinions.

**Preliminary analysis of the academics’ survey**

Questions 14, 15, 16 and 21 of the academics’ survey asked participants about what research engagement they believed was typically taking place in professional communication design practice in Australia and how important they believed research engagement was to practising professionally. These questions corresponded to
questions 19, 20, 21 and 25 of the practitioners’ survey and asked about the same specific activities, i.e. the extent the designers typically gather information about 11 typical topics, conduct 10 particular research methods, and read from seven common sources of literature, along with the opportunity to add other topics, activities and reading materials via optional open response spaces. Responses to these questions were collected from academics primarily to compare them with the practitioners’ responses about their own practises. This comparison sought to discern how accurate the academics’ perceptions of design practice were.

As was conducted for the practitioners’ survey, data collected via these survey questions were output as bar graphs and reviewed in relation to whichever of the main research questions they addressed. Each item was evaluated in two ways, as explained in the previous preliminary analysis of the practitioners’ survey data. First, data were calculated to determine what proportion of designers was believed to conduct a given activity (to any extent), and second, data were calculated to determine what proportion of designers conducted a given activity regularly.

The results of these analyses will now be presented in relation to the present study’s second main research question:

- How are practitioners engaging with research in Australian communication design field and why?

Particularly in terms of the related sub question:

- What perceptions do academics hold of practitioners’ engagement with research?

What perceptions do academics hold of how practitioners engage with research?

As summarised in Table 21, respondents to the academics’ survey believed that communication design practitioners did conduct—to some extent—all of the 10 specific methods of investigation included in the questionnaire. Also, as shown in Table 22, of the four types of research literature surveyed, academic respondents believed practitioners read from all of them to some extent. On a simplistic level this pointed to the conclusion that most academics believed designers typically do engage with research via conducting investigations and reading research literature.

However, as was the case with the preliminary analysis of data from the practitioners’ survey, when the second statistic was examined and the extent of engagement was
taken into consideration, the number of ways that practitioners were believed to engage with research regularly dropped substantially. Of the 10 specific research methods surveyed, academics indicated they believed designers only conducted three regularly, and these were less conventional research methods of *site visits and evaluations*, *in-person meetings* and *online searches*. A fourth item, *observations*, sat on the borderline, with exactly half of academics believing that designers conduct observations regularly. As this did not constitute a majority of respondents it was concluded that overall, academics believed designers do not typically conduct *observations*. Further to this, of the four types of research literature designers were asked about, respondents to the survey believed that designers read from none of them regularly.
### Table 21: Summary of academics’ survey data relating to if and how designers conduct research

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of Academics Believing Designers Conduct</th>
<th>Percentage of Academics Believing Designers Conduct Rarely, if ever.</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archival searches</td>
<td>73%</td>
<td>66%</td>
<td>2.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Focus groups and workshops</td>
<td>77%</td>
<td>86%</td>
<td>2.00</td>
<td>.83</td>
</tr>
<tr>
<td>Cultural probes</td>
<td>57%</td>
<td>82%</td>
<td>1.77</td>
<td>.79</td>
</tr>
<tr>
<td>Questionnaire surveys</td>
<td>64%</td>
<td>87%</td>
<td>1.85</td>
<td>.85</td>
</tr>
<tr>
<td>Experiments</td>
<td>62%</td>
<td>78%</td>
<td>1.89</td>
<td>.87</td>
</tr>
</tbody>
</table>
A profession in transition: Practitioners’ research engagement in the Australian communication design field

(Table 21 continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage of Academics</th>
<th>Percentage of Academics</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>82%</td>
<td>57%</td>
<td>2.45</td>
<td>1.09</td>
</tr>
<tr>
<td>Site visits and evaluations</td>
<td>89%</td>
<td>66%</td>
<td>2.96</td>
<td>1.14</td>
</tr>
<tr>
<td>Observations</td>
<td>78%</td>
<td>50%</td>
<td>2.50</td>
<td>1.10</td>
</tr>
<tr>
<td>Online searches</td>
<td>91%</td>
<td>87%</td>
<td>4.00</td>
<td>1.22</td>
</tr>
<tr>
<td>In-person meetings</td>
<td>96%</td>
<td>92%</td>
<td>4.09</td>
<td>.98</td>
</tr>
</tbody>
</table>

Interviews
82 per cent of academics believed that designers conduct interviews. 57 per cent of academics believed that designers conduct interviews rarely, if ever.
Mean: 2.45
Standard Deviation: 1.09

Site visits and evaluations
89 per cent of academics believed that designers conduct site visits and evaluations. 66 per cent of academics believed that designers conduct site visits and evaluations regularly.
Mean: 2.96
Standard Deviation: 1.14

Observations
78 per cent of academics believed that designers conduct observations. 50 per cent of academics believed that designers conduct site observations regularly.
Mean: 2.50
Standard Deviation: 1.10

Online searches
91 per cent of academics believed that designers conduct online searches. 87 per cent of academics believed that designers conduct online searches regularly.
Mean: 4.00
Standard Deviation: 1.22

In-person meetings
96 per cent of academics believed that designers conduct in-person meetings with clients. 92 per cent of academics believed that designers conduct in-person meetings with clients regularly.
Mean: 4.09
Standard Deviation: .98
### Table 22: Summary of academics’ survey data relating to if and from where designers read research

#### Reading academic journals
- 52 per cent of academics believed that designers do read academic journals.
- 95 per cent of academics believed that designers read academic journals rarely, if ever.
  
  Mean: 1.59  
  Standard Deviation: .65

#### Reading research the designer commissioned
- 82 per cent of academics believed that designers do read research they’ve commissioned.
- 60 per cent of academics believed that designers read research they’ve commissioned rarely, if ever.
  
  Mean: 2.29  
  Standard Deviation: .85

#### Reading research the client commissioned
- 93 per cent of academics believed that designers do read research the client has commissioned.
- 52 per cent of academics believed that designers read research the client has commissioned rarely, if ever.
  
  Mean: 2.54  
  Standard Deviation: .81

#### Reading conference materials
- 55 per cent of academics believed that designers do read conference material.
- 93 per cent of academics believed that designers read conference material rarely, if ever.
  
  Mean: 1.64  
  Standard Deviation: .67

#### Reading mass-market publications
- 96 per cent of academics believed that designers do read mass-market publications.
- 71 per cent of academics believed that designers read mass-market publications regularly.
  
  Mean: 3.02  
  Standard Deviation: .863
Overall, on the basis of these data, the preliminary analysis of the academics’ survey found that while the majority of the academic respondents believed designers do engage with research through reading or conducting it to some extent, such engagement was believed to not be regular and was understood to be typically via informal methods of investigation that were not very systematic and thus would be unlikely to qualify as evidence-based or research-led practice.

Also of relevance to understanding how academics perceived designers’ research engagement was how systematic academics believed designers typically are when they gather and use information. As shown in Table 23, the vast majority of academics, 89.3 per cent, \((N = 50)\) believed that design practitioners are not at all or only somewhat systematic when they gather and use information, as compared with 76 per cent of practitioners who reported these levels of systematicity.

This indicated most academics believe that when designers engage with research through gathering and using information, it is done in a relatively unsystematic fashion.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Table 23: Academics survey data relating to how systematic they believe designers are when gathering and using information

| How systematic is information gathering and usage | 71.4 per cent of academics believed designers are systematic to some extent in their information gathering and use. | 89.3 per cent of academics believed designers are only somewhat systematic or are not at all systematic in their information gathering and use. |
| Mean: 1.82 |
| Standard Deviation: .58 |

What perceptions do academics hold of why practitioners engage with research?

When answering question 14 of the academics’ survey, respondents reported to what extent they believed designers investigate common topics for their projects, thereby identifying the purposes or reasons for which they believed practitioners conduct and read research. These data provided evidence that most academics believed designers gather information to investigate all of the 11 topics listed in the survey. When the extent to which the designers were perceived to investigate these topics was taken into account the majority of academics still believed that practitioners investigated most topics regularly. The only uses that academics typically believed were rare were testing draft designs with end users and investigating the success of the final design once on the market.
Table 24: Summary of academics' survey data in relation to why designers engage with research

<table>
<thead>
<tr>
<th>Research Engagement</th>
<th>Academics’ Belief Percentage</th>
<th>Academics’ Regularity Percentage</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigate a client’s previous design efforts</td>
<td>95%</td>
<td>73%</td>
<td>3.32</td>
<td>1.03</td>
</tr>
<tr>
<td>Investigate a client’s current competitors</td>
<td>93%</td>
<td>79%</td>
<td>3.46</td>
<td>1.04</td>
</tr>
<tr>
<td>Investigate whether the client’s brief is appropriate or ways to improve it</td>
<td>91%</td>
<td>70%</td>
<td>3.16</td>
<td>1.14</td>
</tr>
<tr>
<td>Investigate who the end users are</td>
<td>93%</td>
<td>79%</td>
<td>3.55</td>
<td>1.22</td>
</tr>
<tr>
<td>Investigate the end users’ values</td>
<td>88%</td>
<td>71%</td>
<td>3.11</td>
<td>1.17</td>
</tr>
</tbody>
</table>
### Investigate what the end user wants in the design solution

86 per cent of academics believe designers do investigate what the end user wants in the design solution.

66 per cent of academics believe designers regularly investigate what the end user wants in the design solution.

Mean: 3.11  
Standard Deviation: 1.26

### Investigate materials

96 per cent of academics believe designers do investigate materials.

86 per cent of academics believe designers regularly investigate materials.

Mean: 3.59  
Standard Deviation: 1.02

### Investigate production processes

95 per cent of academics believe designers do investigate production.

82 per cent of academics believe designers regularly investigate production.

Mean: 3.55  
Standard Deviation: 1.23

### Investigate the success of the final design once on market

84 per cent of academics believe designers do investigate the success of the final design once on the market.

54 per cent of academics believe designers investigate the success of the final design once on the market rarely, if ever.

Mean: 2.57  
Standard Deviation: 1.13

### Test draft designs with end users

80 per cent of academics believe designers do test draft designs with end users.

64 per cent of academics believe that designers test draft designs with end users rarely, if ever.

Mean: 2.32  
Standard Deviation: 1.03

### Investigate technology

96 per cent of academics believe designers do investigate technology.

82 per cent of academics believe designers investigate technology rarely, if ever.

Mean: 3.39  
Standard Deviation: 1.00
As was the case with the practitioners’ survey, in addition to the ordinal data about topics commonly investigated, academics were asked: *What do you believe designers do with the information they gather?* To gain further insights into the reasons for which designers engage with research. Binary responses were collected for the 11 pre-populated response options, with the opportunity for academic respondents to add any other uses as well.

As shown in Figure 11, academics most commonly believed gathered information was used to *verbally communicate to clients*, 85.7 per cent (*N* = 48), closely followed by to *generate or develop design options*, 82.1 per cent (*N* = 46) and *explore or define the design problem*, 78.6 per cent (*N* = 44) which came equal third with *include it in written rationales*, 78.6 per cent (*N* = 44).

In contrast, the least commonly reported uses for gathered information were to *do nothing with it*, 0 per cent (*N* = 0), *sell it*, 1.8 per cent (*N* = 1) and to *publish it*, 3.6 per cent (*N* = 2).
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Emma Fisher

Figure 11: What academics believe designers use the information they gather for

Do communication design academics perceive research engagement as important for practising design?

Question 21 of the academics' survey asked respondents; Regardless of how designers are currently able to engage with research during their design work, how important do you believe engaging with research is to practising professionally as a communication designer?
Responses were collected on a five-point ordinal scale; irrelevant, of little importance, of moderate importance, very important, extremely important.

As shown in Table 25, the vast majority of respondents, 92.45 per cent (N = 196), indicated they considered engagement with research to be very or extremely important to practising as a communication designer. No respondents indicated they considered engagement with research to be irrelevant to practising professionally.

Table 25: Practitioners’ survey data relating to perceived importance of research

<table>
<thead>
<tr>
<th>Importance of research engagement for practising</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant</td>
<td>2</td>
</tr>
<tr>
<td>Of little importance</td>
<td>3</td>
</tr>
<tr>
<td>Of moderate importance</td>
<td>8</td>
</tr>
<tr>
<td>Very important</td>
<td>133</td>
</tr>
<tr>
<td>Extremely important</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
</tr>
</tbody>
</table>

Analysis of open questions from the academics’ survey

Similar to the practitioners’ survey the academics’ survey asked respondents; *In your opinion, what is research?* As was done for the practitioners’ survey data collected via this open question were analysed via Excel spreadsheet to identify the qualities and criteria that respondents commonly referred to.

Academics referred to 35 different themes when describing what they believed research is. As practitioners did, academics most commonly described research as a verb, i.e. an activity, 94.6 per cent (N = 53), with only a few referring to research as a noun, i.e. an outcome or product of investigation, 3.6 per cent (N = 2). Three definitions were non-specific in this regard.

As was the case with practitioner respondents, most academics explained what research was by describing the *purposes* research fulfills, what kinds of *activities* are involved in research or by describing a combination of both (see Figure 12). Only three academics didn’t define research by describing a type of activity or purpose of research.
These three participants either didn’t respond to this question or responded in a highly ambiguous way, for example by responding that research was “associated with broad questions and the design field”.

Of academic respondents, 73.2 per cent \((N = 41)\) expressed their opinion of what research is by describing what kind of activity it involved. The five activities referred to were:

- Investigating, searching or discovering, 53.6 per cent \((N = 30)\)
- Collecting or gathering information, 28.6 per cent \((N = 16)\)
- Being systematic, in-depth or methodical, 23.2 per cent \((N = 13)\)
- Analysing, synthesizing or interpreting, 16.1 per cent \((N = 9)\)
- Communicating or publishing the findings, 3.6 per cent \((N = 2)\)

Of academic respondents, 66 per cent \((N = 37)\) expressed their opinion of what research is by describing its purpose. A total of ten different aims or purposes were identified within the academics’ responses. The most common referred to were:
Gain deeper or more accurate understandings, 37.5 per cent ($N = 21$)

Acquire new knowledge, 16.1 per cent ($N = 9$)

Problem solve or answer a question, 16.1 per cent ($N = 9$)

Inform decisions or processes, 7.1 per cent ($N = 4$)

To build knowledge base of design philosophies, 7.1 per cent ($N = 4$)

Of the academic respondents, 21.4 per cent ($N = 12$) referred to one or two specific methods that would constitute research in their response. All of these responses mentioned specific methods in addition to describing a type of activity, a purpose, or both. A total of nine method-related themes were referred to, as follows:

Using methods (type unspecified) in general, 7.1 per cent ($N = 4$)

Experimenting, 5.4 per cent ($N = 3$)

Testing prototypes, 3.6 per cent ($N = 2$)

Reading, observing, collecting online materials, conducting questionnaire surveys, market research and focus groups, each 1.8 per cent ($N = 1$)

Academics were also asked two open questions that were additional to those posed to practitioners to gain extra insight into the conceptions of research within the discipline:

In your opinion what is design research?

What key benefits to designers do you believe engaging with research offers?

Responses received to these were also analysed via Excel spreadsheet.

Academics were asked the first question to see whether design research was perceived by academics as an activity or outcome of academia, practice, or both. This question was only included in the academics’ survey because, as discussed previously in Chapter 1, the use of the term design research to refer to academic inquiry was only evident within the academic design literature.
Of the academics’ responses, 42.9 per cent (N = 24) only described design research as being an activity of design practice, 14.3 per cent (N = 8) described it as an activity of both practice and academia, 10.7 per cent (N = 6) only described it as an activity of academia and the remaining 32.1 per cent (N = 18) described design research in a generic way that could have related to either or both areas of the field.

As discussed in Chapter 1, within the academic literature design research is very rarely discussed as being an activity to be conducted by design practitioners, instead being used as a reference to the work of design scholars, academics and professional researchers. The prevalence of academic responses received during the present study that referred to design research as an activity of practice clearly contrasts the concept of design research that is most commonly discussed in the literature. This could be attributed—partially or possibly even totally—to the question being posed at the end of a survey that focused on design practice. However, with more than half of all academic responses referring to design research having a role in practice it could be that Australian communication design academics may see design research as more relevant to professional practice than their international colleagues do.

The definitions of design research collected from academics were analysed thematically to identify the qualities and criteria that academics most commonly referred to when defining design research. This involved counting the number of academics that referred to any given theme.

The types of activity most commonly referred to by academics when defining design research were:

- Investigating, searching or discovering, 46.4 per cent (N = 26)
- Collecting or gathering information, 37.5 per cent (N = 21)
- Being systematic, in-depth or methodical, 23.2 per cent (N = 13)
- Analysing, synthesizing or interpreting, 21.4 per cent (N = 12)
- Developing knowledge, 19.6 per cent (N = 11)

The purposes most commonly referred to by academics when defining design research were:

- Gain deeper or more accurate understandings, 30.4 per cent (N = 17)
• Acquire new knowledge, 25 per cent ($N = 14$)
• Problem solve or answer a question, 23.2 per cent ($N = 13$)
• Inform decisions or processes, 23.2 per cent ($N = 13$)
• To understand or explore the design brief, 12.5 per cent ($N = 7$)

Of particular interest were the strong similarities between the themes academics most commonly referred to when defining research and the themes they referred to when defining design research. That is, the four most common types of activity and four most common purposes were the same in each instance, suggesting academics conceived design research to be very similar to research. This finding was further supported by several respondents’ explicit and implicit references to design research and research being very similar or the same. For example one academic wrote: “it SHOULD be the above. That is, just because it’s a design field doesn’t mean practitioners are exempt from conducting proper and thorough research.” And “Same as above, but particularly in design area.”

Within the responses received from academics, 31 different benefits to practitioners of research engagement were identified. The most common were:

• Enhancing design outcomes, 39.2 per cent ($N = 22$)
• Gain expanded awareness and insights into how the world works and why, 17.8 per cent ($N = 10$)
• Improved understanding of the end user or audience, 16.1 per cent ($N = 9$)
• Improves design process or practice, 14.3 per cent ($N = 8$)
• Supports problem solving and answering questions, 10.7 per cent ($N = 6$)

The final open question of the academics’ survey invited participants to enter any extra comments they wished to offer. These were also analysed via Excel spreadsheet to identify the most common themes within the data.
Of the 56 academic surveys included in the analysis, 18 offered additional comments about the role of research in design. A wide range of topics was identifiable in the comments received. The most common points offered in the open feedback were:

- Engaging with research is important for practising design, 12.5 per cent ($N = 7$)
- Cost is a barrier, 3.6 per cent ($N = 2$)
- Client disposition is a barrier, 3.6 per cent ($N = 2$)
- Designers’ intuition or practice skills are still important, 3.6 per cent ($N = 2$)

A further 19 different points were identified within the academic’s general comments, however only one participant referred to each one, suggesting no further patterns. Comments ranged from mentioning barriers to practitioners’ research engagement (such as lack of time and small size of some clients), to the belief that practitioners consider research to be irrelevant to the real world, don’t engage much with research, or even shouldn’t conduct research, but read it instead.

**Comparison of the practitioners and academics’ survey data**

As mentioned at the start of this Chapter, academics’ opinions about how and why they believe communication designers in Australia presently engage with research were primarily sought for comparison with the self-reported attitudes and behaviour of the practitioners. As also explained previously, due to the small number of responses received to the academics’ survey, the exercise of comparing distribution of responses was purely for simple analysis only and it was not possible to conduct in-depth statistical analysis of the data as was conducted using the practitioners’ data. Future investigations that are able to obtain larger samples could conduct tests to statistically compare the opinions of academics and practitioners and identify whether they differ statistically significantly in any regards.

The practitioners and academics’ data were compared in three ways: comparison of preliminary findings, comparison of descriptive statistics for dependent variables within the survey data and visual comparison of graphs. All three of these comparisons used responses to questions 19, 20, 21, 23 and 25 of the practitioners’ survey, and the equivalent responses from the academics’ survey (which were to questions 14, 15, 16, 18 and 21). These were the questions that sought to measure designers’ research
engagement (and academics’ perceptions of designers’ research engagement) by asking participants about topics designers investigate, methods designers conduct, sources from which designers read, systematicity of designers’ information gathering and use, and perceived importance of research engagement for practising communication design.

Comparison of preliminary findings

As discussed previously in the preliminary analyses of data from the practitioners and academics’ surveys, the data from the two surveys were reviewed to discover whether the majority of respondents in each cohort reported a given activity was ever conducted, and also whether the given activity was regularly conducted, that is, conducted for half or more of a designer’s projects in the preceding 12 months.

To compare these findings, they were tabulated as shown in Table 26, Table 27 and Table 28. As can be seen in the columns titled comparison, there was extensive agreement between the two cohorts, with findings for 24 of the 41 items matching and findings for a further 14 items found to be close.

Inspection of the only two items on which the two cohorts clearly disagreed—whether designers use the information they gather to write return briefs and evaluate draft designs as shown in Table 27—revealed that the negative positions were very close to being 50/50, with 49.1 per cent of practitioners reporting they use the information they gather to write return briefs, and 48.2 per cent of academics indicating they believed designers use the information they gather to evaluate draft designs. Therefore, even when the cohorts held contrasting opinions there was only a relatively small difference and it was only due to the cohorts’ responses being located close to 50 per cent that resulted in the cohorts being found to disagree.
Table 26: Comparison of practitioner and academic preliminary findings part one

<table>
<thead>
<tr>
<th>Activity</th>
<th>Practitioners reported</th>
<th>Academics reported</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ever conducted?</td>
<td>Regularly conducted?</td>
<td>Ever conducted?</td>
</tr>
<tr>
<td>Conduct archival searches</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct focus groups and workshops</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct cultural probes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct questionnaire surveys</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct experiments</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct interviews</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct site visits and evaluations</td>
<td>Yes 50/50</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct observations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes 50/50</td>
</tr>
<tr>
<td>Conduct online searches</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Conduct in-person meetings</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Read academic journals</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Read research the designer has commissioned</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Read research the client has commissioned</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Read conference materials</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Read mass-market publications</td>
<td>Yes 50/50</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Read design publications</td>
<td>Yes 50/50</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Read standards</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate a client’s previous design efforts</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate a client’s current competitors</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate the client’s brief</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate who the end users are</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate the end users’ values</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate what the end user wants in the design solution</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate materials</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate production processes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate the success of the final design once on market</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Test draft designs with end users</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Investigate technology</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 27: Comparison of practitioner and academic preliminary findings part two

<table>
<thead>
<tr>
<th>Question</th>
<th>Majority of practitioners reported</th>
<th>Majority of academics reported</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use it to write return briefs</td>
<td>No</td>
<td>Yes</td>
<td>Disagree</td>
</tr>
<tr>
<td>Include it in written rationales for designs</td>
<td>Yes</td>
<td>Yes</td>
<td>Agree</td>
</tr>
<tr>
<td>Include it in written follow-up reports</td>
<td>No</td>
<td>No</td>
<td>Agree</td>
</tr>
<tr>
<td>Verbally communicate it to clients</td>
<td>Yes</td>
<td>Yes</td>
<td>Agree</td>
</tr>
<tr>
<td>Use it to explore or define the design problem</td>
<td>Yes</td>
<td>Yes</td>
<td>Agree</td>
</tr>
<tr>
<td>Use it to generate or develop design options</td>
<td>Yes</td>
<td>Yes</td>
<td>Agree</td>
</tr>
<tr>
<td>Use it to evaluate draft designs</td>
<td>Yes</td>
<td>No</td>
<td>Disagree</td>
</tr>
<tr>
<td>Publish it</td>
<td>No</td>
<td>No</td>
<td>Agree</td>
</tr>
<tr>
<td>Sell it</td>
<td>No</td>
<td>No</td>
<td>Agree</td>
</tr>
<tr>
<td>Retain it for future use</td>
<td>Yes</td>
<td>50/50</td>
<td>Close</td>
</tr>
<tr>
<td>Do nothing with it</td>
<td>No</td>
<td>No</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Table 28: Comparison of academic and practitioner findings part three

<table>
<thead>
<tr>
<th>Question</th>
<th>Practitioners reported</th>
<th>Academics reported</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>How systematic is information gathering and usage usually?</td>
<td>Not very systematic</td>
<td>Not very systematic</td>
<td>Agree</td>
</tr>
<tr>
<td>Is engaging with research important to practising?</td>
<td>Very</td>
<td>Very</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Comparison of descriptive statistics

The second way that the practitioners and academics’ data were compared was through reviewing the difference between the descriptive statistics for the dependent variables for which data were gathered during the surveys, i.e. via questions about perceptions of research engagement. As shown in Table 29, the practitioners’ average (mean) response to each of the 30 scale survey items, as well as the spread of opinion (standard deviation) evident within the data were compared with the academics’ mean and standard deviation for each survey question.
Table 29: Comparison of descriptive statistics for academics and practitioners’ survey data

<table>
<thead>
<tr>
<th>Activity</th>
<th>Practitioners</th>
<th>Academics</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
</tr>
<tr>
<td>Archival searches</td>
<td>1.92 .20</td>
<td>2.20 .00</td>
<td>268</td>
</tr>
<tr>
<td>Focus groups and workshops</td>
<td>1.43 .82</td>
<td>2.00 .83</td>
<td>268</td>
</tr>
<tr>
<td>Cultural probes</td>
<td>1.65 .07</td>
<td>1.77 .79</td>
<td>268</td>
</tr>
<tr>
<td>Questionnaire surveys</td>
<td>1.41 .75</td>
<td>1.85 .85</td>
<td>268</td>
</tr>
<tr>
<td>Experiments</td>
<td>1.59 .98</td>
<td>1.89 .87</td>
<td>268</td>
</tr>
<tr>
<td>Interviews</td>
<td>2.16 .27</td>
<td>2.45 .09</td>
<td>268</td>
</tr>
<tr>
<td>Site visits and evaluations</td>
<td>2.78 .28</td>
<td>2.96 .14</td>
<td>268</td>
</tr>
<tr>
<td>Observations</td>
<td>2.94 .51</td>
<td>2.50 .10</td>
<td>268</td>
</tr>
<tr>
<td>Online searches</td>
<td>3.89 .26</td>
<td>4.00 .22</td>
<td>268</td>
</tr>
<tr>
<td>In-person meetings</td>
<td>3.61 .27</td>
<td>4.09 .98</td>
<td>268</td>
</tr>
<tr>
<td>Reading academic journals</td>
<td>1.72 .98</td>
<td>1.59 .65</td>
<td>268</td>
</tr>
<tr>
<td>Reading research the designer has commissioned</td>
<td>1.71 .09</td>
<td>2.29 .85</td>
<td>268</td>
</tr>
<tr>
<td>Reading research the client has commissioned</td>
<td>2.12 .10</td>
<td>2.54 .81</td>
<td>268</td>
</tr>
<tr>
<td>Reading conference materials</td>
<td>1.75 .85</td>
<td>1.64 .67</td>
<td>268</td>
</tr>
<tr>
<td>Reading mass-market publications</td>
<td>2.81 .21</td>
<td>3.02 .863</td>
<td>268</td>
</tr>
<tr>
<td>Reading design publications</td>
<td>3.16 .19</td>
<td>3.05 .82</td>
<td>268</td>
</tr>
<tr>
<td>Reading Australian or international standards</td>
<td>1.84 .94</td>
<td>1.96 .76</td>
<td>268</td>
</tr>
<tr>
<td>Reading social media</td>
<td>2.89 .22</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>How systematic information gathering and usage is</td>
<td>2.10 .76</td>
<td>1.82 .58</td>
<td>268</td>
</tr>
<tr>
<td>Investigate a client’s previous design efforts</td>
<td>3.53 .28</td>
<td>3.32 .03</td>
<td>268</td>
</tr>
<tr>
<td>Investigate a client’s current competitors</td>
<td>3.54 .27</td>
<td>3.46 .04</td>
<td>268</td>
</tr>
<tr>
<td>Investigate the client’s brief</td>
<td>3.83 .23</td>
<td>3.16 .14</td>
<td>268</td>
</tr>
<tr>
<td>Investigate who the end users are</td>
<td>4.26 .17</td>
<td>3.55 .22</td>
<td>268</td>
</tr>
<tr>
<td>Investigate the end users’ values</td>
<td>3.69 .30</td>
<td>3.11 .17</td>
<td>268</td>
</tr>
<tr>
<td>Investigate what the end user wants in the design solution</td>
<td>3.57 .34</td>
<td>3.11 .26</td>
<td>268</td>
</tr>
<tr>
<td>Investigate materials</td>
<td>3.18 .35</td>
<td>3.59 .02</td>
<td>268</td>
</tr>
<tr>
<td>Investigate production processes</td>
<td>3.38 .29</td>
<td>3.55 .23</td>
<td>268</td>
</tr>
<tr>
<td>Investigate the success of the final design once on market</td>
<td>3.08 .27</td>
<td>2.57 .13</td>
<td>268</td>
</tr>
<tr>
<td>Test draft designs with end users</td>
<td>2.48 .33</td>
<td>2.32 .03</td>
<td>268</td>
</tr>
<tr>
<td>Investigate technology</td>
<td>2.94 .29</td>
<td>3.39 .00</td>
<td>268</td>
</tr>
<tr>
<td>How important is engaging with research to practising?</td>
<td>4.37 .72</td>
<td>4.11 .82</td>
<td>268</td>
</tr>
</tbody>
</table>
The comparison of descriptive statistics revealed the practitioners and academics’ survey responses were very close. That is, the activities practitioners reported they conduct, and opinions they expressed, were very close to the perceptions and expectations of academics. For 24 of the 30 survey items examined the difference between the mean response of the practitioners and academics was less than .5. Further to this, for the other six items the greatest difference between the practitioners and academics’ means was only .71. This indicated that there was less than one full level of response category of difference between the mean responses of the two cohorts for all of the survey items.

The biggest differences, which were where the difference between means was greater than .5, were for the following items:

- **Investigate who the end users are** difference of .71, with practitioners reporting they conduct this more than academics expected
- **Investigate whether the client’s brief is appropriate or can be improved** difference of .67, with practitioners reporting they conduct this more than academics expected
- **Investigate the end users’ values** difference of .58, with practitioners reporting they conduct this more than academics expected
- **Reading research the designer has commissioned** difference of .58, with practitioners reporting they conduct this less than academics expected
- **Investigate the success of the final design once on market** difference of .51, with practitioners reporting they conduct this more than academics expected
- **Conduct focus groups and workshops** difference of .51, with practitioners reporting they conduct this less than academics expected

The comparison of the practitioner and academics’ standard deviations revealed that, again, the two cohorts’ data were very similar. The standard deviation for practitioners’ responses was greater than that of the academics for 26 of the 30 items, indicating there was a greater spread of opinion within the practitioner cohort than existed within the academics. This may have been due to the difference in sample size.
Overall, the greatest difference between standard deviations was .41, indicating that there was less than half a response category of difference between the two cohorts' spread of opinion for all 30 items. The biggest differences all related to instances where practitioners reported a greater spread of opinion than academics did. The greatest differences were for the following items:

- Conduct observations (difference of .41)
- Reading design publications (difference of .37)
- Reading mass-market publications (difference of .35)
- Investigate materials (difference of .33)
- Reading academic journals (difference of .33)
- Test draft designs with end users (difference of .33)

Overall, the comparison of descriptive statistics for the practitioners and academics' survey responses further confirmed that the two cohorts reported surprisingly similar perceptions of the research engagement taking place in communication design within Australia.

Visual comparison of graphs

For the final comparison, the responses to each survey item were colour coded and graphed. As presented in Figure 13, Figure 14 and Figure 15, despite some minor differences of opinion, academics' perceptions of the extent to which designers investigate the listed topics, conduct the research methods in question and read from the listed sources were reasonably similar to the self-reported activities of professional designers who participated.

This further supported the conclusion that practitioners and academics held similar perceptions of the research engagement that is taking place within the Australian communication design profession.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Emma Fisher

Figure 13: Comparison of academics and practitioners’ survey data for topics designers investigate
Figure 14: Comparison of academics and practitioners’ survey data for methods of investigation designers use
When the data about what purposes designers use gathered information for were compared, again, there were extensive similarities. The same three uses were most common for both cohorts; to generate or develop design options, use to explore or define the design problem and verbally communicate to clients, although in differing orders. The three least commonly selected uses were also the same; use it for nothing, sell or publish it, although this time in the same order. The most substantial difference
between the cohorts’ responses related to *including gathered information in written rationales*, in that more academics expected this to be conducted by practitioners than practitioners reported.
Further to finding the two cohorts’ perceptions of practitioners’ research engagement and uses for gathered information to be similar, academics and practitioners’ opinions were also found to be close in relation to how systematically information is gathered and used by practitioners and the importance of engaging with research for practising communication design. As shown in Figure 17 and Figure 18, practitioners reported the belief they are slightly more systematic in their gathering and use of information than academics believed them to be and academics believed research to be slightly less important to design practice than practitioners stated.

Figure 17: Comparison of survey data for how systematic designers claimed to be, with how systematic academics believe designers typically are
Comparison of open question responses

Themes identified within responses from both cohorts to the open questions were compared. First, responses from practitioners and academics to the question: In your opinion what is research? were compared with each other, as well as with the academics’ responses to the question; What is design research? in order to search for patterns between how practitioners and academics’ characterisations compared.

As described previously, the majority of both cohorts defined these terms by describing the purpose, the types of activities involved, or a combination of both (see Figure 10, p. 175, and Figure 12, p. 191).

With regard to the types of activity that were referred to by both cohorts when defining research (and, for academics, design research), as shown in Figure 19, a similar proportion of respondents from each cohort referred to one or more activities. Also, similar proportions of the two cohorts mentioned analysing (14.6 per cent of practitioners and 16.1 per cent of academics). And communicating findings and referencing design precedents were rarely mentioned by both cohorts as being part of research.

Greater differences were evident between the proportion of practitioners and academics that referred to the other three activities. While collecting information was
the most commonly referred to activity for the practitioners, closely followed by *investigating, searching or discovering*, the inverse was true for the academics, who referred to *investigating* most, followed secondarily by *collecting information*. This appeared to reflect two differing uses for research, with practitioners clearly focused on gaining deeper understanding for specific project contexts in order to improve design outcomes, while academics’ focus was distinctly different, more commonly referring to acquisition of new knowledge, solving problems and building a knowledge base.

The most substantial area of difference (highlighted by the circle in Figure 19) was in relation to the references to research being *systematic, methodical or thorough*. A very small proportion of practitioners (1.9 per cent, $N = 4$) referred to being systematic in their definition of research, as compared with a clearly greater proportion of academics (21.4 per cent, $N = 12$). These trends were also evident when the academics’ definitions of *design research* were included in the comparison (as also shown in medium blue in Figure 19).

![Figure 19: Comparison of academics and practitioners’ survey data for types of activity mentioned in definitions of research](image-url)
When the specific purposes that were most commonly mentioned by practitioners and academics in their definitions were compared there was a mixture of similarities and differences. As shown in Figure 20, a similar proportion of respondents from the two cohorts referred to one or more purposes and *gaining deeper understanding* was the purpose most commonly mentioned by both groups. However, as highlighted in the lightest blue and orange blocks, when each cohort’s next most common responses were grouped, a clear difference was evident between the emphasis of each cohort’s characterisation of research. That is, a greater proportion of practitioners than academics referred to the aims of *informing decision-making, understanding project contexts and briefs* and *improving the design outcome*. While a greater proportion of academics referred to research being for the purpose of *acquiring new knowledge, problem solving* and *building a philosophical knowledge base*. These trends were also evident when the academics’ definitions of *design research* were included in the comparison (as appear in medium blue in Figure 20).

![Figure 20: Comparison of academics and practitioners’ survey data for purposes most commonly mentioned in definitions of research](image)

Overall, the differences between the academics and practitioners’ definitions of research appear related to the different purposes for which research is used in practice and academia. That is, Academics’ responses referred mostly to activities of systematically investigating as well as, secondarily, collecting and analysing information to seek deeper understanding for the purpose of building knowledge and
solving problems. These activities align with the university’s interests in basic research and maintaining its social position as an authority of knowledge (as summarised in Table 7, p. 113). In contrast with this, practitioners’ responses referred almost equally to activities of collecting information and investigating, followed by analysing, to gain deeper insights that can inform decisions, understand the context and task of a project and improve design outcomes. These clearly align with the practical, outcome-oriented interests of the communication design profession (as also summarised in Table 7, p. 113).

When the optional additional comments offered by practitioners and academics were compared, further similarities were found. While diverse responses were mentioned in responses from both cohorts, as shown in Figure 21, a similar proportion of academic respondents raised the six most common issues mentioned by practitioners.

![Figure 21: Comparison of academics and practitioners’ survey data for topics raised in optional additional comments](image)

Both cohorts mentioned the importance of research for communication design practice most, although both also flagged the importance of intuitive craft skills. The four other most commonly mentioned topics related to reasons for why including research in design practice is difficult, with *cost, client disposition, client size* and *lack of time* all being described as barriers to design practitioners’ research engagement.
Conclusion of Chapter 5: Summary of stage one survey findings

The results of the statistical and open question analyses of stage one survey data pointed to the following key findings that were deemed worthy of further investigation in the stage two qualitative investigation.

Definitions of research were diverse and practitioners and academics characterised research differently

Both academics and practitioners offered a wide range of opinions of what research is. This was particularly evident in the number of different themes identified in both the practitioners and academics’ open-question responses (47 and 35 different themes respectively).

While there were many different themes evident in the respondents’ definitions, patterns within the activities and purposes that were referred to by academics and practitioners revealed two distinctly different characterisations of research. While practitioners most commonly described research as an activity involving collecting information, closely followed by investigating, nearly twice as many academics referred to research as involving investigation than referred to collecting information.

A further distinction between the cohorts was evident in the purposes of research they mentioned. While gaining deeper and more accurate understanding was the most frequently mentioned purpose of research for both cohorts, after that the next four themes referred to by practitioners were all project-oriented. In contrast, the purposes that academics mentioned most frequently were directed towards general knowledge building and problem solving.

The biggest difference between the characterisations of research by the two cohorts was in relation to research being systematic. While very few practitioners mentioned being systematic, methodical or thorough, 1.9 per cent ($N = 4$), around a fifth of academics did, 21.4 per cent ($N = 12$).

Due to the diversity of themes and the apparent key differences between the characterisations held by academics and practitioners, the characterisations of research held within the field were considered important to explore further during the focus groups to identify key types of definitions understood within the field, to better
understand why they existed and to use these definitions when analysing perceptions of engagement with research.

The role and importance of being systematic was unclear

As discussed in the previous point, there was a substantial difference between the references to being systematic in the two cohorts’ definitions of research. That is, 21.4 per cent \((N = 12)\) academics referred to being systematic or thorough as being part of research, while only 1.9 per cent \((N = 4)\) of practitioners did.

The question of whether research should be systematic was particularly important within the present study for two reasons. First, as concluded from the review of definitions of research conducted in Chapter 1, systematicity is one of the most common criteria for research. And second, because both academics and practitioners’ survey responses suggested that the gathering and use of information by communication design practitioners in Australia was usually done in a fashion that was not very systematic. Therefore, as it is commonly deemed important for an investigation to be systematically conducted to qualify as research, the majority of information gathering and use by practitioners in Australia would be unlikely to qualify as constituting research under the definition of research adopted for the present study.

The other key finding from stage one that related to the role or importance of research being systematic was that the findings from the in-depth statistical analysis suggested there could be a positive linear relationship between how systematic a designer claimed to be and how much they investigated context and conducted conventional research. That is, those practitioners who indicated that they were not at all systematic in their information gathering and use reported they investigated context and conducted conventional research the least often, while respondents who indicated they were highly systematic reported investigated context and conducted conventional research the most of all respondents.

While this finding was only tentative due to the unconfirmed reliability of the in-depth statistical analysis it was noted as interesting in relation to the question of whether the research practitioners engage with needs to be systematic.

These findings from the stage one survey analysis suggested that the role and importance of research being systematic required further exploration during the stage two focus groups. Understanding the role and importance of systematicity was
considered useful for addressing the main research questions of *How is research characterised by practitioners and academics?*

**Research engagement was generally regarded as important for practising communication design, yet practitioners reported low levels of engagement with systematic research**

While evidence was found to indicate that a slight majority of communication designers who participated in the survey did engage with research in some ways within the preceding 12 months, the proportion of their projects for which they conducted and read research was low. Further to this, the methods they reported using most often were relatively informal and unsystematic. These findings suggested that the majority of respondents did not conduct research-led or evidence-based practice, despite a clear majority of respondents from both cohorts indicating that they believed engagement with research was very important for practising as a designer.

While, as acknowledged previously, this disparity between beliefs and behaviour may be due to a number of reasons, including that respondents indicated research was important due to a sense of obligation, there was also the indisputable possibility that a number of barriers were preventing practitioners from engaging with research as much as they wanted to or thought was important. This possibility was supported by findings from the analysis of the open-question responses received from academics and practitioners that voluntarily identified *time, cost, and client size and client disposition* as being barriers to reading or conducting research during communication design projects.

The hypothesis that barriers to research engagement may be preventing Australian communication design practitioners from engaging with research was also supported by the tentative findings from the in-depth statistical analysis. That is, in-depth statistical analysis found that those practitioners who responded that research is *extremely important* for practising communication design in Australia also reported significantly higher levels of *investigating context and reading* than those who indicated they believed that engaging with research was of *little importance*. This indicated that while there was substantial discrepancy between the beliefs practitioners reported and their behaviour, there was a pattern, with practitioners who claimed that research was particularly important also claiming to engage with it significantly more than their counterparts.
Experience practising outside Australia may foster research engagement

The in-depth statistical analysis carried out on the practitioners’ survey data arrived at the tentative finding that designers who held experience practising design in contexts outside Australia reported conducting conventional research slightly, yet statistically significantly, more than those who had not worked outside Australia. This finding was surprising because no previous studies in design or other fields had arrived at such a conclusion.

As explained earlier in this chapter, this finding was considered with substantial caution due to the data not meeting all assumptions of the statistical tests employed. However, it was still retained as a tentative finding for exploration in stages two and three due to the possibility that further investigation might validate it, and also because it was considered a potentially useful lead for identifying unexpected reasons why designers engage with research.

Practitioners and academics’ perceptions of research engagement taking place in practice were very similar

The final key finding from stage one was that while academics and practitioners characterised research differently, their perceptions of what kinds and levels of research engagement are taking place within Australian communication design practice were remarkably and unexpectedly close. That is, evidence was found to indicate that academics’ understandings of what practitioners read, what research methods they conduct, what purposes they conduct research for, the proportion of their projects for which they read and conduct research and how systematic practitioners are when they gather and use information, were evidently very similar to the activities and beliefs that practitioners themselves reported.

In accordance with the explanatory sequential mixed methods research design employed in the present study these stage one findings were explored and explained using a predominantly qualitative approach in stage two.
Chapter 6: Stage two focus groups analysis and findings

Introduction to Chapter 6

As described in detail in Chapter 4, stage two of the present study involved a predominantly qualitative investigation of the research questions via a series of five focus groups. These were conducted in Sydney and Melbourne with 18 communication design practitioners and 11 communication design academics and were structured around three main discussion topics that were developed to explore the key findings from the stage one surveys.

The focus groups were designed to collect data that would mainly address the first two of the study’s main research questions and their related sub questions:

1. How is research characterised within the Australian communication design field?
   a) How do practitioners characterise research?
   b) How do academics characterise research?
   c) How do practitioners and academics’ characterisations compare with each other?

2. How are practitioners engaging with research within the Australian communication design field and why?
   a) What perceptions do practitioners hold of their engagement with research?
   b) What perceptions do academics hold of practitioners’ engagement with research?
   c) How do practitioners and academics’ perceptions compare with each other?

In order to address these questions data collected from the focus group sessions were analysed with particular attention to comparing the opinions of academics with those of design practitioners. While there were a number of participants in several groups who held a mixture of experience in academia and professional communication design practice, participants were categorised according to whether they identified themselves primarily as professional design practitioners or academics at the time of the focus group. Consequently, for most analyses, the professional design practitioners and hybrid academic/professional design practitioners were grouped together. Therefore, for simplicity, within the following analyses the members of FG1, FG2 and FG4 are
referred to as *practitioners* (as they were all primarily groups of professional communication designers) and the members of FG3 and FG5 are referred to as *academics* (which were primarily groups of communication design lecturers and researchers). These formed the two main cohorts of interest.

In accordance with the ethics approval for the present study all data collected during the five focus groups were de-identified during transcription. Therefore, each focus group participant is referred to in this thesis by a code name consisting of the focus group session they attended (FG1, FG2, FG3, FG4 or FG5) and the colour they were assigned within that session. Colours were randomly allocated, meaning, for example, that an orange participant in one group had no relationship to the orange participant in any other group.

**Topic one findings: What is research?**

As explained in Chapter 4, topic one of the focus group discussions sought to explore the participants’ opinions of what constitutes research within communication design in Australia through a scenario ranking exercise and subsequent discussion. This topic was included in the sessions to better understand the characterisations of research that were identified during the stage one surveys.

The posters created during the scenario ranking exercise were photographed after the focus group sessions for reporting and analysis. The rankings and accompanying discussions were analysed after the sessions in the following quantitative and qualitative ways to seek patterns and interpret possible meanings.

**Findings from quantitative analysis of topic one data**

As described previously in Chapter 4, the scenario rankings of all groups were first summarised quantitatively for analysis. These data were analysed by comparing individuals with each other and also comparing academics with practitioners to seek patterns within the scenario rankings.

For the comparison of individual participants the scenario ranking data were compiled in an Excel spreadsheet, sorted according to key demographics and visually reviewed to examine whether participants of any given type ranked scenarios similarly. From reviewing 10 sorted versions of the spreadsheet no noticeable differences were found
between the scenario rankings of males and females, or between those with longer or shorter experience in academia, Australian design practice, or foreign design practice. However, some patterns were identifiable in terms of cohort groups and level of highest qualification, which will be discussed shortly.

Following the quantitative analysis of the scenario rankings on the basis of individual participants the data were reviewed to compare the professional practitioners with the academics. The rankings of each scenario by members of the academic and practitioner groups were explored in the following three levels of ordinal categorisation to thoroughly understand and compare the general positions of the two cohorts.

First, the scenario rankings were reviewed visually in the four original categories participants ranked them in, as shown in Table 30. This found no noticeable differences between the locations of the groups (Melbourne and Sydney) but did identify that the practitioner groups appeared to have a greater proportion of their scenarios located in the top two category posters compared with the scenario rankings made by the academic groups.
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Table 30: Comparison of academics and practitioners’ focus group topic one posters

<table>
<thead>
<tr>
<th>Location</th>
<th>Academics</th>
<th>Practitioners &amp; hybrids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melbourne</td>
<td></td>
<td>FG3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FG1</td>
</tr>
<tr>
<td>Sydney</td>
<td></td>
<td>FG5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FG4</td>
</tr>
</tbody>
</table>
Second, the scenario rankings were summarised numerically in spreadsheets, with the original four ranking categories collapsed into two titled; is research and isn’t research. This approach was adopted from Borg (2007, p. 735) and allowed some patterns to be seen more clearly. Within this thesis these binary categories are referred to as negative rankings (for probably not research and definitely not research, combined) and positive rankings (for probably research and definitely research, combined).

Third, the data were also collapsed into three categories titled; definitely research, uncertain, and definitely not research. This approach was a modification to Borg’s method of analysis but was considered useful to distinguish the more confident opinions from those that were uncertain. The scenario rankings of academics and practitioners based on three categories and two categories were converted into percentages to compensate for the different number of participants in each cohort. This enabled simple evaluation of which scenarios were rated highest and lowest by academics and practitioners. The results of these analyses are presented in Table 31 for academics and Table 32 for practitioners, with Table 33 presenting a comparison of the academic and practitioners’ positions.

Considering the two- and three-category rankings in conjunction with each other (shown in Table 31 for academics and Table 32 for practitioners) produced a clear yet also nuanced evaluation of each scenario by both of the cohorts. This enabled more effective comparison of the academics and practitioner groups’ rankings including identification of similarities and differences between them.
Table 31: Scenario rankings by academic focus group participants

<table>
<thead>
<tr>
<th>Scenario:</th>
<th>Academics’ rankings by two categories</th>
<th>Academics’ rankings by three categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Positive rankings</td>
<td>Total Negative rankings</td>
</tr>
<tr>
<td>A Meeting reflection</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>B Packaging concepts</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>C Masters essay</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>D Survey for journal article</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>E Online refs for shop identity</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>F School e-news eval.</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>G Clothing brand customers</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>H Prototype sign eval.</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>I Work exp. student essays</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>J Camera probes for id inspiration</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

Please note: Some percentages do not add to 100 per cent due to rounding.
Table 32: Scenario rankings by practitioner focus group participants

<table>
<thead>
<tr>
<th>Scenario:</th>
<th>Practitioners’ rankings by two categories</th>
<th>Practitioners’ rankings by three categories</th>
<th>Based on three categories, is this research according to practitioners?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Positive rankings</td>
<td>Total Negative rankings</td>
<td>Based on two categories, is this research according to practitioners?</td>
</tr>
<tr>
<td>A Meeting reflection</td>
<td>9</td>
<td>9</td>
<td>50%</td>
</tr>
<tr>
<td>B Packaging concepts</td>
<td>15</td>
<td>3</td>
<td>83%</td>
</tr>
<tr>
<td>C Masters essay</td>
<td>16</td>
<td>2</td>
<td>89%</td>
</tr>
<tr>
<td>D Survey for journal article</td>
<td>18</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>E Online refs for shop identity</td>
<td>14</td>
<td>4</td>
<td>78%</td>
</tr>
<tr>
<td>F School e-news eval.</td>
<td>15</td>
<td>3</td>
<td>83%</td>
</tr>
<tr>
<td>G Clothing brand customers</td>
<td>15</td>
<td>3</td>
<td>83%</td>
</tr>
<tr>
<td>H Prototype sign eval.</td>
<td>15</td>
<td>3</td>
<td>83%</td>
</tr>
<tr>
<td>I Work exp. student essays</td>
<td>16</td>
<td>2</td>
<td>89%</td>
</tr>
<tr>
<td>J Camera probes for id inspiration</td>
<td>14</td>
<td>4</td>
<td>78%</td>
</tr>
</tbody>
</table>

Please note: Some percentages do not add to 100 per cent due to rounding.
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Table 33: Comparison of academics and practitioners’ scenario rankings during focus groups

<table>
<thead>
<tr>
<th>Scenario</th>
<th>According to the academics, is this research?</th>
<th>According to the practitioners, is this research?</th>
<th>How do the academics and practitioners compare?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Meeting reflection</td>
<td>No, Definitely not</td>
<td>Maybe, but uncertain</td>
<td>Disagree</td>
</tr>
<tr>
<td>B Packaging concepts</td>
<td>Yes, but uncertain</td>
<td>Yes, definitely</td>
<td>Agree somewhat</td>
</tr>
<tr>
<td>C Masters essay</td>
<td>Yes, definitely</td>
<td>Yes, definitely</td>
<td>Agree</td>
</tr>
<tr>
<td>D Survey for journal article</td>
<td>Yes, definitely</td>
<td>Yes, definitely</td>
<td>Agree</td>
</tr>
<tr>
<td>E Online refs for shop identity</td>
<td>Yes, but uncertain</td>
<td>Yes, definitely</td>
<td>Agree somewhat</td>
</tr>
<tr>
<td>F School e-news eval.</td>
<td>Yes, but uncertain</td>
<td>Yes, definitely</td>
<td>Agree somewhat</td>
</tr>
<tr>
<td>G Clothing brand customers</td>
<td>Yes, but uncertain</td>
<td>Yes, but uncertain</td>
<td>Agree</td>
</tr>
<tr>
<td>H Prototype sign eval.</td>
<td>Yes, definitely</td>
<td>Yes, but uncertain</td>
<td>Agree somewhat</td>
</tr>
<tr>
<td>I Work exp. student essays</td>
<td>Yes, but uncertain</td>
<td>Yes, definitely</td>
<td>Agree somewhat</td>
</tr>
<tr>
<td>J Camera probes for id inspiration</td>
<td>Yes, but uncertain</td>
<td>Yes, definitely</td>
<td>Agree somewhat</td>
</tr>
</tbody>
</table>
Through comparing the scenario rankings of the 29 individual participants, and also comparing the rankings of the two cohorts, the following findings from quantitative analysis were arrived at for topic one of the focus groups:

1. **Overall, participants were very positive in their evaluation of the scenarios**

When individuals’ scenario rankings were collapsed into two categories of *is research* and *isn’t research*, around a quarter (seven) participants rated all ten scenarios positively as constituting research and a further five participants rated all scenarios except scenario A as being research. Review of the backgrounds of these participants revealed no clear pattern that could explain their shared position, with a fairly even mix of academics and practitioners, a range of length of experience and the full range of qualifications represented.

When evaluated by cohort types, again, the majority of rankings for all scenarios were positive for both academics and practitioners, with just over three quarters of all rankings being located in the top half of the posters as either *probably research* or *definitely research*. Considering that it is debatable whether the scenarios meet many or all of the key criteria for conventional research, that is whether their findings would be valid, reliable, transferable, confirmable, ethically and systematically produced and new, such a favourable assessment by the focus group participants showed that these academics and practitioners held a far more inclusive concept of what research can be than is held in the conventional academic literature.

2. **Practitioners’ scenario rankings were more positive than those of the academics**

When the data were examined at the level of individuals, only three participants ranked the majority of their scenarios negatively (on a two category basis). All three of these participants were academics, with a range of qualifications and lengths of experience. That said, one of these participants was FG3Pink, who worked mainly as an academic teaching communication design at the time of the focus group, yet held substantial past experience in the profession and had no academic research experience.

As shown in Table 31 and Table 32, when evaluated at the level of cohorts, both academic and practitioner groups considered nine of the 10 scenarios to constitute research on a two-category basis. While this initially suggested that academics and
practitioners’ rankings were very similar, when the rankings were reviewed by three categories, as also shown in these tables, academics were found to be uncertain about the status of half (five) of these. Also, based on percentage of positive votes for each scenario, practitioners ranked nine of the 10 scenarios more positively than the academics did, and made 10 per cent more positive rankings overall compared with the academic groups.

Finally, in relation to the lowest ranked scenario (A) practitioners were again more positive, ranking it neutral with uncertainty compared with the academics’ confident negative ranking. This further supported the finding that practitioners’ rankings were more positive overall than those of the academics.

3. Practitioners were more confident than academics when ranking scenarios

When the scenario rankings were considered within three categories; definitely research, uncertain, and definitely not research, a noticeably bigger proportion of the participants with research qualifications at the Masters or Doctorate level (who were, predictably, mainly from academia), had the majority of their scenario rankings in the middle undecided category. In contrast, the practitioners (who all held undergraduate and postgraduate coursework qualifications) tended to rank a greater proportion of the scenarios within the definitely categories. In these terms practitioners were confident in ranking seven of the 10 scenarios while academics were confident in ranking only four of them. Therefore, the more research-qualified academic participants appeared less confident of judging the scenarios’ status as research.

4. A very diverse spread of opinion was revealed, particularly within the academic cohort

There were 14 instances, out of the possible total of 50 scenario rankings made by all groups, when members within a focus group ranked a given scenario across the full breadth of categories. That is, when participants were presented with the same example activity some designers and academics were confident it was legitimate research, while others from the design profession and discipline were confident it was not legitimate research. This related to seven of the 10 scenarios.

While groups from both cohorts rated a number of scenarios across all four categories the academics rated substantially more scenarios this way compared with the
practitioners. That is, the practitioners rated five scenarios across the full breadth of rating categories while the academics rated nine scenarios this way. When these were considered as percentages of the total number of rankings, to compensate for the different number of academic and practitioner groups, it was found that 17 per cent of the scenarios ranked by practitioners were rated across all four categories while 45 per cent of all scenarios ranked by academics were rated across all four categories.

Such diversity of opinion when ranking a common scenario suggested that the breadth of opinion about what research is might not necessarily be because people are thinking of different activities or methods of investigation and highlighted the importance of developing a more homogenous understanding of what research is within the Australian communication design field. The greater spread of opinion found within the academic cohort pointed towards the impact of emerging research methodologies and ongoing debates about the shifting nature of research in the academy, both of which will be discussed more in Chapter 7.

5. Scenario A was the only scenario that the academic and practitioner groups clearly disagreed upon

While academics and practitioners both ranked scenario A (meeting reflection) the lowest of all scenarios, the academics ranked it notably lower in comparison with the practitioners. As shown in Table 32 (p. 221) based on analysis by two categories, the practitioners rated scenario A neutrally, with exactly the same percentage of practitioners ranking it positively and negatively. However, based on three categories, over 60 per cent of the practitioners rated scenario A within the middle category, which indicated a substantial level of uncertainty. In contrast, as shown in Table 31, (p. 220) on a two-category basis, nearly two-thirds of academic participants rated scenario A negatively and when considered by three categories the majority of academic participants rated it as definitely not research, indicating their evaluation was more confident than that of the practitioner groups.

Therefore, while scenario A was the only scenario that held a negative overall position, this was only due to the academics’ evaluation, and further, was only prominent due to a lack of other scenarios that were rated as low or lower by any groups. When considered in terms of conventional academic criteria for research, this scenario was unlikely to generate knowledge that would be reliable, transferable, confirmable or systematically generated, and may not even be valid or new, indicating it would
certainly not be considered legitimate research within a conventional academic context. The relatively low ranking of this scenario by all focus groups corresponds with this assessment and suggests that many of the qualities required in conventional research were valued by the focus group participants, but arguably more so by the academics.

6. Only two scenarios were confidently rated highly by both the academic and practitioner focus groups

Scenario C (masters essay) and scenario D (survey for journal article) stood out as the highest rated scenarios by both academics and practitioners when evaluated by two and three categories. When the ratings of scenarios C and D by the practitioners were compared with those of the academics they were nearly identical, with no more than three per cent difference between the two cohorts. Both of these scenarios would arguably meet many, if not all, of the conventional criteria for research and showed that participants from academia and professional practice confidently agreed with conventional research criteria in these situations.

Findings from qualitative analysis of topic one data

As found by Borg in his original use of scenario rankings to gather opinions on what is research, relying solely on quantitative analysis of scenario rankings has limitations in terms of lacking qualitative insight into why participants ranked scenarios as they did (Borg, 2007, p. 735). To address this within the present study the conversations that took place during the topic one scenario ranking exercise were analysed, in addition to the quantitative analysis of the rankings themselves. This offered the opportunity to check that the conclusions reached via the quantitative approaches were confirmed, or at least not contradicted, by participants' explanations and presented insights into the reasons why scenarios had been ranked as they were.

As explained previously in Chapter 4, the academics and practitioners' comments about topic one were analysed using a qualitative framework to deduce how participants characterised research and how the perceptions of the two cohorts compared with each other.

The transcribed discussion of topic one for each focus group was examined using the qualitative analysis framework adopted from Krueger and Casey (2009, p.123). This approach sought to "identify patterns in the data and discover relationships between
ideas or concepts” (Krueger & Casey, 2009, p. 125). The typed transcripts were read in
detail and every relevant point offered by a participant was summarised into a brief
bullet point. As recommended by Krueger and Casey (2009, p. 121), in order to
evaluate the most important and thus valuable points raised, contributions were
considered for their frequency, specificity (based on whether comments were
generalisations or based on first-hand experiences), the level of emotion with which
they were offered and extensiveness between participants and groups.

The points that related to topic one were then collated into each participant’s line of a
master analysis spreadsheet within columns that separated points about what is
research, points about what is not research and other comments. This provided a
condensed table of the key points raised and who said them. While this format re-
worded the participants’ comments and, necessarily, omitted the context of the
discussion, clear notes were retained as a traceable record back to the original source
within the full transcript, which facilitated regular cross-checking for accuracy and
extraction of relevant quotations.

Through this process the following qualitative findings of the focus groups were arrived
at for topic one.

1. Reflection alone was considered to not be research by both cohorts

A key topic of discussion in all five focus groups was the question of whether reflection,
based upon pure opinion of the designer, constituted research. A range of opinions
was expressed, however, the clear majority of academics and practitioners maintained
that reflection alone does not constitute research. This was evidenced by nearly three
times as many comments arguing that research must go beyond reflection or personal
opinion compared with those that asserted reflection alone could qualify as research.
The level of imbalance of opinion within the two cohorts was very similar, suggesting
academic and practitioner groups were in close agreement on this point. This aligned
with the fifth finding from the quantitative analysis of scenario rankings which found that
scenario A (meeting reflection) was the lowest rated scenario by both cohorts.

Within the practitioner groups, several participants explained that they had ranked
some scenarios as less likely to be research specifically because the activity only
involved reflection or judgment of the designer and lacked collection of, or reference to,
external data. As FG1Purple explained, he regarded scenario A as “definitely not
research because it’s only your own opinion”, and FG2Red explained his belief that “anything outside of your brain is research because you’re referring to something else”.

While the belief that reflection alone does not qualify as research was predominant within the practitioner groups it was not universal. FG1Pink asserted that “research is not reliant on external factors necessarily. I actually think you can internalise your own theories and so forth… Research can be speculative.” FG2Pink also implied that external data or processes were not essential by affirming that ongoing intuitive reflection was a form of research. She cited a local university’s PhD-by-project program as an example of academic research that was based primarily on extensive reflection by a practitioner on his or her own practice.

Academic participants also expressed diverse opinions on whether reflection constitutes research, although again, the majority of comments argued that reflection alone was not enough. As FG5Orange said in relation to scenario A (meeting reflection), “that was just a bit of everyday reflection. There was no reporting, there’s no writing up and I know this”.

Many academics added that if reflection were combined with other things it could be research. Academics suggested reflection could be combined with “severe testing” (FG3Pink), an explicit investigation (FG3Blue, FG3Yellow), articulation (FG5Orange) or measures such as triangulation (FG5Blue, FG5Purple, FG5Orange) to improve rigour and become a valid part of legitimate research.

The concept of reflective practice was only discussed explicitly once, which was within one academic group. While there was some uncertainty and discussion as to whether reflective practice itself constitutes research, overall, it was concluded by the group participants that being a reflective practitioner was not the same as conducting research.

The finding that reflection alone was not considered research by the academics or practitioners concurs with conventional academic criteria as using external sources of information is part of ensuring research is confirmable beyond the pure opinion of the researcher. The contrasting opinion held by a few academics and practitioners, that reflection can be combined with other measures to qualify as research, appeared to be evidence of a shift away from strict conventional criteria for research and toward including emerging reflective methodologies in academia.
2. Practitioners and academics referred to three distinct types of research, and their legitimacy was often discussed as dependent on their context

During the focus groups, participants from both cohorts referred to academic research, market research and informal creative research as three distinct types, with their legitimacy often discussed as dependent on their context and purpose. For example, as academic FG3Blue stated, "there are different contexts and different communities of practice, and the academic context is quite different and has different requirements". And academic FG3Purple described the legitimacy of research as "a sliding scale, and the context informs that".

The importance of context for evaluating research led academic FG5Purple to wish for split scenario ranking categories because, as she explained, "in terms of research practitioner, it [a scenario] is [research], but then in terms of research academic, it’s not". And practitioner FG1Pink highlighted the differences between what counts as research in differing contexts when he proclaimed, “there’s no way that academics would ever, ever in a pink fit, consider market research to be valid research but the word research is common to them”.

Of the three types of research that focus group participants referred to, the third type, informal creative research, discussed as commonly conducted by design practitioners, was described as usually less systematic, scientific or explicit. It was explicitly and implicitly characterised as often more intuitive, informal and flexible, yet still valid and appropriate for the purposes of professional communication design practice. As practitioner FG2Yellow explained, “while it’s not formal research in the context of, perhaps, you know, academia or such, it’s still research”. And another practitioner, FG4Yellow, explained, “when we do research in design we don’t have that scientific—I mean, some of it does, but—Project research can be much more impressions based. So it doesn’t have to be sort of quantifiable, [using] statistics, samples…”.

Several academics also argued for the legitimacy of less systematic research for use in design practice. For example, FG5Blue noted that the context of the sole practitioner was important to consider when judging research, “I actually think that you have to be generous to where research is because you’re really out there on your own, so in some ways everything you are doing is research, because how else do you learn?”. Another academic, FG3Blue, also asserted that the research conducted by practitioners was legitimate for its context maintaining, “I think that professional research has become
more recognised and is highly valued, and there’s been a lot of tools and techniques and ideas and methods that have gone both ways from practice into academia and back the other way, and that’s been really valuable”.

3. Most practitioners and academics did not consider common design practice to be research

A few academics and practitioners described design processes as inherently having the required qualities to automatically qualify as research. For example, practitioner FG1Blue argued design inherently generates new knowledge and therefore “it’s always some kind of research”. She did this by drawing parallels between the way academic researchers reference other scholars’ work and assimilate their ideas to create new pieces of knowledge, which she implied was similar to the way that designers analyse and “re-represent” other people’s information to create new communications.

The majority of comments from both cohorts, however, distinguished standard design practice as being different to conducting research due to either design practice’s basis in reflection rather than external data (as discussed previously in qualitative finding 1 and quantitative finding 5 for topic one) or in lacking intent to deliberately investigate something.

4. Collecting visual references could be research if it generated new knowledge

One particular type of creative research—researching visual references—was clearly regarded as common in communication design practice and was extensively discussed. Most discussion about this issue took place in the practitioner groups, although some academics also offered relevant comments.

The question of whether producing image collections (such as mood boards) or gathering other visual reference material particularly online constituted a research activity was discussed at length. Participants debated the fine line between analysing other people’s ideas and images to inform development of new knowledge in the form of bespoke design outcomes and just copying or referencing visual material.

When participants rejected mood boards as research it was typically due to one of three main reasons. First, that mood boards were being produced for illustrative purposes, such as to explain an idea or possible direction to a client rather than to investigate anything. Second, that image collections were usually produced in a very
unsystematic fashion. And third, that they usually led designers to copy existing styles rather than to carefully analyse precedents and use insights gained to inform the development of new approaches.

The clear opinion of both cohorts was that superficially searching for references, copying visual styles or doing both, was not only not research but also not good design practice. As FG1Pink expressed in relation to graduate designers, “I think there’s a collective disdain of students doing an Internet search for 10 minutes and calling it research. To me, that is like a chef lining up all the ingredients of a meal on the table and saying ‘this is your meal’ without actually putting it together”.

In contrast however, a number of practitioners and academics noted that if conducted and applied in a considered and systematic way to support development of unique design solutions, collecting and analysing visual references was a valid and useful form of research for professional designers to conduct. As FG1Red explained, “if [designers] gather all the stuff, then they suddenly see something, you know ‘oh, what I am proposing perhaps I’m not seeing in anything that I have found, so therefore I could look further and see that what I’m doing is new’… It’s the way that they use the tools”.

The conclusion that “If it [a mood board] actually produces new knowledge, then it would be research” (FG1Pink) aligned with the conventional criterion that research must generate new knowledge, as is discussed further in the following section.

5. Generating new knowledge was considered important in designers’ research

While the requirement for research to generate new knowledge is a widely recognised criterion for conventional academic research its relevance to design practitioners’ research was only discussed explicitly on three occasions within the focus groups, with three different opinions being expressed.

First, practitioner FG1Pink explained he had used the criterion that research must generate new knowledge to judge whether each of the ten scenarios constituted research.

Second, as noted in the previous finding, practitioner FG1Blue, argued that design inherently generates new knowledge through synthesis and therefore automatically qualifies as a form of research.
And third, in contrast, when the question of whether knowledge had to be new was explicitly raised during one session, academic FG5Orange expressed the belief that knowledge generated or gained through research could be new to just the designer, without needing to be new knowledge per se. She also added, “I consciously had my non-academic hat on when I was saying that”, which clearly demonstrated that her criteria for practitioners’ research differed from those for academic research.

In addition to these explicit comments, as discussed in the preceding finding, the deliberations about whether visual research such as image collections constitute research also supported the conclusions that practitioners value the criterion of new knowledge.

6. Being explicitly systematic or formal was not a high priority for designers’ research

A key distinction between the three types of research referred to by participants was how systematic or formal the processes and methods for each should be.

The question of how important it is for research to be systematic was discussed at length by a number of practitioners in particular, with three separate arguments evident in the conversations.

First, some argued that it is not necessary for designers’ research to be systematic or codified, with FG2Purple declaring, “I think there’s an issue with systematic research. This is the sort of dilemma I have… because I don’t think any of the research that I do is systematic”. Yet she went on to assert that what she typically conducted was very legitimate research. FG2Blue also challenged the notion that designers should engage with systematic research, arguing, “there is no systematic approach to research creative work”, while FG2Yellow explained she believed in “a flexible approach, perhaps, more than a systematic approach. You want to find out particular things… you might go about it quite fluidly or organically rather than systematically”.

Second, some practitioners argued that designers are sufficiently, intuitively systematic already. For example, FG2Pink explained, “I think maybe you are systematic but you don’t realise you’re doing it… It’s more of an intuitive thing”. FG2Purple concurred, adding, “You collect information all of the time… that’s your own sort of research, and that’s intuition. But there is a system to that intuition because it’s your brain processing that”.
Third, there were claims that conducting or reading systematic research was appropriate during some, but not all, stages of the design process. FG2Blue reported, “the only time I’d ever do quite systematic research would be in strategy areas, so pre-design for market positioning. You’ve got a document you can go through and fill out the areas and you can do that in quite a systematic way”.

Within the academic conversations, FG3Orange reported that systematic research, which he described as being, for example, codified methods involving planned investigation, empirical methods and hypotheses, held little commercial value for the majority of professional designers. He stated, “I’m yet to meet someone who works as a designer who can charge more because they do codified research than if they just did what they did”. That said, he went on to note that he knew designers who explicitly or intuitively used such codified research methods anyway, “because they’ve found that in their practice it makes them better at what they do”. These comments aligned with all three of the aforementioned arguments presented by practitioners.

While FG3Orange’s argument questioned the value of systematic research for designers, conversely, other academics questioned the value of very unsystematic investigation, mainly due to concerns about its lack of rigour, questionable reliability or shallow process. For example, FG5Red commented, “maybe that’s the difference between good and bad research because I was like, if it’s so shallow I would not consider it not a full [sic] research”, about which FG5Blue noted, “I think that, rather than depth, maybe—right now going fully academic swing—but there’s no rigour in that to me”.

Therefore arguments were made that both systematic and unsystematic investigations potentially had limited value for supporting communication design practice.

7. Academics’ concepts of research tended to be more inclusive, while practitioners tended to hold more conventional conceptions

Analysis of focus group comments found that practitioners tended to hold fairly conventional conceptions of research in terms of expectations for external data for confirmability, as discussed already in relation to the first qualitative finding that reflection alone was not generally accepted as research. Practitioners’ conceptions of research were also relatively conventional in terms of seeing research as needing to be
intentional and preferably measurable with a clear goal or question that might prove or evaluate a design.

The academics, in contrast, presented more open, less conventional interpretations of research. Some expressed indecision that reflected their reluctance to definitively reject many scenarios as not research. FG3Blue expressed feeling “conflicted”, explaining, “I’m loathe to tell people that what they do isn’t research… Yet, I really value the sort of research that goes on here [at our university] with people who have taken on postgraduate research…”.

A number of academics mentioned that they felt they were being generous in their rankings of some scenarios as constituting research. Considering the majority of academics’ scenarios were ranked in the middle uncertain category, such comments implied that a greater number of academic scenario rankings would have been more accurate to locate in the lower negative categories. This went some way to explaining why the academics’ scenario rankings were more within the uncertain category.

To clearly illustrate the areas of agreement and difference between the academic and practitioner focus groups in relation to discussion topic one, the general position of each group in relation to the key findings was summarised, as shown in Table 34. As the table shows, there were no key points upon which academics and practitioners definitively disagreed.
### Table 34: Summary of academic and practitioners’ focus group topic one qualitative findings

<table>
<thead>
<tr>
<th>Points raised in topic one</th>
<th>Academics</th>
<th>Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FG3</td>
<td>FG5</td>
</tr>
<tr>
<td>1. Reflection alone is not research</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>2. There are three distinct types of research, and their legitimacy is dependent on their context</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>3. Common design practice is not research</td>
<td>Mixed opinion but most agree</td>
<td>–</td>
</tr>
<tr>
<td>4. Collecting visual references, can qualify as research, if it generates new knowledge</td>
<td>Agree</td>
<td>Some Agree</td>
</tr>
<tr>
<td>5. Generating new knowledge is important in designers’ research</td>
<td>–</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>6. Being explicitly systematic or formal was not important for designers’ research.</td>
<td>Agree</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>7. Many different kinds of activities can qualify as research</td>
<td>Mixed opinion but most agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>
Topic two findings: Australian vs. foreign design practice

The topic two focus group discussions sought to collect a list of possible factors that could explain why designers with international experience might engage with conventional research more. This was included in the sessions to explore the tentative and unexpected finding from the surveys that designers who held experience working overseas conducted conventional research more than the designers who had only worked within Australia.

Due to the uncertain reliability of this finding, the breadth of the questions posed and the diversity of possible comments anticipated from participants, topic two was designed to generate a broad discussion that would raise more questions for exploration in future, rather than being intended to arrive at reliable or definitive explanations for the unexpected survey findings. Consequently discussions often also extended to speculate on differences between foreign and local clients, even when practising design from within Australia.

At the outset, FG3Orange made the valid point that designers who had worked overseas could be preselected to be a higher standard of designer than those who had only worked in Australia. That is, he implied that a designer’s skills would need to be of a good standard to gain employment within the larger overseas employment markets and to fund travel and living expenses overseas. Therefore higher research engagement could just be related to those participants being better designers and better designers are more likely to gain employment overseas. FG3Orange’s point highlights that the correlation between research engagement and international experience may not necessarily be causal.

To qualitatively analyse the topic two data, as was done for topic one, all relevant points that were made by participants were summarised as bullet points with consideration given to the frequency, specificity, emotion they were offered with, and extensiveness between participants and groups, in order to evaluate the most important and thus valuable points raised (Krueger & Casey, 2009, p. 121). The points were then collated into a master analysis spreadsheet according to which participant said them. This mapped the topics raised, which participants agreed or disagreed with them and the approximate balance of the conversation topics between participants. The suggestions offered by participants were a mixture of first and second-hand
experiences, observations, and opinion and were based on a wide range of foreign cultures and timeframes.

Responses to topic two were first analysed by comparing the responses from individual participants regardless of which focus group they attended. This sought to identify any underlying and unexpected patterns. The master spreadsheet was sorted according to the participants' type of group (being academic or practitioner), gender, level of highest qualification, length of experience working in academia, length of experience working as a designer in Australia and length of experience working as a designer outside Australia. The sorted spreadsheets were reviewed visually for patterns, with the spreadsheet that was sorted according to length of experience overseas being particularly scrutinized to give due attention to the comments made by participants with first-hand international experiences.

From the sorted versions of the data spreadsheet no discernable patterns were identified within the demographics collected. That is, no obvious differences were evident between the comments made by males and females, participants of different levels of highest qualification, academic and practitioner participants or lengths of experience working as an academic or designer (both locally and internationally). This suggested that none of these factors were linked to the participants' opinions that were collected during topic two.

The second way that data were analysed for topic two was by a qualitative comparison of the academic and professional practitioner discussions. This summarised the most important points raised with consideration given to the main positions of the two cohorts and how they compared with each other.

From the qualitative comparison of the academic and practitioners’ comments, the following key points were identified in the topic two data:

1. Clients overseas are usually larger and have unfamiliar priorities

The differences between Australian and foreign clients were some of the most extensively discussed issues within both the practitioner and academic groups.

Within the practitioners, the predominant opinion was that foreign clients that commission work from Australian designers are usually larger, sometimes with an
Practitioners also discussed that foreign client organisations sometimes have unfamiliar priorities that may require additional research, whether a designer was working from within Australia, or overseas. For example, FG4Green explained,

\textit{You receive a brief here for a job in this country and intuitively you already know a lot about the sort of culture of that company… Even if you’re not familiar with them, it’s actually not that difficult to touch base with that information. Whereas overseas… you need to kind of immerse yourself a little bit in it, and obviously get that understanding about what that company is about.}

Academics concurred with practitioners that those foreign clients who commission Australian designers are usually bigger than local clients (FG3Blue, FG3Yellow, FG5Orange, FG5Purple). FG5Purple described the client/designer relationship as “a very different ball game here” compared with overseas, although she did not elaborate with further detail.

While most of the discussion supported the conclusion that foreign clients are usually larger and unfamiliar there was also discussion that if an Australian designer were working overseas the clients would not necessarily be bigger than those they’d encounter within Australia. For example, academic FG3Pink reported noticing a trend overseas towards smaller clients, shorter projects and smaller budgets in the Netherlands and Germany, which has resulted in more specialised teams of consultants being assembled for projects. FG3Purple reported similar scenarios in the UK (albeit in the 1990s) and said that such situations required research to make the team of individuals work together.

\textbf{2. Budgets overseas are usually larger}

A number of practitioners and academics claimed that foreign clients are more likely to have bigger budgets. However, some first hand experiences discussed during FG1 were contrasting, with FG1Purple describing his Japanese client with large budgets while FG1Blue related her experiences of working with a small Indonesian client that had very limited funds.
Also in relation to budgets, practitioner FG2Blue mentioned that in his experience foreign clients come to Australia to commission design when the global economy and Australian dollar made it cheap for them to commission Australian designers. This suggested that it might only be when the global economy and exchange rates permit that a foreign organisation can afford to commission design from Australia.

3. Foreign design industries and cultures differ from Australia

Differences between the industry culture of communication design practice in Australia and overseas that could impact on research engagement of designers were discussed by academics and practitioners with no clear consensus.

Within the practitioner cohort there was mixed opinion as to differences between local and foreign design industries. Several practitioners claimed that design is more valued overseas, specifically mentioning examples of the Netherlands, Sweden, the EU, Japan and UK. However, FG4Blue, being from the UK, stated that he did not see a noticeable difference between how design was valued in Australia compared with the UK.

Practitioner FG2Yellow reasoned that exposure to longer documented histories of art and design that exist overseas fosters a deeper value and appreciation of design in foreign designers. In contrast, however, FG1Pink argued that Australian designers are in a unique and advantageous position due to their industry and culture being relatively young in comparison with more established fields overseas. He claimed that the lack of precedent, history and legacy of design gave Australian designers a level of freedom that was envied by foreign designers. Likewise, FG1Red told of foreign colleagues who considered Australia to be “so free and multicultural”, and FG1Pink, FG1Purple and FG1Red expressed the belief that Australian designers are more willing to challenge boundaries within their practice, particularly in comparison with a number of Asian cultures where social etiquette discouraged—particularly younger—designers and students from ever questioning directives given by clients, lecturers or design directors.

Academics also held mixed opinions about what the differences were between Australian and foreign design industries and cultures.

Academics such as FG3Blue reported foreign clients and general publics value design more. While others, such as FG3Orange based on his first hand observations in interaction design circles, reported that there are differences between the ways the US,
Finland, Denmark and the Netherlands value design. And FG3Pink explained that from his personal experience, the Netherlands needs design more than Australia due to limited natural resources. As a consequence of this, he concluded, design is valued more in the Netherlands than Australia.

There were claims that research engagement by designers was increasing in Australia and overseas. However, FG3Pink reflected on his extensive international experience and claimed that historically, design projects involved more research and had now become smaller, with shorter timeframes that limited the opportunities for research to be included. He felt that this had resulted in research being “dumbed down” and that overall he perceived there to be a trend of fragmentation in design both within Australia and overseas.

4. Foreign projects are larger and unfamiliar

A few practitioners explicitly referred to differences between local and foreign projects as possible reasons for varying levels of practitioner research engagement. Foreign projects were discussed as usually new rather than repeat or ongoing in nature and that consequently international work may require more research than local projects. FG2Red and FG4Pink also discussed foreign approval processes, standards and regulations as aspects of projects that may demand more research compared with projects completed in Australia. And finally, FG4Green referred foreign projects to as usually larger, although FG1Blue’s small Indonesian client remained an exception.

The academics agreed that foreign projects are usually bigger, with FG5Orange extending this point to highlight that organisations that operate internationally are usually dealing with bigger social problems as well.

5. Cultural contexts overseas could require research to be understood

The unfamiliar cultural context of international projects and clients was one of the most frequently and extensively discussed issues by practitioners yet was not explicitly discussed at all by academics.

Differences in cultural context were discussed as relevant to a designer when they worked in a foreign country as well as when they worked from within Australia for an international client. Examples given by FG4Pink and FG1Purple were when a foreign client engages Australian designers to gain some local context of their message.
Some practitioners discussed the need to generally understand foreign cultural contexts. Others practitioners referred to specific aspects of foreign culture that they believed differed to Australia and could potentially require research. They were:

- **Foreign languages**, be they spoken, visual or written
- **Ethics**, including what was professionally and socially acceptable within foreign cultures
- **Politics**, including understanding explicit political differences such as those within communist regimes (FG1Red), and also the related differences in implicit social attitudes

In striking contrast, within the academic cohort, there was no explicit discussion of differences in cultural context between Australia and overseas that may result in a communication designer engaging more with research.

**6. Research culture is generally perceived to be stronger in businesses overseas**

A number of comments from practitioners and academics attested there was a stronger research culture in business overseas compared with Australia.

Practitioners claimed that foreign clients want to see more pre-design research to be reassured their needs are understood and that they’ve made the right choice of designer. Similarly, as pointed out by FG2Yellow, engaging a designer internationally would be a substantial investment for an organisation and it was reported that foreign clients expect more effort if they commissioned a designer from Australia, which could be demonstrated through referencing research literature or conducting research according to FG2Pink. In addition to foreign clients having a greater expectation of research, practitioners FG2Yellow and FG1Purple also expressed that they believed foreign clients have a greater value of research, FG2Blue and FG4Pink suggested they are more willing to pay for research and FG1Purple and FG2Purple said they are more likely to provide some findings from research they have commissioned.

Opinions within the academic cohort in relation to differences between the research culture in Australian and overseas businesses were a little more mixed. FG3Orange reported that clients in the USA value research more and FG3Yellow believed that Australian clients see research as a luxury. FG5Red reported that there was not much user experience (UX) research used in Australia and that, based on her first-hand
experience, it’s hard to integrate UX research into design projects, partially because clients (even the big ones) are reluctant to pay for it. However, FG3Blue expressed the belief that Australian clients are valuing research more and more and are starting to see its dollar value, which could indicate the situation is changing.

7. Foreign Audiences require researching to be understood

Practitioners identified unfamiliar audiences as being another key difference between working overseas and locally, and working for overseas clients compared with locals. Foreign audiences were referred to in terms of being located overseas and also located within Australia, while visiting.

FG1Blue summed up the general position held by practitioners when she explained, “if you’re actually working for people overseas I think the biggest thing is that you don’t have an intuitive knowledge of the public there, so if you’re actually doing work for a different public, oh my goodness, you’d want to have some idea of what you’re doing”.

Practitioners FG1Purple and FG1Blue described first-hand experiences of working for Australian education organisations that were marketing themselves to attract international students. While the client organisations were local, the target audiences were foreign and so required extra attention to understand. Interestingly, in these examples, the Australian client specifically requested that the imagery used for the promotional material show either students from the target audience exclusively or no images of students at all, to avoid the possibility of showing a culture that is disliked by the target audience.

Practitioner FG1Orange retold his experiences of communicating to foreign audiences through designing marketing material for a major Australian tourist attraction. He explained that the key audiences of Chinese, Indonesian, Indian and Malaysian tourists significantly influenced his work, explaining “it affects us on a daily level”.

In contrast with the extensive discussions of audience-related differences by practitioners the academic cohort raised only one relevant point which related to audience size. FG5Blue argued that due to larger populations overseas the market for design was often larger than in Australia and that these larger markets generate more creative freedom and funding for research.
The differences between practising design in Australia and overseas that participants discussed were summarised in a table for comparison. As shown in Table 35, no direct disagreement between any groups was revealed, although there were six instances when there were mixed opinions about a topic within the one focus group. For example, within FG1, FG1Blue’s experience of working for a small foreign client with limited budget did contrast with the predominant opinion from all other groups, as well as other members of FG1, that foreign clients do tend to be larger in size and have larger budgets. And in FG4, some group members reported that foreign clients often had lower priorities for aspects of a project like production standards, however other members of the group contested that this was not the case based on their own experiences.

While there was no diametrically opposed disagreement between any groups, there were a number of topics that were extensively agreed upon. All groups discussed the scale of foreign clients and budgets, usually concurring that both were bigger, with the exception of FG1Blue’s experiences as already noted. There was also widespread discussion that unfamiliar cultural contexts, including ethics, languages and politics, were some of the major differences between practising design within Australian and foreign contexts that may result in an Australian designer needing to engage more with research in some way.
### Table 35: Summary of academics and practitioners’ focus group topic two qualitative findings

<table>
<thead>
<tr>
<th>Points raised in topic two</th>
<th>Academics</th>
<th>Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FG3</td>
<td>FG5</td>
</tr>
<tr>
<td>1. Clients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign clients are larger</td>
<td>Mixed opinions</td>
<td>Agree</td>
</tr>
<tr>
<td>Foreign clients and their priorities are unfamiliar</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>2. Budgets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign budgets are larger</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>3. Design culture &amp; industry</td>
<td>Foreign designers, clients and/or audiences value design more</td>
<td>Agree</td>
</tr>
<tr>
<td>It is harder to break into foreign design markets</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign designers use research in a more sophisticated way</td>
<td>Mixed opinions</td>
<td>Agree</td>
</tr>
<tr>
<td>Foreign designers are impeded by their longer design history or legacy</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign design methods, processes and questions are unfamiliar</td>
<td>Agree</td>
<td>–</td>
</tr>
<tr>
<td>4. Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign projects are larger</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>Design projects are unfamiliar overseas</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign regulations and standards are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Cultural contexts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign cultural contexts are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign languages are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign ethics are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign politics are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign clients need Australian contextualisation</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6. Research culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a greater expectation from business of research overseas</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>There is a greater value of research overseas</td>
<td>Mixed opinions</td>
<td>–</td>
</tr>
<tr>
<td>7. Audiences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign audiences are unfamiliar</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Foreign populations are larger, and thus the market is larger</td>
<td>–</td>
<td>Agree</td>
</tr>
</tbody>
</table>
An additional insight gained from the topic two discussions was that involvement with foreign contexts is more complex than a simple question of whether a designer has worked in foreign countries at some stage, or whether they work from Australia for international clients. Two particular ways in which international factors are more complex were identified.

First, there was a subtle distinction evident within the discussion of foreign factors in terms of location versus nationality. For example, FG3Pink commented that due to the physical distance between an international client and an Australian designer the briefing process was often a more expensive, time-consuming process that demanded more effort and therefore potentially more research. In contrast with this it was discussed that clients of a different nationality demanded more effort and potentially more research to bridge language barriers and ensure the clearest communication possible. The importance of distinguishing between location and nationality was also evident when analysing the focus group comments of FG4Blue, FG4Yellow and FG4Purple who were all foreign designers who were working in Australia.

The second way in which international influences were found to be more complex than expected was in terms of the number of aspects or parties within a design project that could introduce foreign factors. While the online surveys conducted in stage one of the present study asked about the locations in which the designer had worked and also asked if they currently worked for any international clients from their present location in Australia, the focus group discussions also referred to other factors that could be Australian or foreign, independent of where the designer was working from and who the client was. To better understand how differences in location, nationality, audience and project can introduce foreign contexts into a design project, these aspects were mapped in a tree diagram (see Figure 22). This shows how a project could be identifiable as Australian or foreign in terms of the:

1) Nationality of the designer
2) Location of the designer
3) Nationality of the client
4) Location of the project
5) Nationality of the audience
As shown in Figure 22, only a small number of the possible situations that can exist were discussed, and a far more comprehensive inquiry that investigates the possible affect of each of the factors would be required to fully understand what it is about foreign contexts that might inspire or demand higher research engagement by Australian design practitioners.
To summarise, in relation to topic two’s discussions of differences between Australian and foreign design practice contexts that might affect communication design practitioners’ research engagement, the qualitative analysis revealed no distinct patterns between the opinions of academics and practitioners.

From insights gained from both practitioners and academics the following key findings were arrived at:

**Clients, budget size, business culture and design industry culture** are all perceived to be key differences between communication design practice in Australian and foreign contexts.

**Project nature, cultural contexts, audiences and research cultures** were all perceived to also be differences, although less substantial than those noted previously.

**There are many different ways that foreign factors can be involved** in projects conducted by Australian communication designers.
Topic three findings: Barriers to research engagement

Topic three was introduced to each focus group with a brief explanation of why it was considered important to discuss. That is, that the online survey conducted in stage one of the present study had found that while an overwhelming majority of respondents indicated they believed that engaging with research was very important to practising communication design, their self-reported activities indicated their actual engagement with systematic research within their design practice was low.

As was explained to the focus group participants, this disparity between belief and behavior could be due to many factors, including the undeniable possibility that the survey respondents may have felt obliged or encouraged to say that research was more important than they really believed it to be. While the survey was specifically designed to mitigate this as much as possible, and less favourable responses to other questions provided evidence to the contrary, participants in all five focus groups indicated they did suspect that the strong response was due—at least in part—to a feeling of obligation on the part of the respondents.

It was then discussed that aside from the possibility that the survey responses may have been skewed by a sense of obligation on the part of the respondents there could be any number of other reasons why communication designers may not be engaging with research as much as they say they would like to. These reasons were described as barriers to research engagement and formed the focus of discussion topic three. As noted previously, for the purpose of discussing topic three, participants were given a prescribed definition of research as being; systematic investigation conducted to produce trustworthy findings.

Data were collected for topic three via the participants’ ratings of a number of barriers, some predetermined based on the literature and others suggested by participants during some sessions, and also audio recordings of participants’ discussions during the rating exercise. After the focus group sessions the topic three data were analysed both quantitatively and qualitatively, as will now be explained.
Findings from quantitative analysis of topic three data

The data collected for topic three during the focus groups were first analysed on a macro level through quantitatively comparing the barrier scale ratings of the participants in various ways, as was conducted for topic one.

The barrier posters that were developed during each of the five sessions were first visually compared, as shown in Table 36. The table is organised with the two academic groups, FG3 and FG5, in the first two columns, the hybrid group, FG1, composed of practitioners with substantial experience in academia as well, in the middle column and the two practitioner groups, FG2 and FG4, in the two right-most columns.

The middle (Hybrid) column has ratings posted on both sides of the scale rule. The ratings located above the line, which appear on the left of the line due to the orientation of posters within Table 36, are the ratings that the hybrid participants placed for how substantial they believed the given barrier was for Australian communication designers generally. The ratings located to the right of the scale line in the middle column of Table 36 show the hybrid participants’ ratings for how substantial they felt the barrier was for them personally when they practised design.

1. Academics typically rated barriers as more substantial than practitioners did

Visual analysis of these barrier posters identified that the academic groups’ ratings were nearly all within the higher half of the scales, while the practitioner groups had a broader spread of ratings across their barrier posters, with several barriers rated as being low. The hybrid group’s dual ratings reflected this trend, with the FG1 participants often rating the barriers as being minor for themselves yet more major for other designers within the Australian communication design industry.
Table 36: Comparison of academics and practitioners’ focus group topic three posters

<table>
<thead>
<tr>
<th>FG3 Acad Melb</th>
<th>FG5 Acad Syd</th>
<th>FG1 Hyb Melb</th>
<th>FG2 Prac Melb</th>
<th>FG4 Prac Syd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client’s disposition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance to design projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility of research literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of research skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal disposition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To confirm the visually observed trend of practitioners’ rankings being higher, the barrier rankings of all participants were summarised numerically within a spreadsheet for quantitative comparison. As explained previously in Chapter 4, for this and subsequent analyses, only the rankings made by the hybrid participants’ group below the line were included, as these were deemed to be more reliable due to being first hand reports of their own experiences. These were grouped with the rankings of the practitioner groups, as the hybrid group members primarily identified themselves as practitioners.

The academic and practitioner groups’ rankings were tallied and then converted into percentages to compensate for varying numbers of participants in each cohort. The resulting aggregated evaluations of each barrier by each cohort expressed how substantial a barrier was considered to be as a percentage out of a possible 100 per cent, where 100 per cent would indicate that all participants within a cohort rated a barrier as being a major obstacle to research engagement, and 50 per cent would indicate that, on average, the cohort regarded the barrier to be moderate.

As shown in Table 37, academics rated every barrier as being more substantial than practitioners, except one, that being financial cost, which was still rated similarly by practitioners.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Personal disposition</th>
<th>Lack of research skills</th>
<th>Accessibility of research literature</th>
<th>Relevance to design projects</th>
<th>Client's disposition</th>
<th>Financial cost</th>
<th>Lack of time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics’ overall rating</td>
<td>58.0%</td>
<td>72.2%</td>
<td>63.0%</td>
<td>66.7%</td>
<td>72.8%</td>
<td>78.9%</td>
<td>87.8%</td>
</tr>
<tr>
<td>Practitioners’ overall rating</td>
<td>20.3%</td>
<td>39.9%</td>
<td>37.9%</td>
<td>18.3%</td>
<td>34.0%</td>
<td>81.0%</td>
<td>86.3%</td>
</tr>
<tr>
<td>Difference between ratings</td>
<td>37.8%</td>
<td>32.4%</td>
<td>25.1%</td>
<td>48.4%</td>
<td>38.9%</td>
<td>-2.2%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

To explore further, the ratings of the barriers were collapsed into three ordinal categories of low, medium and high, being equal thirds of the horizontal scales on the posters. The ratings placed in each category by academics and practitioners were
tallied and again totals were converted to percentages to compensate for the different number of participants in each cohort.

As shown in Table 38, this analysis further confirmed that the academics had clearly rated more barriers as high than practitioners, with nearly half of all academics’ ratings being placed in the top third of the barrier scales. In strong contrast, the design practitioners placed the majority of their votes in the low category.

Table 38: Comparison of academics and practitioners’ low, medium and high barrier rankings

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Low ratings</th>
<th>Medium ratings</th>
<th>High ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics</td>
<td>12%</td>
<td>39%</td>
<td>49%</td>
</tr>
<tr>
<td>Practitioners</td>
<td>52%</td>
<td>17%</td>
<td>31%</td>
</tr>
</tbody>
</table>

2. While cost and time were rated similarly by the two cohorts there was a clear difference between their ratings of other barriers

Participants from both cohorts rated time and cost as major barriers but there was a clear difference of opinion between academics and practitioners for the remaining barriers, those of client disposition, relevance, accessibility, research skills, and personal disposition. Academics tended to rate these five other barriers as also being quite substantial, however the design practitioners rated them as much smaller hindrances to their research engagement.

These differences between the cohorts’ barrier rankings suggested that either:

a) The academics were unaware of the realities of practice,

b) The practitioners were unaware that these barriers are preventing them from engaging with research, or

c) Despite a definition for research being prescribed at the start of the conversation the academics and practitioners were envisaging different kinds of research when answering the question.

As explained previously in Chapter 4, the barrier ratings of all individual participants were compared with each other by sorting a spreadsheet of the data according to key demographics. No patterns were found for any of the demographic groups, except one.
While most participants in both cohorts rated time as a substantial barrier for their engagement with research, overall, twice as many female participants rated it at the highest (as a major barrier) level compared with males. This was despite nearly equal number of males and females participating in this stage of the study (Female \( N = 14 \), Male \( N = 15 \)). No obvious reasons for this difference were evident within the data or literature.

**Findings from qualitative analysis of topic three data**

To complement the quantitative analysis of the barrier ratings from topic three the transcribed discussions from each focus group were analysed qualitatively. The same analysis framework used for topics one and two was employed. That is, the key points raised by each member of every group were summarised into a spreadsheet and considered for their frequency, specificity, level of emotion with which they were offered, and extensiveness to identify the most important and thus valuable points, as per Krueger and Casey’s approach (2009, p. 121).

In addition to the seven predetermined barriers, participants suggested studio culture and industry disposition could also be barriers to practitioners engaging with research. These suggestions were included in the analysis, which arrived at the following qualitative findings for topic three:

1. Lack of time and financial cost were considered the two biggest barriers by both academics and practitioners, although the cohorts held differing opinions about how they could be overcome

   Qualitative analysis confirmed the finding from the quantitative analysis that academics and practitioners considered lack of time and financial cost to be the two biggest barriers to communication design practitioners in Australia engaging with research. Further to this, qualitative analysis also revealed cost and lack of time were often discussed as being very closely related, or even the same, as FG2Red stated: “I see time as money”.

   Within the practitioner groups, lack of time and cost were clearly the most extensively and frequently discussed barriers. All comments agreed with the notion that these were substantial barriers, with no participants disagreeing.
Interestingly, a number of practitioners who were self-employed and worked alone indicated that while they considered cost and lack of time to be barriers to research engagement, they felt they were less of an obstacle for them personally than they were for other designers, because working for themselves gave them more control over how their fees and time were allocated than designers who were employees within bigger organisations. This led to discussion of whether being an employer affects how big a barrier cost is for a designer, with FG2Yellow indicating that even the few designers her studio employed did add pressure to prioritise time to cover costs and meet financial responsibilities.

Several practitioners recounted that communication design projects are generally shorter than projects in other design specialisations. However, no participants were confident that this meant there was less time for research within a communication design project compared with other types of design jobs, as all projects were considered to have tight timeframes for the task at hand.

While academics also discussed lack of time and cost as significant barriers to designers' research engagement, a number of academics pointed out that if the designer wished, time and cost barriers could be mitigated by, for example, practitioners learning better research skills to be more efficient, or justifying the value or return-on-investment that research could offer to clients. As FG5Orange explained, "we all say 'clients don't want to pay for research', and I know they kind of don't, but I wonder how much of that becomes self-serving [by the designer deciding] 'I'm not going to talk about its value'". As FG3Red also noted, "Time is also a choice, isn't it? Because you have to make choices on how you allocate time". His point highlighted that the time allocated within a job was determined to some extent by a designer’s personal disposition.

2. Client disposition was regarded as a barrier in certain ways

During the focus group sessions it became clear that the barrier of client disposition could be—and at times was—read in two different ways by participants. First, some interpreted the question as asking whether clients generally welcome or refuse research within communication design jobs. And second, some participants interpreted the question to ask how influential the client’s preference was in enabling or limiting research engagement, separate to whether clients commonly welcome or reject research.
In terms of the first interpretation, many practitioners and several academics reported that clients generally welcome research, and sometimes require it, as practitioner FG2Pink stated; they believe it “validates” design outcomes. Practitioners, such as FG2Red, described research as “a language they [clients] can understand”, which participants such as FG2Pink regarded as particularly valuable for when the client needs to on-sell a design concept to other parties. Academic FG5Blue described her personal experiences in publication design, during which she incorporated research-based knowledge as part of her design practice. She explained that she included research as an added bonus, rather than an optional or itemised service, thereby avoiding her client’s disposition affecting the inclusion of research. While she agreed that if a client thought a designer was wasting their time by doing research, it could be a barrier to the designers’ research engagement, she reported that she had never had a client say “why are you doing that? That’s irrelevant”. FG5Blue went on to report that in her experience, research had the ability to gain clients’ respect, shift their thinking, show initiative and attract more complex future work, so she saw research as particularly important for establishing understanding with new clients.

That said, a number of practitioners and academics noted that while clients generally like the idea of research they were reluctant to pay—or wait—for it, which suggested that clients’ value of research is somewhat limited. As FG4Blue explained, “If you ask any client… ‘is research beneficial to your product?’ they’ll say ‘yes’. [But if] there’s other considerations, then they’ll go ‘oh, it’s going to take six weeks. It’s going to, you know, cost you an extra five grand’ then they’ll start to go ‘uh, maybe not’”.

In contrast, several academics claimed that clients in Australia generally do not value research and that practitioners would need a good argument for why research would be necessary, particularly for common, simple or small jobs. Several practitioners expressed similar opinions, reporting that clients believe extra research should be unnecessary because either the designer should already be an expert or because the client does not consider it to be part of a communication designer’s role. For example, practitioner FG4Blue reported that a lot of his clients expect he already knows research-proven knowledge, such as appropriate design principles for optimal visibility for example, and therefore “they won’t necessarily want you to conduct a piece of research to find out what that is”. And FG1Red noted that communication design’s history meant that clients tend to see communication designers as technicians or vocational tradespeople and not so much as thinkers or researchers.
There was also speculation that different kinds of clients might have different dispositions in terms of research, with practitioners FG4Orange and FG4Green reflecting that their studio’s branding clients seemed to be more open to research, while environmental design clients were less so.

In terms of the second interpretation of this barrier, practitioners and academics noted that if a client did object to research, that their disposition could be a substantial barrier to the designer engaging with research. Practitioner FG4Purple explained, “if the client’s not wanting you to do research… that’ll affect the budget because they might not include that into it, which will in turn affect your time”. The impact of client disposition was therefore recognised as linked to the capital available for a project. However, FG4Purple then acknowledged that this did not happen often in his experience, which was understandable within their strategy-driven studio environment.

With such mixed interpretation of the question and variety of opinion within both the academic and practitioner cohorts it was not possible to identify a common position about whether client disposition is a barrier to research engagement by communication design practitioners. Instead it was concluded that clients purportedly value the inclusion of research if its value, as a return on investment of time and cost, is justified and recognised.

3. Relevance to design projects varies according to type of research

Most practitioners rated relevance to design projects as being not a barrier, while academics rated relevance to be a far more substantial obstacle for practitioners’ research engagement. Analysis of these ratings, in conjunction with the group discussions and the definitions of research identified from the topic one analysis, found the question of whether a lack of relevance may be a barrier to practitioners’ research engagement appears to be highly contingent on the type of research being discussed.

Most practitioners in the focus groups reported that engaging with research was relevant to their design projects by rating relevance to design projects as a minor barrier and offering supporting comments. As FG4Purple explained, “you’re just grabbing on to nothing without a bit of research”. However, several explicit comments revealed they did not believe that conducting systematic research in particular was relevant.
As noted previously, at the outset of the topic three discussions research was stipulated to be; *systematic investigation conducted to produce trustworthy findings*. The specification of research as being *systematic* in nature proved to be challenging for a few practitioners, particularly in relation to its relevance for design practice. For example, FG2Blue explained that she felt *lack of relevance* was a “huge” barrier, mainly due to *systematic* research being unable to prove why a design should look a certain way:

*I can’t think of any time that I’ve ever done that in my career: presented that type of research [gesturing to the definition of research on the wall] in conjunction with the creative outcome to justify… why it should look the way it does… I think it’s almost impossible to get research to qualify that, and I think that's the barrier for most designers. How do you actually get accurate research to prove what we do? ... I don’t know how to make that useful and relevant to the end outcome.*

Later, however, FG2Blue conceded that conducting or reading systematic research was relevant for some stages of a project, such as brand strategy work, marketplace audits or to argue for the legibility of a typeface. But these were discussed as afterthoughts, implying they were secondary to the main activity of design practice.

Other practitioners and academics reasoned that reading findings from systematic research was not relevant for informing design projects, as they believed other people’s research needed to be perfectly appropriate for a specific task to be useful.

Therefore, while most practitioners rated *relevance* as a low barrier to research engagement, the specific concerns they expressed about conducting or reading systematic research suggested otherwise: that they regarded the relevance of systematic research to be a substantial barrier to designers using it in their practice.

Considering the finding from topic one that practitioners believed research does not necessarily have to be explicitly systematic or formal, it was understandable that practitioners would rate barriers to conducting and reading research as low if they were working from their own definition of research and disregarding the definition of research that was prescribed at the start of the discussion. Therefore the discrepancy between practitioners’ barrier ratings and comments suggested that most practitioners were probably thinking of their own research definitions when rating how substantial a barrier *lack of relevance* was.
It was therefore concluded that designers believed creative, less systematic research was relevant to their design projects (as their barrier ratings indicate), yet systematic, formal research was not very relevant (as per their comments).

Within the academic groups there was also mixed opinion but overall academics’ ratings and comments also supported the finding that relevance was a barrier to practitioners engaging with systematic research specifically. Academics’ notably rated relevance to design projects to be a much bigger barrier to practitioners’ research engagement than practitioners did. However, as academics typically regarded research to be more systematic than practitioners did (as found during the topic one analysis), academics’ higher ranking of relevance as a barrier does match the finding that practitioners’ felt systematic research was not relevant to their projects.

4. Personal disposition of designers varies according to type of research and perceived relevance

As was the case with the discussion of client disposition, participants interpreted the question of whether personal disposition of designers is a barrier to research engagement in two different ways. First, some discussed whether designers are typically disposed towards or against research engagement, and second, others discussed the closely related yet separate question of whether the disposition of the designer (regardless of its orientation) was influential enough to enable or constrain research engagement within communication design practice.

In terms of the first interpretation of the question, most practitioners claimed to be in favour of engagement with research. As FG4Green proclaimed, “I see it as such an important part of the process and it should be the beginning of everyone’s process”. This position aligned with practitioners’ low rating of the personal disposition barrier and also with the overwhelming response to the survey that indicated both cohorts regarded research engagement as very important for practising communication design.

While most practitioners indicated they were in favour of engaging with research, as was the case with discussions of relevance to design projects, further analysis of the focus group comments revealed that whether the practitioner participants were in favour of engagement was highly contingent on the type of research.

The finding that personal disposition and relevance to design projects were both dependent on the type of research led to further examination of the two barriers in
relation to each other. A comparison of participants' ratings revealed that around 70 per cent of participants in both cohorts had rated relevance and personal disposition identically and the remaining 30 per cent had rated them within one rating level of each other. Qualitative analysis supported the proposition that personal disposition of the designer and relevance to design projects could be causally linked, as practitioners who rated their personal disposition higher as a barrier (indicating they were less in favour of research and that this limited their research engagement) explicitly referred to the lack of relevance of systematic research as the main reason. For example, FG2Purple acknowledged her limited "willingness to engage with that sort of information" in relation to engaging with systematic research.

The relationship between relevance and personal disposition was only mentioned once within the academic discussions, however that too supported the proposition that they were interconnected, as FG5Orange briefly mentioned that she saw the personal disposition of the designer as "quite related to relevance".

While these comments revealed several practitioners were disposed against engaging with systematic forms of research, other comments revealed concerns about using less systematic research as well. These comments contested that research, and even less systematic forms of investigation, can be detrimental to design, revealing a negative aspect to several practitioners' dispositions that was not evident in their barrier ratings. Review of these comments found that they usually referred to collecting visual references to inform design concepts, or using focus groups to judge design prototypes.

The use of image collections, such as mood boards or collecting examples of design precedents, to inspire design concepts was discussed as potentially problematic as it could lead the designer to simply copy or reference an existing style inappropriately rather than inspiring or supporting the designer to develop something new and bespoke for the specific needs of the project. As part of this discussion mood boards were questioned as a research method, challenged primarily as either not generating new knowledge (as discussed previously in relation to topic one) or not being systematic. However, FG2Blue noted that mood boards she had prepared at her previous workplace had been "quite systematic. We'd spend a week referencing pretty much every project". She went on to assert that even these systematic collections of visual material were ultimately "detrimental for the creating process" as they often led to just copying styles of other designers rather than generating new ideas.
These comments from FG2Blue were particularly interesting because the example she discussed was a highly systematic form of creative, visual research, which effectively bridged two types of inquiry, **systematic research** and **less systematic, more creative research**. Many other practitioners and academics offered similar comments with FG2Orange explaining “If you see something that works really well, it kind of goes against trying to think about something that’s different… and then it ends up being similar… it has caused you to be not unique”.

In relation to focus groups, several practitioners expressed concerns about evaluating prototype designs on the basis of focus group findings, as FG2Blue explained, “people respond to what’s familiar to them and they like things that they know and it’s hard to get past that if it’s unfamiliar”. These concerns aligned with those expressed in several survey responses as well as topic one discussions presented already.

In relation to this first interpretation of the barrier, academics’ comments were mixed as they speculated whether designers were disposed in favour or against engaging with research. Academic FG3Blue recounted the experiences of a practitioner colleague who holds a Masters by research when explaining his belief that designers are generally disposed in favour of research, explaining “I think design practitioners are going to say it’s very important because they find it fascinating and very useful, and a really productive part of practice and an enrichment of practice”. In contrast, FG4Yellow ventured that designers might be in favour of research because it was a mysterious “black box” that promised much, but which they did not fully understand.

Only a few explicit comments related to the second interpretation of the barrier, that of whether the disposition of a designer was a strong enough factor to enable or constrain research engagement within design practice. Analysis of comments found that the influence of a designer’s disposition appeared to be dependent on their workplace situation.

Several designers clearly felt capable of acting on their own preferences, as practitioner FG2Purple explained: “If I felt that it [research] was necessary and it wasn’t in the budget, and I wanted to do it, I would do it”. Interestingly, self-employed designers who worked alone offered the most confident claims of this nature.

A few participants, however, felt that even if they wished to include research within a project, they were unable to because of the difficulty of overcoming other barriers including client wishes, their own research skills and the culture of their workplace.
Academic FG5Yellow recalled that when she had practised many years ago her own disposition as a designer was not a strong enough factor to enable the inclusion of research, recollecting, “I’m just flashing back to my moment when I tried to embed research and the mess, the superficiality, the lack...”. And practitioner FG1Red recalled her disillusionments as a junior designer working within a larger studio as she was directed to search for visual references and use them to develop design concepts in a way against her personal preference. FG1Red's comments highlighted the role of the workplace, as well as the designers’ seniority within it, in determining how influential a designer’s personal disposition could be within design practice.

On the basis of these comments and others like them, the disposition of a designer appeared to be an influential factor in determining research engagement in that many designers have significant control over decision making within their projects. The designers’ disposition appeared to be particularly influential for self-employed designers that work alone, of which there are many in the Australian industry. That said it was also clear from the analysis of participants' comments that the available capital and also the surrounding field context are still factors that can overpower a designer’s disposition. Capital was predominantly referred to in the form of budget and time, which are dependent on client disposition, and also in the form of research skills. And field context was mainly referred to in the form of the immediate workplace environment, but also to some extent in terms of industry values.

It was therefore concluded that designers appear to be generally disposed in favour of research engagement in principle, yet are not in favour of engaging with systematic or formal research in particular due to concerns about its relevance to design decisions. They also hold concerns about the detrimental affect on creative decisions of researching visual references in both systematic and unsystematic ways.

It was also concluded that a designer’s disposition could be a big enough factor to influence or overcome other barriers, particularly if they are working for themselves and especially if they are also working alone.

5. Workplace could affect research engagement

Early in the discussion of topic three, practitioner FG1Pink made the point that a designer’s work situation determined how big any barrier would be for them. He posited that the barriers listed were less problematic for the members of FG1 partially because
most of them were small independent operators and that if they were working for a larger design organisation the impact of the barriers would be completely different. Comments from individual self-employed practitioners in other sessions supported this thesis as they stated that cost and time were lesser barriers for them personally because they worked for themselves and therefore had more control over allocation of fees and time.

Further, several practitioners argued that, based on their first-hand experiences, the culture of a workplace and the preferences of the director could be a barrier—or a facilitator—to designers’ research engagement. The practitioners who made up FG4 formed a good example of this. As already discussed, they rated relevance as the smallest barrier, followed by personal disposition. During the session, group members attributed these low barrier ratings to their studio culture and particularly their founder’s passion for strategic design solutions.

Academics also suggested that workplace could affect research engagement, but in different ways. In contrast with the first hand experiences reported by self-employed practitioners, FG3Purple expressed the belief that “people who are running their own businesses tend to have less time beyond the core of their business” and therefore would be less likely to engage with research. Other academics suggested that bigger studios attracted bigger clients and projects that were more likely to require—and be able to afford—the inclusion of research engagement.

6. Accessibility of research literature varies according to type of information sought

While there was a spread of ratings by practitioners for the accessibility of research literature barrier the majority of practitioners rated it at the lower end of the scale. This suggested practitioners believed they could access all the research literature they needed with reasonable ease. Comments indicated that practitioners were usually thinking of accessing research literature via internet searches, although no explicit comments referred to online databases or specific journals so it remains unknown whether they were envisaging general reading of mass media or peer-reviewed research literature that is not usually freely available.

While no practitioners mentioned academic terminology or access journal databases as a barrier a few academics suggested it could be an obstacle to engagement. FG5Orange said she suspected that designers generally didn’t know what they were
missing out on by not having access to academic databases. Considering that survey responses indicated very few practitioners read academic journals regularly this was considered a very strong possibility.

The few practitioners who rated accessibility of research literature higher explained they believed accessibility depended on what information was sought or that there was too much research literature available, creating what FG4Blue described as “an avalanche of information” that made it hard to locate appropriate material.

Within the academic cohort there was also a spread of ratings for how great a barrier accessibility of research literature is for practitioners, however the average rating was markedly higher than that of the practitioners. A notable exception was academic FG3Pink, who argued that accessibility was not a barrier due to the internet and increasing translation of text, making research literature more accessible now than ever before.

Therefore, it was concluded that accessibility of research literature was a barrier to design practitioners accessing formal, systematic research findings of the types usually published in academic journals, and so very little was read by practitioners. In contrast, there was an over abundance of more general information online than ever before, which made freely-available research literature simultaneously more easy to access, yet also more difficult to find relevant material among so much.

7. There were mixed opinions about whether a lack of research skills is a barrier to research engagement.

Within both cohorts there were mixed opinions about whether practitioners typically lack research skills and whether this is a barrier for designers’ research engagement.

Practitioners typically rated this barrier in the lower half of the scale, with a number of practitioners asserting that a lack of skills did not prevent them from engaging with research either because they felt they could learn whatever they needed (for example, via free online information), or hire any expert researchers for skills they needed but didn’t personally hold.

Likewise, several academics reasoned that a lack of skills did not prevent designers from engaging with research due to research skills now being either taught at
universities, possible to learn independently or feasible to subcontract to specialists as necessary.

However, other practitioners and academics expressed that they did feel a lack of skills limited research engagement. Practitioner FG4Blue explained; "I personally just find it hard to back up my designs to a client by kind of pretending that I've done some formal research into it when I'm not particularly skilled in that". A number of academics also described a lack of sophistication in designers’ research skills generally and claimed design practitioners often lack the training, language and confidence required for what they considered to be the difficult task of keeping research present within a design project.

In addition to these contrasting opinions within both cohorts, academic FG5Orange expressed a different view again. She explained that she had rated lack of research skills as a moderate barrier because, even though she did think designers typically lacked research skills, she suspected that designers were unaware of their skill deficiency and therefore it could not be a reason they chose to not conduct or read research. This perspective offered a logical explanation for the mixture of opinion present in the two cohorts and led to the conclusion that while most practitioners did not perceive being limited by a lack of research skills it could be a barrier to their research engagement without their knowledge.

### 8. Academic requirements and criteria can limit practitioners’ engagement

Practitioners that held the most substantial ongoing involvement with academia, FG1Pink, FG1Red and FG1Blue, all held strong, highly critical opinions of academic research and how its standards and requirements limited or excluded engagement with research by design practitioners.

Similarly, as discussed earlier, practitioners FG2Purple, FG2Blue, and FG2Yellow rejected the criteria of research needing to be systematic, as is commonly required in academic contexts.

The finding that academic criteria were perceived to limit practitioners’ research engagement, aligned with the previous finding, that designers tended to have negative dispositions with respect to more systematic academic types of research.
9. Industry disposition was perceived to affect research engagement

A few practitioners discussed that the disposition of the industry was also a potential barrier to designers engaging with research. For example FG1Pink posited that the rigid rules and style guides that became popular in postwar graphic design opposed the concept of introducing new knowledge, as research engagement aims to do.

Several designers also maintained that there is some prejudice against holding a PhD within design practice. This was interesting to consider in relation to the profile of the practitioner respondents to the stage one survey, in which none held a PhD and a minority, 9.9 per cent (N = 21), held Masters level qualifications, of which the proportion of coursework versus research qualifications was unknown. This appeared to indicate a general lack of value of formal research training and qualifications within the Australian communication design profession.

10. Many barriers are interrelated

As mentioned throughout the preceding points, many participants from both academia and practice discussed the barriers as being interrelated in various ways. While the relationships between barriers were never planned to be a topic of conversation, this subject naturally arose during discussions in all but one of the five focus groups.

It could be reasoned that all of the barriers or factors could potentially affect each other in various ways. However, participants discussed only some of these interrelationships during the sessions, which suggested these relationships were likely to be of most significance. When the links that were explicitly and implicitly identified by participants during the sessions were diagrammatically represented, as shown in Figure 23, it became evident that some factors were believed to have broader impact than others.

In particular, the designer’s personal disposition was clearly discussed by participants as related to the most other factors or barriers as it was acknowledged as being able to influence; client disposition, cost, lack of time, lack of research skills, accessibility of literature, and relevance. As discussed previously, designers’ dispositions were found to be highly contingent on the type of research being discussed, suggesting that for less systematic creative research that designers were in favour of, many barriers could be overcome, but for more systematic formal approaches, multiple obstacles were believed to impede engagement.
Figure 23: Interrelationships between barriers to communication design practitioners’ research engagement, according to academics and practitioners’ focus group data
As was done for topics one and two, the opinions discussed during topic three of the focus groups were tabulated for clear comparison as shown in Table 39. While overall practitioners and academics tended to agree with each other, on three of the 10 key points raised, there was some disagreement between the five groups. These related to whether clients like research, whether barriers are smaller for smaller studios and whether a lack of research skills is a barrier for practitioners’ engagement.

Table 39: Summary of academics and practitioners’ focus group topic three qualitative findings

<table>
<thead>
<tr>
<th>Points raised in topic three</th>
<th>Academics</th>
<th>Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Cost and lack of time are the biggest barriers</td>
<td>Mixed opinion but most agree</td>
<td>Mixed opinion but most agree</td>
</tr>
<tr>
<td>FG3 FG5 FG1 FG2 FG4</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>2. Client disposition is a barrier</td>
<td>Clients like research</td>
<td>Disagree</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>If a client refuses research, it’s a barrier</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>3. Lack of relevance to design projects is a barrier</td>
<td>Mixed opinion</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>FG3 FG5 FG1 FG2 FG4</td>
<td>Mixed opinion</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>4. Personal disposition of the designer is a barrier</td>
<td>Designers don’t like research</td>
<td>Disagree</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>Designer’s disposition can be a barrier</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>Fear of being detrimental to design may be a barrier</td>
<td>Agree</td>
<td>–</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>5. Workplace affects research</td>
<td>Studio / director’s culture affects research</td>
<td>Agree</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>Barriers are smaller for smaller studios</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>6. Accessibility of literature is a barrier</td>
<td>Mixed opinion</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>Mixed opinion</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>7. Lack of research skills is a barrier</td>
<td>Disagree</td>
<td>Mixed opinion</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>Mixed opinion</td>
<td>Disagree</td>
</tr>
<tr>
<td>8. Academic requirements limit engagement</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agree</td>
</tr>
<tr>
<td>9. Industry disposition affects research</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>FG1 FG2 FG3 FG4 FG5</td>
<td>–</td>
<td>Agreement</td>
</tr>
<tr>
<td>10. Many barriers are interrelated</td>
<td>Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>
Conclusion of Chapter 6: Summary of stage two focus group findings

The quantitative and qualitative analyses of data gathered from the discussion of the three topics were combined to arrive at the following key findings for stage two:

**Topic one: What is research?**

1. What research is varies according to context and purpose

Practitioners and academics referred to three distinct types of research (academic, market and creative research) with their legitimacy, criteria and demand determined by context (supported by topic one qualitative findings 2, 4 and 6).

2. Reflection alone is insufficient to constitute research

Overall, reflection alone was deemed to not constitute research due to either; a) lacking external data or objectivity according to practitioners, or; b) lacking additional articulation and analysis according to academics (supported by topic one quantitative finding 5, and qualitative findings 1 and 3).

3. Opinion was divided about whether research must be systematic

Academics generally asserted that research should be systematic for rigor and reliability, yet practitioners maintained that less structured and more informal research was relevant and sufficiently valid and reliable to support design practice (supported by topic one quantitative finding 5, and qualitative findings 1, 3 and 6).

4. Research should generate or acquire new knowledge

Academics and practitioners agreed that in the context of design practice, research should be conducted or read to generate new design solutions rather than copy existing ones (supported by topic one qualitative finding 5).
5. Practitioners regarded more scenarios to be research than academics did

While overall every group was very positive in its scenario rankings, practitioners were clearly more positive than academics as the practitioner cohort consistently ranked a greater proportion of their scenarios in the positive categories (supported by topic one quantitative findings 1 and 2).

6. Academics were reluctant to reject scenarios as research

Despite being more critical overall than practitioners, academics were reluctant to definitively reject scenarios as constituting research, rating the majority of their rankings within the middle *uncertain* categories for six of the ten scenarios (compared with three scenarios ranked this way by the practitioners). Also, several academics described feeling *generous* when recognising practitioner work as research, thus implying that their scenario rankings were more positive than they should have been. This offered a possible explanation for why scenarios that were unlikely to meet conventional academic criteria for research were not rejected outright by the academics, but were instead rated within the *probably* categories (supported by topic one quantitative findings 1, 2, 3, 4 and 5, and qualitative finding 7).

**Topic two: Australian vs. foreign design practice**

7. Design practice overseas involves larger clients and budgets and less familiar practice contexts

Both practitioners and academics believed foreign design practice typically involved bigger clients, larger budgets, and different business and design industry cultures than were common in Australian communication design practice.

8. Project nature, cultural contexts, audiences and research cultures were also perceived to differ between Australian and foreign design practice

Project nature, cultural contexts, audiences and research cultures were also perceived (particularly by practitioners) to differ between Australian and foreign design practice, although these were evidently regarded to be less substantial differences than those noted previously.
9. There are many different ways that foreign factors can be involved in projects conducted by Australian communication designers.

It was realised that foreign factors can be present within design projects in multiple ways, even when the project is conducted within Australia.

**Topic three: Barriers to research engagement**

10. The scale of barriers to engagement is contingent on the type of research being referred to.

Analysis of comments revealed that when rating barriers to engagement, practitioners and academics were, at times, thinking of different kinds of research, and that these differing conceptions affected how substantial they considered the barriers to be. Thus, academics rated *client disposition, designers’ disposition, relevance, accessibility,* and *research skills* higher than practitioners did, evidently on the basis of their characterisation of research being systematic (supported by topic three quantitative finding 2, and qualitative findings 3, 4, 6, 7 and 8).

11. Financial cost and lack of time are the biggest barriers.

*Cost* and *time* were perceived by both cohorts to be the biggest barriers to practitioners’ research engagement, and were regarded as being closely related to each other. There were, however several suggestions from both cohorts for ways that these could be overcome (supported by topic three quantitative analysis finding 2, and qualitative findings 1, 2 and 10).

12. The personal disposition of designers is a barrier to engaging with more systematic, formal research, yet is not a barrier to informal creative research.

As already discussed, the type of research determined how substantial the barrier of *personal disposition* was to impeding research engagement. While practitioners’ barrier rankings were low, their comments in relation to *relevance, accessibility* and systematic types of research indicated a clear reluctance to engage with more formal systematic modes of inquiry (supported by topic three qualitative findings 3, 4, 6 and 8).
13. Client disposition is a barrier to some extent

Academics and practitioners clearly believed clients like the concept of research, but not enough to pay extra or wait longer for it, therefore suggesting clients’ valuing of research was limited. This was perceived to potentially have a knock-on effect to time and funding available for research. This led to the conclusion that if research is justified as valuable enough, and is efficiently integrated into design projects, rather than being itemised independently, research has the potential to appeal to clients and add value. (supported by topic three qualitative findings 1 and 2).

14. A lack of formal research skills is a barrier in some ways

Practitioners’ skills for conducting and reading systematic research were perceived to be deficient, but also, were regarded as unlikely to be consciously preventing designers from engaging with research at present (supported by topic three qualitative finding 6 and 7).

15. Barriers to research engagement are highly interrelated

Numerous comments from four of the five focus groups referred to barriers to research engagement being interrelated (supported primarily by topic three qualitative finding 10, and secondarily by 1, 2, 3, 4, 5, 6, 7, 9 and 10).

The above key findings from stage two were carried into stage three of the mixed methods investigation for combined analysis with the stage one findings and discussion in relation to the theoretical perspective adopted, for the study.
Chapter 7: Stage three overall findings and discussion

Introduction to Chapter 7

In this chapter the findings from the stage three data analysis are presented and considered through the lens of Bourdieu’s theoretical concepts to arrive at final findings for the four main research questions that the present study set out to address. The implications of these findings are also discussed in relation to the relevant literature.

In accordance with the explanatory sequential mixed methods research design, the third stage of the present investigation involved a comparative analysis of the stage one and two findings. This analysis sought to determine how the stage two findings (from analysis of the focus group data, presented in Chapter 5) explored and explained the stage one findings (from analysis of the survey data, presented in Chapter 6).

The findings from this comparative analysis were primarily developed to comprehensively address the first two main research questions of:

- How is research characterised within the Australian communication design field?
- How are practitioners engaging with research within the Australian communication design field, and why?

This was accomplished by addressing the related sub-questions that sought to understand how practitioners and academics within the Australian communication design field characterise research, how their characterisations compare with each other, how the two cohorts perceived practitioners’ research engagement and how those perceptions also compared with each other.

Following the discussion of the findings from the stage three comparative analysis to address the first two main research questions, the third and fourth main research questions are also addressed in this chapter. This is primarily accomplished through employing Bourdieu’s theoretical concepts outlined in Chapter 3. This theoretical analysis sought to determine:

- How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?
What do these findings suggest about the role of research in Australian communication design practice in the future?

The overall findings and discussion are presented here according to the four main research questions they address.
How is research characterised within the Australian communication design field?

Based on the comparison of stage one and two results the following three overall findings were arrived at in relation to the first main research question. Each of these overall findings will now be presented in conjunction with a discussion of their implications and relevance to the literature.

Practitioners and academics referred to three distinct types of research—academic, market, and creative research

The finding that academic, market and creative research were considered distinct types of inquiry by members of the Australian communication design field was arrived at mainly through analysis of the focus groups data, however, a few responses to the open survey question that asked, What is research?, also supported this conclusion. For example, during the survey, one academic defined design research as “dissimilar from market research in that design research aims to develop outcomes that the user wants or needs or [sic] rather than creating an outcome, then researching how the outcome should be marketed in order to capitalise on its commercial success”. And, another academic survey respondent distinguished the types of research as “1) research methods to support design practice, 2) academic research into the discipline of design”.

Within the focus groups, as discussed in Chapter 6, participants from both cohorts made explicit references to academic, market and other creative types of research. FG1Pink described academic research and market research as “completely different spheres”, asserting, “research doesn’t have to be academic”.

Two of the three types (academic and market) were plainly regarded as legitimate forms of research by academics and practitioners alike, however their validity, reliability and practicality for use by communication designers was debated by both cohorts without clear resolution, and was obviously contentious.

Academic research was never questioned as being valid and reliable to conduct within a university to develop a fundamental knowledge base, however in the focus groups practitioners discussed the systematic approach to investigation that is required in academia as less relevant for supporting design decisions. As FG2Blue explained,
“there is no systematic approach to research creative work… I think it’s almost impossible to get [systematic] research to qualify that, and I think that's the barrier for most designers. How to you actually get accurate research to prove what we do?”. 

*Market* research was described as more relevant to design practice than academic research. For example, while practitioner FG1Blue acknowledged she was very familiar with academic research and using databases and libraries due to her partner’s occupation as a researcher and her own experience of completing postgraduate study in anthropology, she declared herself a research novice at the start of the focus group she participated in. When asked why she felt she was a novice despite her academic research experience and skills, she said “yeah, but that’s not what most of it, I think, is in design… I don’t know anything about the marketing thing”, thereby implying that market research was of more relevance to design practice than academic inquiry.

While *market research* was implied to be more relevant to design practice than *academic* research, during the focus groups and surveys market research was mentioned the least often of the three types and opinions varied about its validity and reliability for addressing the needs of communication design practice and projects. Participants distinguished market research as being different to academic research and as unacceptable for use in academic contexts. As FG1Pink eloquently stated, “There’s no way that academics would ever, ever in a pink fit consider market research to be valid research but the word research is common to them” (FG1Pink).

Concerns about using market research usually stemmed from market research findings being potentially invalid or unreliable for informing design decisions. As one practitioner responded during the survey:

> I do not think that focus testing in a group is very helpful apart from identifying trends such as whether the group likes the colour green, or whether they prefer one kind of typeface over another. It tends to be opinion-based rather than based on any real functional or usage outcomes.

So while market research was recognised as a distinct type of research, and it was never disputed as sufficiently valid and reliable for informing marketing decisions per se, it was discussed as invalid and unreliable for the purposes of academic inquiry and its reliability and validity for informing design practice was undoubtedly contentious.
A distinct third type of research, creative research, involving less systematic approaches to investigation was implicitly and explicitly evident in practitioners and academics’ survey and focus group responses. A few practitioners included reflection and intuitive analysis within this category as forms of creative research that designers conduct, but most referred to creative research as derived from external evidence and explicit analysis, conducted to gain insights into the context and task of their client’s project in the interests of ultimately improving the design outcome.

This less systematic creative inquiry was clearly regarded by the practitioner participants in the survey and focus groups as the most common kind of research conducted by practitioners and legitimate research in its own right.

Practitioners also characterised creative research as being most relevant for informing design decisions within the limits of capital typically available within client commissions (primarily in terms of time and budget). Academics generally disagreed, however, questioning the reliability of investigations that are too informal or unsystematic and pointing out that those limitations of time and budget could be managed to a certain extent if the designer was so disposed.

Discovering that members of the communication design field conceive research as existing in these three distinct types was useful within the present study because it offered a logical explanation for the ongoing debates that were identified previously within the literature. That is, as summarised in Table 40, due to the differences between these three types of research, the arguments about whether research engagement is or is not important for practising communication design, whether practitioners do or do not engage with research and whether practitioners do or do not value research engagement, are possibly all correct if the various types of research are all considered separately.

This conclusion highlights the importance of clarifying research definitions when investigating or discussing research engagement within the communication design field, or indeed any field.
Table 40: Summary of practitioners’ self-reported engagement with three types of research

<table>
<thead>
<tr>
<th>Is engaging with research regarded by most practitioners and academics in the Australian communication design field to be:</th>
<th>Academic research</th>
<th>Market research</th>
<th>Creative research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important for practising as a communication designer?</td>
<td>No</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td>Common in communication design practice?</td>
<td>No</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td>Valued by communication design practitioners?</td>
<td>No</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Practitioners characterised research differently to academics

A large number of different themes were evident in the definitions of research offered by practitioners and academics in response to the open survey questions (47 and 35 themes respectively). This aligned with the previous finding reported by Manfra that opinions of what counts as research vary substantially within the design field (Manfra, 2005, para. 4).

Analysis of the most common themes revealed that practitioners and academics typically held distinctly different conceptions of what types of activities are involved in research (see Figure 19, p. 208) and for what purposes research is conducted (see Figure 20, p. 209).

The differences between practitioners and academics’ characterisations can be explained using Bourdieu’s field theory. This will be discussed in more detail in relation to the third main research question, which asked how the similarities and differences between the opinions of the two cohorts can be explained using Bourdieu’s theories.

Practitioners characterised research as an act of information gathering and investigation while academics characterised research as primarily investigation

As discussed in Chapter 5, in their survey responses, professional practitioners most commonly characterised research as an activity that involves information gathering closely followed by investigation, with nearly equal number of practitioners referring to these two types of activity in their definitions of research, and around half of practitioners, 50.9 per cent (N = 108) referring to both (see Figure 10, p. 175). In
contrast, academics described research as primarily involving *investigation*, followed secondarily by *information gathering*, with the latter being referred to around half as many times as the former, and a slightly smaller proportion of respondents, 44.6 per cent ($N = 25$) referring to both activities (see Figure 12, p. 191).

When considered in relation to the professional roles of academics and practitioners, the differences between activities typically believed to constitute research appeared to reflect the role of research in the fields of academia and communication design practice. That is, conducting investigations to develop generalisable or transferable new knowledge has historically been a standard requirement of any academic in Australia, while in design practice designers are rarely, if ever, required to hold skills to conduct investigations and instead are expected to be capable of gathering information to synthesise into—or inform development of—new design concepts.

Practitioners characterised research as being for the purpose of improving practice and individual outcomes while academics characterised research as being for more fundamental purposes.

Clear differences were also evident between the purposes that practitioners and academics referred to when defining research during the survey. While both cohorts most commonly described research as being conducted to *gain deeper or more accurate understanding*, beyond that the purposes of research most commonly referred to by academics and practitioners differed in orientation towards the needs of academia and practice respectively (see Figure 20, p. 209).

Practitioners described research as being for the purpose of *informing decisions and processes to understand the context or design brief* of a project and to ultimately *improve the design outcome*. In comparison, academics described research as being conducted for the purpose of *acquiring or developing new knowledge and solving problems or answering questions* to *develop a knowledge base and inform decisions*.

A knowledge base, as a foundation of valid and reliable understandings, can be transferred and applied to many situations. Developing a knowledge base is the primary aim of academic inquiry and serves the scholastic interest of being the authority for knowledge development in society (Bourdieu, 1993a, p. 139).

As discussed in Chapter 1, academic inquiry conducted by the discipline is usually basic or applied research (see Figure 2, p. 32). The academics’ characterisation of
research as being investigation for the purpose of fundamental knowledge acquisition and problem solving—without reference to a specific project—aligns with definitions of basic and applied research offered by Buchannan (2001, pp. 18–19), and Friedman (2003c, pp. 510–511).

In contrast, the practitioners’ characterisation of research as being for the purpose of understanding a specific design task and its context implies that diagnosis and pathology of an individual problem constitute research. Such a conception aligns closely with what Buchanan and Friedman describe as clinical research (Buchanan, 2001, pp. 18–19; Friedman, 2003c, pp. 510–511). However, these kinds of investigations would fail to qualify as research under definitions such as that of the OECD, as diagnostic tests conducted within common practice (rather than within development of fundamental new knowledge) do not qualify as research (2002, pp. 31–35).

The characterisations of research were explored further during the focus groups. Qualitative analysis of participants’ comments and simple quantitative analysis of their scenario rankings from discussion topic one further supported the conclusion that practitioners and academics characterised research differently, as the qualities or criteria considered key to distinguishing an activity as research differed between the two cohorts.

**Academics described research as systematic much more than practitioners did**

A far greater number of academics than practitioners described research as being *systematic* in their definitions of research collected via the survey open questions. That is, 1.9 per cent ($N = 4$) of practitioners referred to research as *systematic* in their survey responses, compared with 23.2 per cent ($N = 13$) of academics. While this was still a minority of the academic respondents it comprised a far greater proportion than was evident in the practitioner cohort and was the biggest difference found between the types of activities described by the two cohorts in their survey responses (see Figure 19, p. 208).

When explored further during the focus groups it became clearer that the extent to which research must be systematic or formal was a point of contention, particularly within the practitioner focus groups. There were some practitioners who proposed that unarticulated intuitive reflection could qualify as being systematic in its own way.
Overall, however, practitioners maintained that less systematic types of research were more relevant to addressing the needs of design projects and that highly systematic investigations (even if they were creative or visual, as was the case with mood boards described by FG2Blue) could even be detrimental if not used appropriately to support good design outcomes.

Practitioners’ comments implicitly and explicitly questioned the relevance, validity and reliability of systematic kinds of research for benefiting design practice and outcomes. As FG2Blue said in relation to systematic research, “there is no systematic approach to research creative work… I don’t know how to make it useful and relevant to the end outcome”.

The clear difference between academics’ greater value of systematic approaches to research and practitioners’ relative skepticism reflected a difference in the underpinning expectation or requirement for rigour in research in the form of measures to ensure validity and reliability that are often discussed in the literature.

Practitioners expressed confidence in the legitimacy and relevance of less systematic approaches for informing design practice. While academics clearly respected this approach as pragmatic and relevant they still expressed the belief that additional measures to improve the trustworthiness of findings were necessary to ensure the knowledge gained was reliable enough to effectively inform decision-making.

Many of the definitions of research reviewed for the present study (as described in Chapter 1) define research as systematic, such as the Oxford English Dictionary (Research, 2011), OECD’s Frascati Manual (OECD, 2002, p. 30), and Archer’s widely cited definition: “research is systematic enquiry whose goal is communicable knowledge.” (2012, p. 6). Even the more controversial emerging areas of academic research such as practice-led research, auto- and duo-ethnography or narrative inquiry assert their validity and reliability on the basis of being systematic in various ways, such as explicit documentation, use of theory during analysis or publication and peer review.

The few arguments found in the academic literature that assert that there is value in being unsystematic when conducting some forms of research, such as cultural probes discussed by Gaver, Dunne and Pacenti (1999) and Gaver, Boucher, Pennington and Walker (2004), openly acknowledge they are controversial in this regard and are contested forms of inquiry within academia.
On the basis of these findings it was concluded that practitioners’ characterisation of research as not necessarily being systematic clearly challenges academic conventions, while academics’ characterisation of research being a systematic form of investigation aligns more closely with the established criteria of universities.

The academics and practitioners’ characterisations of research can be considered as types of inquiry on a continuum of investigation based on systematicity, with the most systematic approaches located to the right and the least systematic approaches to the left. As shown in Figure 24, the most conventional forms of academic research would be located to the right, the more controversial emerging methodologies would be located around the mid point, and the least systematic forms of investigation such as casual browsing would belong towards the left.

Figure 24: Continuum of investigation based on systematicity of research

Along the continuum, the three types of research identified by the academic and practitioners who participated in the present study could be located, as shown in green. The typical characterisations of research offered by the practitioners and academics could also be mapped, as shown in orange and blue respectively. As the extent to which any given investigation is systematic is open to some interpretation this map is somewhat speculative. However, comparing the variety of types of research recognised within the Australian communication design field in these terms reveals and clarifies the areas of difference and similarity that were found to be present within the field.
Practitioners believed research requires external data more so than academics did

In addition to the question of whether research must be systematic, the question of whether research must involve external data—as opposed to only internal inputs such as intuition, reflection or opinion—was a particular point of contention within the cohorts as well as between the cohorts.

Overall the majority of practitioners regarded reflection, and common design practice that is based on internal thoughts alone, to not constitute research, primarily on the basis of being too subjective and lacking external evidence.

Academics also typically argued that intuitive reflection alone was not research, however rather than being due to concerns about subjectivity due to using exclusively internal data, academics referred to the lack of systematic procedures for ensuring the reflection was rigorously evaluated and acted upon.

Responses from both cohorts to the open survey questions rarely referred to reflective methodologies as constituting research. No practitioners or academics explicitly described research as involving internal reflection only, without the gathering of external data, and 41.0 per cent \((N = 87)\) of practitioners and 28.6 per cent \((N = 16)\) of academics implied that research involves external data through explicitly referring to gathering information in their research definitions (see Figure 19, p. 208). Therefore, collecting external data appeared to be expected as part of research, particularly by the practitioner cohort. A number of practitioners’ comments during the focus groups further supported the conclusion that practitioners—in particular—believed research requires external data, for example FG2Red’s deduction that “anything outside of your brain is research”.

The difference between the two cohorts’ expectations for external data became more apparent during the focus groups’ topic one scenario rankings and discussions, and was particularly evident during the ranking and discussion of scenario A, (in which a designer thought about an unsuccessful presentation and tried something different the next time). While practitioners and academics both rated this to be the least likely to constitute research of all the scenarios, group discussions revealed differing reasons why and highlighted the cohorts’ contrasting positions on the necessity for external data in research.
Practitioners typically commented that scenario A was not research because the designer didn’t collect any external information. FG1Pink’s argument was typical; “You’re just thinking about it yourself as opposed to going out and getting information about it or data”. Similarly, in relation to scenario B (design experimentation) FG2Blue explained: “I put the design experimentation in the non-research category because it came from your own thought process, therefore you’re not referring to anything externally”.

Practitioners’ preference for external data in research aligned with the conventional criterion for confirmability in research. As outlined in Table 1, p. 35, to meet this criterion researchers must demonstrate their findings are clearly grounded in sources outside the researcher and are therefore not purely the researcher’s opinion (Guba & Lincoln, 1989). Considering practitioners’ overall rejection of conventional systematic research on the grounds of it having limited relevance for informing design practice, it was unexpected to find the conceptions of research that were most commonly held by communication design practitioners were fairly conventional in terms of expecting or requiring external data in the interests of objectivity.

In contrast with the practitioners, while there were some mixed opinions, academics typically were less concerned about using exclusively internal data and more concerned about conducting the investigation and analysis in a deep, intentional and explicitly systematic way. This position was evident, for example, in the common argument forwarded by academics that scenario A was not research on the grounds of being too superficial in analysis, lacking intent or not being reported. As FG5Orange explained, “there was no reporting, there’s no writing up and ‘I know this’”, and FG5Red raised concerns that “there was no aim of it being research in the beginning”.

The academics’ characterisation of research aligned with the conventional criterion for research to be systematic, but not with the conventional criterion for confirmability. Therefore, while the academics’ definition only met some conventional academic criteria for research, it accommodated methodologies of reflective research that do not require external data for confirmability but do expect systematic procedures for documentation and analysis.

As discussed previously in the literature review and definition of terms, reflective scholarly inquiry is already establishing its place within the academy. However, if considered in relation to communication design practitioners’ characterisations of
research, most designers would regard this academic inquiry as *not research*. This was exemplified when one focus group participant described a PhD program she knew of that was based on reflective architectural practice and the practitioner focus group explicitly recognised it as sitting outside their expectation for research to have external sources.

Considering the contrast between practitioners' preference for external data and objectivity and the emerging reflective methodologies in academic research, practitioners appeared to be either unaware of emerging reflective approaches to academic inquiry or opposed to their ontological and epistemological positions. Based on the very low number of practitioners that reported reading academic journals regularly, 16 per cent (*N* = 34) (see Table 17 p. 164), it appeared highly likely that designers are not aware of this emerging approach to academic research. Learning more about scholarly approaches to reflective research could offer practitioners extra insight into how to enhance and capitalise on the reflection they already conduct to understand this process better and possibly adopt more scholarly systematic or rigorous methodologies. Embracing more formal methodologies such as these could introduce more depth and thereby strengthen the validity and reliability of the reflective approaches they already employ.

If the differing expectations for research to involve external data are considered in combination with the cohorts’ differing requirement for systematicness, four broad categories of investigation can be identified, as shown in Figure 25.
When the categories of research shown in Figure 25 were considered in relation to the reasons for which research engagement is being advocated in the literature, it was concluded that types of research that deal with evidence or external data appear to be what practitioners are being urged to engage with. As noted in the literature review presented in Chapter 2, prominent calls for practitioners to engage with research claim that research engagement has the potential to accomplish many things, including: measuring the effectiveness of design concepts (Nini, 1996, p. 188); attaining knowledge beyond the experience of the sole designer (Friedman, 2000); empathising with end users through user-centered approaches (Forlizzi & Lebbon, 2002; Hanington, 2003, p. 9; Köppen & Meinel, 2012, Introduction para. 1), and; involving users in the design process to develop more effective design solutions (Sanders, 2006, p. 75). These objectives clearly align with inquiry that involves external data and would be difficult—if not impossible—to achieve with internal data or reflection alone.

Further to these common goals found in the literature, the benefits or purposes of research engagement that were evident in the stage one survey responses, also aligned closest to research that involves external data. That is, as reported in Chapter 5, academics commonly responded that practitioners’ research engagement was
beneficial for gaining expanded awareness and insights into how the world works and why, gaining improved understanding of the end user or audience, improving design process or practice and supporting problem solving and answering questions. And, as shown in Figure 20 (p. 209), practitioners and academics commonly described the purpose of research as being to gain deeper or more accurate understanding, to understand the context of a design problem (including the audience, brief and client) and to inform decisions and processes to produce the best design outcome. Again, these objectives clearly align with research that involves external data, as they would be difficult—or even impossible—to achieve by reflection alone.

Types of research recognised within the Australian communication design field appear to be expanding towards each other

The clear differences between the academics and practitioners’ characterisations of research align with common discussions in the literature about divisions between academia and the profession, or “the now familiar split between research and practice” (Schön, 1983, p. 37). The finding that practitioners characterised research differently to academics was essential in the present study for interpreting the two cohorts’ opinions of the research engagement that is taking place in the profession. Knowing that the two cohorts characterised research differently was also important for helping to predict how research, and practitioners’ engagement with it, is likely to evolve in the future.

When the cohorts’ characterisations of research were compared (as shown in Figure 24, p. 281, and Figure 25 p. 285), and consideration was given to the recent shifts within academic research, it was concluded that the types of research recognised by practitioners and academics within the Australian communication design field appear to be expanding towards each other. That is, as discussed already, communication design academics that participated in this study characterised research as not necessarily requiring external data. This characterisation represents a departure from conventional academic criteria for research located at the right end of the continuum of investigation (most systematic, as shown in Figure 24, p. 281) and the top right of the categories of investigation (systematic investigation using external data, as shown in Figure 25, p. 285). Evidence of this shift in academia is already being witnessed in the form of gradual yet growing acceptance of practice-based, reflective inquiry within the academy. The emergence of alternative reflective and practice-led methodologies in academic research constitute evidence that conventional approaches to scholarly
inquiry are expanding beyond their scientific origins, and that they are growing closer to practitioners’ characterisation of research to incorporate, value and respect the kinds of knowledge developed through practical work and reflection.

At the same time, while academic research appears to be expanding towards practice, evidence was also found to indicate the opposite: that the conceptions of research held by communication design practitioners are also expanding towards the values of academia. This expansion is evidenced by the growing debate found within academic and industry literature about the merits of research engagement for design practice, and was also apparent in the overwhelming survey responses from both cohorts that suggested research engagement is important for practising communication design. This further suggested that the profession is growing towards accepting research-based knowledge.

That the academics and practitioners’ conceptions of research appear to be expanding towards each other was unsurprising in that it suggested the two cohorts are moving towards a mid-point or compromise between their current positions. However, this shift was surprising in that Bourdieu’s field theory suggests that the values of the more dominant field members (who occupy higher positions) will prevail. This would usually indicate that communication design academics’ values would eventually supersede those of practitioners rather than practitioners’ values influencing academia as appears to be taking place to some extent.
How are practitioners engaging with research within the Australian communication design field and why?

Based on the comparison of stage one and two results, the following overall findings were arrived at in relation to the second main research question, which sought to better understand how communication design practitioners engage with research in Australia and why they do so.

Practitioners engage mainly via conducting—rather than reading—research

Data collected during both stage one and stage two of the study supported the conclusion that communication designers in Australia conduct research far more than they read research. Evidence of this gathered via the survey included the notably low proportion of practitioners that indicated they read research literature for their projects (including academic journals, commissioned research, and conference materials, see Table 17, p. 164), compared to the far higher proportion of respondents that indicated they conducted investigations of various types (see Table 16, p. 162).

Practitioners’ characterisations of research collected via the open survey question also suggested that designers thought of research engagement as mainly involving conducting investigations personally rather than reading others’ findings, as the most common themes were collecting information or data and investigating (see Figure 10, p. 175).

Focus group discussions further confirmed this finding, with several practitioners and academics expressing concerns about whether it is possible for findings from any given study to be applicable for informing a different design project. Therefore, these participants explicitly argued, it is critical for research to be specifically conducted for a given project in order to be perfectly relevant and reliable.

The conclusion that communication design practitioners in Australia appear to conduct research more so than read it contrasted with findings from research engagement studies in other disciplines, in that they found reading research was the primary mode of engagement for professionals in, for example, physiotherapy (Kamwendo, 2002, p. 32).
Practitioners engage regularly with unsystematic research

In terms of engagement through conducting research, the methods that most practitioners claimed to regularly employ were distinctly unsystematic. As discussed in detail in the survey analysis and findings reported in Chapter 5, of the 10 research methods surveyed in the questionnaire, most practitioners reported they regularly conducted only three: observations, online searches and in-person meetings. While these methods could feasibly be conducted as part of in-depth systematic investigations it was concluded that these forms of inquiry were most likely to be unsystematic, because most information gathering and use was reported to be relatively unsystematic (see Table 18, p. 166). As most practitioners reported conducting these methods of investigation for the majority of their projects in the preceding 12 months, engagement with these less systematic forms of investigation was determined to be high.

As these types of investigation sit towards the left of the continuum of investigation (shown in Figure 24, p. 281), according to the majority of definitions of research found within the literature that define research as being systematic in nature, practitioners’ activities are more likely to be regarded as less systematic investigation rather than research.

In terms of engagement through reading research, the sources that practitioners regularly read from were found to be non-research literature, as survey data indicated around half of practitioners reported reading mass-market, design industry and social media publications regularly (see Table 17, p. 164). On the basis of these data, the reading that is being conducted most by practitioners was determined to be from relatively informal, non-research sources.

Practitioners engage with unsystematic research because of their professional habitus

In terms of how engagement with research is determined by habitus, capital and field, within the present study the professional habitus of practitioners appeared to be the most influential factor in directing designers to choose to engage with less, rather than more, systematic methods. Availability of capital was also found to be a key influence, however its relationship to habitus suggested that habitus remained the most instrumental factor in determining research engagement.
Designers reported that less systematic types of research were most relevant to the needs of their projects and most achievable, and thus pragmatic within the time and cost limitations of commercial practice. While participants did not explicitly acknowledge it, less systematic forms of research would also be the easiest and most familiar to the practitioners’ professional habitus.

Following Bourdieu’s concept of habitus it was concluded that communication design practitioners engage with their own methods of research instead of adopting more systematic conventional approaches because the professional habitus is deeply rooted in the field’s history as a craft and service profession, based on heuristic investigations combined with creative thinking and problem solving to develop design outcomes or solutions.

Less prominent within the data, yet still worthy of note, was that those field values inherited from craft traditions also aligned with the use of less systematic methods of investigation. Therefore, while the field values appear to presently be shifting towards favouring more systematic research, traditional values that historically dominated within the field could be seen as possibly still encouraging practitioners to conduct less systematic investigations.

**Practitioners do not engage regularly with conventional systematic research**

In terms of conducting systematic research, preliminary survey analysis found that designers reported they rarely, if ever, engaged with the more conventional research methods surveyed, such as focus groups, interviews and surveys (see Table 16, p. 162). As detailed in Chapter 6, focus group analysis also supported the conclusion that practitioners rarely conducted conventional systematic research, with multiple participants explaining that they do not engage with systematic approaches due to them being less relevant for supporting their design practice.

This low level of conducting systematic research aligned with findings from previous studies such as Nini’s investigation of graphic design practice in the United States (Nini, 1996) during which he concluded graphic design practitioners usually gathered and used information in a very informal way, without systematic documentation or articulated methodology.

In terms of engagement through reading research, evidence was found to indicate that practitioners do not read any conventional research publications regularly.
responses indicated most designers do not regularly read any academic journals, conference materials or research reports commissioned by themselves or their clients. This low level of reading research also aligned with findings from other studies, including O’Brien’s finding that only 12 per cent (N = 50) of designers from built environment industries (being architecture, interior architecture, urban planning, urban design and landscape architecture) from Australia and New Zealand, who responded to his global survey, regularly read research to inform their projects (O’Brien, 2014).

The conclusion that engagement with conventional research was low was also supported by the tentative findings of the in-depth survey analysis. Of the four types of research engagement identified through Exploratory Factor Analysis, conducting conventional research clearly had the lowest mean (see Table 41 in Appendix F). This indicated designers, on average, conducted conventional research methods for only a few of their projects, while the higher mean values for the other three factors indicated designers reported investigating contexts, reading and investigating production for, on average, half or more of their projects.

On the basis of these data, engagement with conventional systematic types of research was concluded to be undeniably low.

**Practitioners do not engage with systematic research mainly because of their professional habitus but also due to limited capital and interrelated field conditions**

The reasons why communication design practitioners do not engage with systematic research were considered in terms of the components of Bourdieu’s equation for social practice: habitus, capital and field conditions.

In terms of habitus, as discussed earlier in this chapter, on the basis of survey and focus group findings about characterisations of research, practitioners' professional habitus was found to be typically disposed against engagement with systematic research.

In addition to being disposed against engagement with systematic research, practitioners' habitus was found to be a particularly influential factor in their practices due to being linked to many other potential barriers by participants during the topic three focus group discussions.
The focus group discussions of barriers also revealed that both cohorts regarded lack of time and cost to be the most substantial reasons why designers don’t engage with systematic research. In terms of Bourdieu’s equation for practice, these constitute forms of capital.

The finding that cost and time were substantial barriers to practitioners’ research engagement aligned with findings from other studies of practitioners’ research engagement discussed previously. For example, studies in nursing (Hutchinson & Johnston, 2004, p. 304), physiotherapy (Kamwendo, 2002, p. 23) occupational therapy (Karlsson & Tornquist, 2007, p. 221) and teaching (Borg, 2012, p. 351), all found time to be a substantial barrier to practitioners engaging with research and in built-environment design, O’Brien (2014) found a lack of funding to be a key barrier to research engagement as well.

The reasons why designers don’t engage with systematic research were also found to be interconnected. During the focus groups, barriers that represented various forms of habitus, capital and field conditions were extensively discussed as interrelated in many ways, with the greatest number of inter-barrier relationships linking to the personal disposition (habitus) of the designer (as shown in Figure 23, p. 266). For example, while academics believed that cost and time impeded practitioners’ research engagement the most, there were suggestions from a number of academics that these barriers could be overcome to some extent through a designer adjusting their priorities for time allocation, choosing to improve their research skills for more efficiency and better communicating the value of research to their clients. These suggestions from academics highlighted interrelationships between capital and the designer’s professional habitus and implied that the designers’ habitus was the more dominant factor. Practitioners, however, discussed the barriers of time and cost as being mainly dictated by client disposition. This position highlighted the relationship between capital and field forces (in the form of client demands), further demonstrating the interconnections between habitus, capital and field.

**The extent to which practitioners engage with market research remained unclear**

Limited relevant data were available for determining the extent of engagement with market research. As market research was not identified as a distinct type of research recognised by field members until the data were being analysed no explicit questions about engagement with market research were posed to participants during the survey.
or focus groups. Consequently, while it was found that, overall, field members regarded market research to be a distinct type of research the extent to which communication design practitioners engage with it could only be estimated on the basis of the data collected during the surveys and focus groups.

Of the limited evidence that was found for the extent to which practitioners engage with market research, much was contradictory. Survey data showed that most designers only read research that was commissioned from a third party (as market research commonly is) for a minority of their projects (see Table 17, p. 164). While this suggested that market research was rarely engaged with by practitioners other survey questions indicated that most designers reported they regularly gather information about market-related subjects, such as their client’s competitors, who the end users are, and the users’ values and wishes (see Table 19, p. 167). These data suggested that design practitioners might engage more with market research that they conduct personally rather than market research that they commission from others.

The clear skepticism about the relevance of market research for informing design decisions that was evident in the focus group discussions suggested that participants were unlikely to voluntarily engage with it. However, without further investigation of practitioners’ conceptions of market research, and how they believe it might differ from general investigation of project contexts that they appeared to be in favour of, it was not possible to reliably determine present levels of engagement within Australian communication design practice.

**Practitioners engage with research to explore and generate more than to evaluate**

Survey and focus group responses indicated that practitioners engage with research mainly to explore the context of their design tasks and support generation of possible design solutions, rather than to evaluate design prototypes or outcomes.

During the survey most practitioners reported that they regularly gather information about the users, client and brief (see Table 19, p. 167). Also, most practitioners reported using the information they gather to explore or define design problems or to generate or develop design concepts (see Figure 9, p. 170). Following Hanington’s categorisation (Hanington, 2007), these activities would be regarded as exploratory and generative research.
In addition to the survey findings, focus group comments were also found to support the conclusion that the research being most commonly conducted and read by designers was for exploratory and generative (rather than evaluative) purposes. Most discussions referred to research being important for exploring needs and generating possible design solutions. For example, practitioner FG4Green described research as “such an important part of the process and it should be the beginning of everyone’s process”, while image collections, being one of the most extensively debated examples of research that practitioners commonly conduct, were discussed as commonly used for both exploratory and generative applications.

Practitioners’ tendency to engage most with exploratory and generative research aligns with the literature and opinions of academics. As outlined in Chapter 2, advocates of research engagement have argued designers should read and conduct research for many reasons, including to better understand and empathise with end users (Köppen & Meinel, 2012, Introduction para. 1; Sanders, 2006, p. 75), to generate innovative new solutions (Gaver et al., 2004; Hanington, 2007) and to capitalise on the experiences and expertise of others (Friedman, 2000, p. 18). Also, as noted already in this chapter, the analysis of survey data found that engagement with research was perceived by academics as important for expanding awareness, understanding users, improving processes or practices and problem solving or answering questions. These reasons, along with the top six purposes of research that practitioners and academics mentioned in their definitions of research (see Figure 20, p. 209), fell predominantly within what Hanington describes as exploratory and generative inquiry (Hanington, 2007). Therefore the clear tendency towards engaging with exploratory and generative research found during the present study aligned with the reasons for which research engagement is advocated in the literature.

In contrast with exploratory and generative research, conflicting evidence was found for how extensively evaluative research was conducted, which suggested it was less common within the profession. While most practitioners indicated they use gathered information to evaluate draft designs (see Table 19, p. 167) and investigate the success of the final design once on the market (see Figure 9, p. 170), the frequency of these activities was not known and most practitioners reported that they rarely, if ever, test draft designs with end users (see Table 19, p. 167). Therefore the evaluation of prototype and final design outcomes that designers typically claimed to conduct
apparently did not usually involve user testing, which raised the question of how design outcomes are evaluated if not via testing with users.

Further to this, within the open question responses to the survey, references to research as being for evaluating design were rare, and several focus group and survey participants explicitly stated substantial reservations about—or objections to—the use of evaluative research for measuring effectiveness of a prototype or testing design quality. For example one practitioner wrote that research is “a point of reference to find appropriate market and media but it should never be used to judge creative” and another wrote:

_I do not think that focus testing in a group is very helpful apart from identifying trends such as whether the group likes the colour green, or whether they prefer one kind of typeface over another. It tends to be opinion-based rather than based on any real functional or usage outcomes_ (practitioner survey respondent)

Further evidence of design practitioners’ reservations about engaging with evaluative research was found during the focus groups. For example, practitioner FG2Blue contended that design decisions based on focus group evaluation of a prototype “can taint your creativity because people respond to what’s familiar to them, and they like things that they know and it’s hard to get past that if it’s unfamiliar”.

Therefore it was concluded that the use of evaluative research for informing design practice and outcomes was a contentious issue and that levels of engagement with evaluative inquiry appeared to be mixed and therefore evidently lower than engagement with exploratory and generative research. As was the case with other findings already presented in this chapter this overall finding aligned with those from past studies. These include Nini’s conclusion that most graphic designers gathered and used information prior to form-making yet only a minority of practitioners engaged with evaluative information after form-making (Nini, 1996, p. 185). This conclusion also aligned with O’Brien’s finding that 71 per cent ($N = 298$) of the built environment designers who responded to his global survey never conduct post occupancy analysis (O’Brien, 2014).
**Practitioners engage more with exploratory and generative than evaluative research, mainly because of their professional habitus**

When considered with respect to professional habitus, practitioners’ preference for exploratory and generative investigation was unsurprising, as these approaches were reasoned to afford authority for designers. Exploratory and generative research activities, by definition, seek to gain insights and understanding or generate relevant possible designs. These uses or purposes permit a designer’s intuition to have authority, as no matter what findings exploratory and generative research arrive at a designer can employ them at their discretion, in accordance with their own creative intuition.

In contrast, evaluative research aims to assess design quality, which poses a threat to the authority of the designer’s own judgment. If a designer believes in a certain design approach yet evaluative research deems it to be ineffective it is likely that a client would believe the research finding over the designer’s opinion, despite there being no universally reliable and valid methods for evaluating design outcomes.

**Practitioners advocate research engagement partially to acquire capital**

In terms of identifying motives for research engagement, it was concluded that designers advocate research engagement in principle because they see it as valuable for bringing additional credibility to design practice.

Practitioners and academics alike reported that research engagement is important to practising communication design (Figure 18, p. 207), and additional optional comments offered at the end of the surveys also supported the finding that research engagement was perceived to be important as the *importance of research for practising design* was the theme most commonly referred to by both cohorts.

However, the two cohorts’ similar belief in the importance of research did not indicate a clear consensus of opinion within the field. While both cohorts claimed research engagement was important for practising, as found in both the stage one and stage two analyses, academics characterised research differently to practitioners and therefore their survey responses effectively were advocating the importance of different kinds of investigation. This distinction was made more apparent by practitioners’ focus group comments, in which they expressed substantial reservations about the relevance of conducting and reading conventional systematic research to support or evaluate...
design projects. These comments revealed that practitioners’ general belief in the importance and relevance of research was highly contingent on the type of research being referred to. Therefore, when the cohorts’ characterisations of research were taken into account it was concluded that practitioners believed that relatively unsystematic information gathering and investigation for deepening knowledge of project contexts and informing decisions to improve design outcomes, is very important for practising as a communication designer. In contrast, academics claimed that systematic investigation for deepening knowledge, solving problems and developing a knowledge base is very important for practising as a communication designer.

Aside from the differences between the two cohorts’ characterisations of research, their common belief in the principle of research being important for practising can be explained using Bourdieu’s sociological concept of capital that was introduced in Chapter 3. From Bourdieu’s perspective, research is a form of capital and thus is sought after for increasing field position. As noted previously (Table 5 p. 106), research skills, qualifications and knowledge constitute various forms of symbolic capital within the range of species Bourdieu identified (Bonsiepe, 2007, p. 28). Consequently, engagement with research acquires its symbolic capital and bestows power upon whoever conducts or reads it.

That research is a form of symbolic capital offers an explanation for why types of investigation that are situated towards the left (less systematic) end of the continuum of investigation (Figure 24, p. 281) are increasingly being referred to as research by those who conduct them, be they design practitioners or academics (Davis, 2008b, p. 74) or other teachers in higher education (Bourdieu, 1984/1988, p. 54). That is, to acquire the symbolic capital that the title of research bestows.

Past studies in other fields have cited improving the status or integrity of a profession as being one benefit of increasing research engagement of practitioners (Kamwendo, 2002; Karlsson & Tornquist, 2007; Tanner & Davies, 2009). Authors from the communication design field also cite research engagement as being important for improving professional standing (Bennett, 2006a; Chen, 2007). Therefore arguments for the importance of conducting and reading research can be explained as efforts to gain capital, and in turn attain a higher and so more powerful position for the communication design profession within the social field of power.
As shown in Table 5 (p. 106) capital in the form of research has a different value in academia and communication design. Research is extremely valuable within Australian academia. It plays a major role in Australian higher education partly because, by commonwealth law, an Australian higher education institution must conduct a specified minimum amount of research in order to be called a university. This legislated requirement for universities to produce research has resulted in research becoming a key feature that distinguishes universities from other higher education institutions in Australia, such as private colleges, and vocational education organisations.

Research is extremely valuable within academia worldwide. While it is not a requirement in all countries for universities to conduct research (Moodie, 2014) the most prestigious world ranking systems are based substantially on research output. For example the Academic Ranking of World Universities (ARWU) commonly referred to as the *Shanghai Jiao Tong index* (CWCU, 2014; Larkins & Croucher, 2013, p. 259).

Therefore, Australian universities invest heavily in encouraging research qualifications and production. This investment is made despite research qualifications and production having limited benefits in terms of acquiring economic capital, as research funding in Australia is limited and highly competitive (Croucher et al., 2013, p. 1), and a lack of evidence that greater research engagement by higher education academics improves teaching quality (Cherastidtham, Sonnemann, & Norton, 2013; Norton, Sonnemann, & Cherastidtham, 2013).

Universities seek the prestige and reputation (symbolic capital) associated with high world rankings as they see these as being key to attracting the greatest number of students who provide their major income in the form of undergraduate coursework fees. Such economic pressures are anticipated to compound further in future due to the proposed deregulation of the Australian university sector that was announced in 2014, as this may have a knock-on effect to make research-based world rankings even more valuable.

In contrast with academia, research was found to have more limited value within the Australian communication design field. While communication design academics and practitioners alike claimed that research engagement is important for practising design, practitioners’ clear concerns about the relevance and practicality of conducting and reading more systematic conventional research demonstrated that their advocacy of research is highly dependent on definition or type. The limited value of research within
the communication design field was also evident in the reluctance of clients to allocate time and money to incorporating it into communication design projects.

The limitations of the value of research within the communication field were underscored by participants’ assertion that creative intuition is important too. Practitioners and academics alike expressed that the creative intuition of design practitioners remains essential to design practice and should not be belittled as subordinate to research knowledge. While this was explicitly raised only a few times during the survey responses, such as in the optional survey comments where it was the second most common theme mentioned by academics, 3.6 per cent ($N = 2$) and sixth most common theme mentioned by practitioners, 1.9 per cent ($N = 4$), these responses were voluntarily offered rather than in response to a direct question and thus were considered more valuable.

In the focus groups a number of comments also showed practitioners and academics believed in the importance of creative intuition. For example, practitioner FG1Blue argued for the value of intuitive creativity and asserted, “I just don’t think that should be belittled… [by suggesting] ‘Well, you just go on gut feeling’”. And in another session, practitioner FG2Red maintained, “Ideas can stand alone [without being substantiated by research] as being something in their own right because they are an idea”.

On the basis of these findings it was concluded that design practitioners advocate research engagement in principle to acquire its symbolic capital, or, in other words, to bring additional credibility to communication design practice and power to practitioners.
How can the similarities and differences between the opinions of academics and practitioners in the field be explained in terms of Bourdieu’s theoretical concepts?

The findings from the stage three comparative analysis were considered in conjunction with the findings from the Bourdieusian field analysis reported earlier in Chapter 3 to determine how the similarities and differences between the opinions of the two cohorts could be explained using Bourdieu’s theoretical concepts.

**Similarities between the opinions of academics and practitioners**

Analysis of survey data revealed that the forms of research engagement that academics believed to be typically taking place in the profession were surprisingly close to the types and levels of engagement that practitioners reported personally conducting. The closeness of opinion was obvious in the extensive similarities between practitioner and academic responses to survey questions about methods of investigation, topics investigated and sources of reading material (Table 26, p. 197, Table 29, p. 199, Figure 13, p. 202, Figure 14, p. 203, Figure 15, p. 204), and how systematic designers were perceived to be in their information gathering and use (Figure 17, p. 206, Table 28, p. 198, and Table 29, p. 199).

Similarities also existed between the cohorts’ focus group data in that they both rated *time* and *cost* as substantial barriers to practitioners’ research engagement, they both distinguished *academic*, *market* and *creative* types of research as being discrete from each other and they both highlighted the importance of creative intuition for communication design practice.

These substantial similarities between academic and practitioner opinions appeared to run contrary to popular stereotypes about academics and practitioners typically being divided or even opposed. Instead, in the instance of the Australian communication design field, academics presented a fairly accurate understanding of research engagement taking place in practice.

The similarities between the opinions of the cohorts were found to be explicable via field theory. That is, communication design academics and practitioners can be regarded as members of the same field, comprising the discipline and profession within communication design. In order to operate within the same field, according to Bourdieu,
the cohorts must follow common field rules, accept field doxa and share the field’s core interests. As field context influences the habitus of field members, which in turn informs opinions, academics and practitioners would naturally share some similar opinions due to both being members of the one field.

The extensive similarities between the opinions of the two cohorts were also found to be attributable to their common experiences and engagement with communication design practice. All practitioners and most academics that participated in the present study had links to communication design practice, with 93 per cent (N = 52) academics having practiced as designers and around 60 per cent (N = 33) reporting that they maintained regular engagement with professional practice within the preceding 12 months. These strong connections to design practice appeared to be influential in the habitus of the academic participants and were determined to be a key reason for the similarities between their opinions about what research engagement is taking place in the profession and what the most substantial barriers to research engagement are for practitioners.

The growing demand for research qualified communication design academics in Australia (Melles, 2010) appears to be encouraging undergraduate communication design students to consider pathways to postgraduate research degrees immediately after graduation from their degree more than ever before (Robertson, 2011, 2014). This route bypasses the experience of working in professional practice that has evidently been common for communication design academics in the past and students who choose this career path will miss the experience of practice in industry. Considering the impact that experience in professional practice appears to have had on communication design academics’ habitus and opinions it will be interesting to observe whether a shift towards communication design academics having little or no experience in design practice changes the typical habitus and research interests of the communication design discipline in future.
Differences between the opinions of academics and practitioners

As detailed in Chapters 4 and 5, the major differences between the opinions of academics and practitioners that were found in the present study related to characterisations of research and perceptions of certain barriers to research engagement. That is, communication design academics characterised research as a more systematic and investigative activity than practitioners did, and described research as being for developing a base of more fundamental knowledge compared with practitioners’ project-outcome oriented purposes. Academics also typically perceived most barriers to engagement as more substantial than practitioners did.

Characterisations of research differ due to field contexts

Just as Bourdieu’s field theory offered an explanation for the similarities between the two cohorts’ perceptions of research engagement in practice, it also offered an explanation for the differences between their characterisations of research as well. While communication design practitioners and academics can be regarded as members of one field (as discussed in relation to the similarities between their opinions), the same practitioners and academics simultaneously operate within very different fields in the form of the communication design field and academic field. The contrasting interests of the academic and communication design fields identified during the field analysis (see Table 7, p. 113) offered the most logical explanation for the differences that were found between the two cohorts’ characterisations of research.

Communication design academics’ characterisation of research aligned closely with the broader academic field’s interests. As discussed in Chapter 3, universities and academia have a vested interest in employing conventional criteria for research, derived from scientific principles, to maintain their dominant position as the authority of universal knowledge (Bourdieu, 1984/1988, 1989/1996). As Bourdieu poetically explained; “these scholastic codifications of the rulers of scientific practice are inseparable from the project of building a kind of intellectual papacy, replete with international corps of vicars, regularly visited or gathered together in concilium and charged with the exercise of rigorous and constant control over common practice” (Bourdieu, 1993a, p. 139).

Communication design academics’ characterisation of research was clearly influenced by these interests, as evidenced by academics’ more investigative and systematic
conception of research, their more negative rating of the topic one scenarios (Table 33, p. 222), and their general concerns about the reliability and quality of research conducted in design practice that were expressed during focus groups (as per qualitative finding 2 from the analysis of topic one focus group discussions). As academic FG5Orange surmised, “yes it's research, but it's just not very good”.

Differences in barrier ratings were attributable to differences between characterisations of research

While both cohorts rated time and cost as the two most substantial barriers to practitioners engaging with research, academics regarded the other barriers that were discussed to be substantial obstacles too, while practitioners themselves did not. As shown in Table 37, (p. 251), on average academics rated relevance to design projects and a designer's personal disposition (equating to habitus), accessibility of research literature and lack of research skills (equating to capital), and client's disposition (equating to field conditions) to all be quite substantial barriers to practitioners engaging with research, while practitioners rated all of these aspects of design practice to be minor constraints to their own engagement.

It was considered to be possible that the differences between barrier ratings could have been due, in part at least, to practitioners not being completely aware of the factors limiting their research, academics not being completely aware of the factors influencing design practice or a combination of both.

However, when considered in conjunction with the contrasting characterisations of research collected from academics and practitioners, and the specific comments offered during the focus groups, it was concluded that the main reason for why the cohorts rated these barriers differently was because they rated them according to their own characterisations of research, rather than the one prescribed at the start of the discussion. That is, as practitioners typically conceived research as involving less systematic collection of information and investigation to understand the context of their projects, it’s understandable that they would rate barriers of relevance, personal disposition, client disposition and access to literature as being low. And, as academics characterised research as being a more systematic and formal investigation than practitioners envisaged, it was also understandable that academics would regard these barriers to be more substantial for practitioners.
Differences between conception of barriers for individual designers were due to relating to different parts of Bourdieu’s equation for practice

Despite survey data suggesting academics had a close understanding of many aspects of how designers engage with research their belief that independent designers would have more difficulty overcoming research engagement barriers suggested academics might not be completely aware of the issues faced by practitioners. This possibility was particularly highlighted by the fact that independent owner-operator practitioners actually reported the opposite—that they have greater ability to engage with research if they wish. The differences between practitioners and academics’ opposing opinions about how barriers impact on independent self-employed designers, in particular, were also explicable as being references to different factors in Bourdieu’s equation for social practice that enables or limits the research engagement of independent designers.

During the focus groups the practitioners who were self-employed and worked alone expressed the belief that many barriers to research engagement were smaller for them because they were responsible for all executive decisions about time and budgets for their practice, meaning they had more freedom to involve research in their projects if they wished. When the equation for Bourdieu’s theory of practice, i.e.,

\[ (\text{habitus})(\text{capital}) + \text{field} = \text{practice} \]

(Bourdieu, 1979/1984, p. 101), was considered for these designers, the objective field structures they work within were realised to be substantially within their control. That is, the workplace forms a major part of the field structure and as independent designers hold greater control over their workplace they therefore hold greater control over the objective field that forms part of the equation that determines their practices.

In contrast, several academics believed that independent designers would have greater challenges or barriers to engaging with research. This aligned with arguments in the literature, such as Poggenphol’s suggestion that “Where does research count? If you are a designer running a small boutique operation research is probably not an issue for you” (Poggenpohl, 2010). However, academics’ belief that barriers would be greater for individual designers was found to be on the basis of a different argument to that of practitioners, as academics typically referred to types of capital in their arguments rather than workplace or field contexts. For example, FG3Purple asserted, “people who are running their own businesses tend to have less time beyond the core of their business”.

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A profession in transition: Practitioners’ research engagement in the Australian communication design field

So while independent designers reported their research engagement was enabled by their substantial control over their workplace (equating to control of their field conditions), academics believed the research engagement of these designers would be restricted by their limited resources (equating to capital) including time and budgets.

**Differences in research characterisations and values are mismatches in the communication design field that are causing a hysteresis effect**

The differences between the characterisations of research collected from the academic and practitioner cohorts evidence a mismatch in terms of species of capital valued within the Australian communication design field. In other words, what academics hold to be important was different to what practitioners reported is valuable for their practice. While academics value formal research, for example in the form of research qualifications and conventional research criteria for qualities like reliability and validity, practitioners evidently regard these forms of capital as less important, instead valuing practical forms of research that have direct relevance to design outcomes. Because their focus was on project specific outcomes qualities of transferability, confirmability and being systematic to ensure validity and reliability were not valued by practitioners.

When considered in relation to the trade and craft origins of the communication design profession, calls from the literature for designers to engage more with conventional systematic inquiry and knowledge demonstrate a shift in field values. Consequently this shift in values has resulted in a difference between practitioners’ habitus and their field conditions in the Australian communication design field.

Bourdieu observed that when the values of a field member’s habitus and the values of the field they operate within become mismatched there is a time lag while the field and habitus become realigned, which he described as a *hysteresis effect* (Bourdieu & Passeron, 1970/1990, p. 78). The situation in the Australian communication design field presents as an example of this. That is, within the field there are increasing calls for greater engagement with more formal, systematic inquiry that aligns with academics’ common characterisation of research, yet the evidence gathered during the present study indicates practitioners hold different values, advocating less systematic modes of investigation, which they regard as being more relevant for informing design practice.

In relation to this mismatch of values, there is evidence that communication design academics have experienced this hysteresis effect already. Past studies have found
the recently introduced requirement for communication design academics to conduct systematic research did not match with design academics’ habitus, was perceived as a challenge to the previous culture of learning and teaching in the field and has resulted in some tension for design faculties at Australian universities (Melles, 2007, 2008a, 2008b).

The growing culture of more formal, systematic research appears to be the result of an arbitrarily introduced academic culture, which therefore equates to symbolic violence

As discussed in the preceding point, the introduction of the values and culture of conventional research has been a change to the field conditions for communication design practitioners and also for academics that teach within this discipline in Australian universities.

As discussed in the literature review, there is a lack of broad evidence for the benefits of design practitioners engaging with research and calls for increasing research engagement are based predominantly on pure opinion. To better understand why the present situation developed when there is little or no empirical evidence to support the calls for research engagement, other possible underlying reasons for the introduction of conventional research values to communication design practice were examined.

As noted previously in Chapter 2, consideration was given to the possibility that communication design’s close association with the field of advertising may have been the catalyst for the growing push for communication designers to engage with more systematic research. The development of graphic design in Australia has been associated with the growth in the advertising industry (E. J. Lee, 2012; Young, 2005, p. 179). The Australian advertising industry experienced a shift to a more prominent research culture when market research increased in popularity more than 50 years ago (Young, 2005, p.184) and in the late 1950s, “the incorporation into advertising agencies of research departments with their language of statistics and graphs increased perceptions of the advertising industry as scientifically based, further enhancing traders’ confidence in them as a necessary part of their business approach” (Young, 2005, p. 169). Consequently “the intuitive skills which underpinned the early years [of advertising] began to give way to more professional skills… Research, pre-testing, post-testing and market analysis began to influence the way advertising people thought and acted” (Young, 2005, p.182).
While these historical events suggested that the emerging culture of research in communication design could well have originated in advertising, evidence gathered during the present study suggested otherwise. The infrequent references to market research in the data collected via the surveys and focus groups, and the palpable skepticism of practitioners in relation to the common use of market research for evaluating design prototypes, led to the conclusion that the influence of the advertising field does not appear to be the main reason for the shift in research values observed within the communication design field.

Consideration was also given to the possibility that the shift towards a more formal research culture could be due to a general shift towards increasing practitioners’ research engagement across all industries in Australia. This premise, however, was undermined by examples of other fields in Australia that are not experiencing similar shifts in research culture, (for example, the fields of professional cookery or plumbing). While communication design has entered universities, these trades have remained vocational occupations educated within technical colleges and have never developed a research culture or calls for practitioners to engage with research.

Therefore, the shift towards more formal research values was found to be due, most likely, to the communication design field’s present position within universities. That is, the clear influence of academic values evident within the types of research that practitioners are being urged to engage with, combined with the lack of evidence to suggest that the increasing research culture has come from the advertising field or a general trend in Australian occupations, all led to the conclusion that the introduction of more formal research values appears to be predominantly due to communication design being taught within universities.

Communication design entered the academy in Australia due to higher education reforms in the late 1980s. Commonly known as The Dawkins Reforms or “Dawkins Revolution” (Sharrock, 2013), the introduction of Dawkins’ Unified National System of Higher Education restructured the Australian higher education sector in the interests of achieving efficiencies to support growth and equity (Dawkins, 1988). The reforms included the merging of technical higher education colleges into universities, which brought graphic design programs into Australian universities and consequently introduced them to academic research cultures for the first time. These historical events reveal that communication design is taught within Australian universities to achieve administrative and funding efficiencies within the Australian tertiary education
sector. So communication design is being encouraged to adopt a culture of more formal systematic research not due to any recognised need for, or relationship to research in the field, but rather as a consequence of government strategies to save money.

In Bourdieu’s terms, the introduction to the communication design field of a culture that values certain types of research but not others, without the support of most practitioner field members or empirical evidence for their benefits, amounts to symbolic violence. Bourdieu coined this term to describe circumstances when the values of individuals or groups are arbitrarily rejected or superseded by the values of other dominant groups. Symbolic violence was described by Bourdieu as a key mechanism for dominant groups to maintain their superior field position with minimal effort, often with the inadvertent complicity of the dominated members.

The evidence that designers regarded research as important for their practice, as well as practitioners’ efforts to justify the less systematic forms of investigation they already conduct as constituting research, appear to demonstrate a level of complicity in accepting research as being important for their work. When specific examples of research engagement were discussed in the present study’s focus groups, however, practitioners typically rejected many of the academic criteria being imposed upon them, revealing very different interests, values and beliefs that do not align with conventional views of research. For example, FG2Blue’s assertion that research is important, yet that systematic research was not relevant or capable of supporting design decisions.

The finding that the introduction of more formal research values equates to symbolic violence has implications for communication design practitioners. For instance, if communication design practitioners become more aware of the symbolic violence being inflicted upon them, they may also become better equipped to assert the value of their own research practices in comparison with scholarly ones in future. To some extent similar issues have already emerged in academia with the entry of reflective practice methodologies into the academy, and so communication designers might benefit from greater familiarity with these approaches to inquiry.
What do these findings suggest about the role of research in Australian communication design practice in the future?

As described in the preceding section, through examining the history of the communication design field in Australia in conjunction with the relevant literature and evidence gathered during the present study, it was found that the entry of communication design into universities has introduced a mismatch in research values within the field. Consequently, a hysteresis effect exists at present, with the academic members calling for a more prominent culture of formal systematic research, while practitioners remain in favour of less systematic forms of investigation.

Bourdieu’s conceptualisation of the hysteresis effect, in conjunction with his field theory, was used to predict what is likely to happen in the future. As discussed previously in Chapter 3, Bourdieu theorised that when a hysteresis effect occurs, the mismatch between field members’ habitus and greater field values will rectify itself one way or the other due to the symbiotic relationship between field values and habitus of field members. As also theorised by Bourdieu, when a hysteresis effect is rectified, it is most likely achieved via the field members’ habitus shifting to match the values of the surrounding field. This indicates that the situation within the Australian communication design field is unlikely to remain as is, but instead, academic and practitioner field members will probably transition towards a more homogenous conception of what research is, and what kinds are appropriate for professional practitioners to engage with.

Further to predicting that research conceptions will change, Bourdieu’s field theory offered a means of forecasting the ways in which this change is most likely to happen. Through identifying possible futures and considering their likelihood based on field theory, the following conclusions about the future role of research in Australian communication design practice were reached.

The communication design profession will move closer to a culture of more formal systematic research

If the present hysteresis effect in the Australian communication design field is considered in terms of field theory, practitioners can be expected to increasingly adopt more systematic research skills and knowledge due to the influential role of academia. This is because, according to field theory, when there is a difference between the
positions of two agents (being individual people, institutions or whole fields) within the greater social field of power, the agent that holds the higher position (due to holding greater capital and thus greater power) will dominate, and therefore their values will be imposed upon the lower-placed agent. In the example of differences between communication design academics and practitioners’ characterisations of research, as was determined through the field analysis reported earlier in the present study, academics hold a more dominant position than communication design practitioners in Australian society’s field of power. Therefore, when the field of communication design moves towards a more homologous concept of research, according to Bourdieu’s theoretical concepts, it is most likely to be closer to the dominant (academics’) characterisation than that of practitioners.

In addition to academics’ superior field position, according to Bourdieu, their roles as educators of future practitioners also mean that their values will dominate those of professionals. Bourdieu’s concept of reproduction of field values and hierarchies through education in particular, sets out that the values held by educators will inevitably be imposed upon students through teaching of the accepted truths or doxa held by the dominant instructors. At present in Australia, as communication design continues to adjust to academic contexts, communication design academics are increasingly being required to conduct and publish research as part of their roles (Melles, 2008a). This required increased engagement with research appears to already be influencing design academics’ beliefs, as evidenced by the substantial academic literature reviewed earlier in this study that advocated research engagement as beneficial for design practice. Consequently this belief in the value of systematic research will be taught to design students within higher education and is likely to result in the future designers also engaging with more formal research.

In addition to communication designers engaging with more systematic research due to the influence of academics the nature of communication design jobs in future also appears likely to increase demand for research engagement. As discussed in Chapter 2, many authors have forecast that research will be increasingly important in communication design practice due to designers undertaking more complex projects.

Some communication designers in Australia appear to be already undertaking more complex projects due to, for example, increasing scale, importance, multiculturalism and transdisciplinarity of projects. For example, the Australian Taxation Office’s long-term program of research-driven design improvements is an example of a large-scale
and important design project that has already required substantial research engagement. The program commenced in the early 2000s and aspires to achieve broad-scale efficiencies within the federal taxation system through a user-centered approach that involves multiple levels of research engagement (Body, 2008).

That communication design projects in Australia will become more multicultural is predictable due to the data that indicate Australian society is already particularly multicultural and is evidently growing more so (Australian Bureau of Statistics, 2013). Therefore, the audience for communication design projects will also become more complex and in need of research to understand.

Finally, there is evidence that communication design is becoming increasingly transdisciplinary (Bremner & Rodgers, 2013). Evidence of this can already be seen in Australia, where around 60 per cent of communication designers are employed as embedded professionals within non-design industries (CIIC, 2013b, p. 12). With communication design practice in Australia already operating in multidisciplinary contexts, interdisciplinary issues appear likely to continue to introduce complexity to design projects.

If communication designers wish to actively participate, collaborate and contribute in these complex, large, multicultural and interdisciplinary environments they will need broader knowledge beyond their own discipline and culture. Research and theory from fields such as cultural studies, education, anthropology, sociology, psychology and neuroscience may offer insights. Such knowledge could enable designers to better understand the problems to be addressed and develop design proposals that offer innovative solutions that are genuinely effective and relevant to audiences that may be unfamiliar.

There is evidence that the shift towards engaging with more systematic research methods and knowledge is already underway in communication design practice within Australia as well as internationally. Recent books and courses about systematic research methods for design practitioners suggest there is now a market for research skills and knowledge relevant to design practice. For examples see Martin and Hanington (2012) and Curedale (2013, 2014). The publication of the peer reviewed journal *Visual:Design:Scholarship* by the peak industry body AGDA, and the establishment of annual research conferences such as *Design for Business: Research* offer further evidence that Australian communication design practice is shifting towards
a culture of more formal research. And the comments of recent graduates (Barnes et al., 2014) further indicate the status of research within the profession is rising, as all 15 interviewees referred to research skills as being valuable for their new roles within professional practice.

The academy is likely to grow towards accepting the values of less systematic creative research

While field theory and increasing complexity of design projects suggest that communication design practice will progressively engage with more systematic research, evidence was also found to indicate that the academy’s criteria for research are likely to expand towards accepting the less systematic forms of inquiry favoured by communication design practitioners as being valid and reliable for some purposes.

As discussed earlier in this chapter in relation to the characterisations of research found within the field, the growth of alternative methodologies for academic research based on deep reflection, narrative and practice-led research as legitimate forms of scholarly inquiry offer evidence that this shift is already happening, particularly, for example, in disciplines such as architecture and literature studies. As universities grapple with how these emerging modes of inquiry fit within the academy and serve its interests there may be implications and opportunities for communication design as it endeavors to determine how systematic research can serve the interests of design practice as well.

So while the research that communication design practitioners will engage with is expected to sit closer to systematic types valued within academia it will not be the same as used by academics. Rather, it appears most likely that the research practitioners will engage with will occupy a mid-way position on the continuum of investigation shown in Figure 24 (p. 281).

Other futures also remain possible

Aside from the expected shift towards engagement with more systematic types of research the findings from the present study point to three other possible futures.
Communication design may leave Australian research institutions

Communication design could vacate research and teaching universities in Australia to be taught in either teaching-only higher education institutions, such as private colleges, TAFE colleges that offer degrees, teaching-only universities if they ever emerge in Australia as has been proposed by some (Moodie, 2014), or vocational institutes.

If this were to eventuate, the apparent catalyst for the increasing calls for research engagement—i.e. education within research-producing universities—would no longer be part of the communication design field in Australia. Such a change could result in practitioners either remaining focused on their preferred engagement with less systematic, more creative forms of research or moving away from research altogether to focus on other priorities such as business strategies to better market themselves.

However, when the capital held by the communication design field is considered, it appears unlikely that the field would intentionally choose to leave research-producing universities. This is primarily due to the symbolic capital that communication design has gained through its higher education qualifications, university-based research profile and status as a profession educated within the academy. That said, considering that the decision for communication design to enter Australian universities originally was based on changes in political policy in the interests of financial efficiencies, rather than being due to field members’ preferences, any decision for communication design to vacate Australian research universities is likely to be made by governments or individual institutions rather than members of the profession.

Individual communication designers may vacate the profession

Should the communication design profession move towards greater engagement with systematic research, as expected, it is possible that this shift may cause some individual designers to leave the field.

This is a possibility because when considering the findings of the present investigation through a Bourdieusian lens it can be predicted that current communication design practitioners are likely to cling to previous informal research engagement that is evidently valued by their professional habitus rather than readily shift towards more formal systematic approaches. Such reluctance to change was attributed by Bourdieu to the durable nature of habitus and has reportedly caused practitioners in other fields
to leave their professional if they were unable to adjust to substantial changes in field conditions (Hardy, 2012, p. 139).

The communication design field may fragment

If the stronger culture of more systematic research develops as predicted it is also possible that the communication design field could fragment, with specialised subfields developing according to those members who have accepted—or even embraced—a stronger agenda for systematic research and those who have rejected it in favour of a vocationally educated para-professional role.

Impact and opportunities

As Bourdieu observed, whenever a hysteresis effect takes place within a field opportunities are created for those field members who hold sufficient capital to be early adopters of newly created positions. As the communication design field transitions towards the likely scenario of more formal research being conducted and read by practitioners, those field members that hold symbolic capital in the form of research training, literacy, qualifications, skills and knowledge, or are able to collaborate with specialists who do, are likely to hold a substantial advantage in attaining higher positions within the communication design field as well as the broader field of power.

If a greater role for more formal systematic research within the profession eventuates as anticipated it will impact on tertiary design education and professional development programs. As more formal research skills become more valued by clients and expected within practice, modified or new curricula will be needed to produce professionals that are appropriately skilled to operate within the new field conditions.

Opportunities will also exist for academics from the communication design discipline to participate in developing the stronger research culture and to help to bridge the differences between the research values and definitions of academics and practitioners.

The widespread claims that research engagement is important for practising communication design, found within the literature and collected from academics and practitioners during the surveys and focus groups, demonstrate substantial belief within the communication design field that research (albeit of various diverse kinds) is valuable for supporting design processes and outcomes. The reasoning behind many
of these assertions is hard to dismiss, however, further investigation is important for several reasons.

Empirical evidence of the benefits of research engagement is important to seek because, as discussed previously in Chapter 2, even the most logical reasoning for an approach cannot guarantee its efficacy in practice. Also, despite the widespread in-principle support for research engagement, the details of how research should be conducted and read to effectively inform design practice have been found to be major areas of disagreement within the field. Practitioners and academics clearly disagree on what types of research are necessary or useful for producing research findings that can constructively support communication design practice and improve design outcomes.

To work towards resolving much of the debate, more investigation, including gathering empirical evidence, is needed to reliably determine which (if any) types and levels of research engagement can be reliably proven to be beneficial for improving design processes and outcomes. If such an investigation were to identify specific methods or levels of research engagement that can significantly improve design practice and outcomes three major additional challenges would still need to be addressed.

First, further inquiry would be necessary to determine how the proven approaches can be best taught and conducted in practice to actually generate tangible improvements to design processes and outcomes. Second, practitioners would need to be persuaded of the merits of engaging with research that is more systematic than what they presently conduct and read. As the professional habitus of practitioners was found to be disposed against engaging with systematic research and as habitus is usually slow to transform (due to its durable nature), such change could take considerable time. It is worth noting that even in fields such as medicine, nursing and teaching, where research engagement has been proven as beneficial, studies have found that it is not consistently conducted in practice due to other factors (Hutchinson & Johnston, 2004) and it is important for research findings to resonate with practitioners’ prior beliefs and experience to have impact on their decisions (Bevan, 2004, p. 329).

Finally, third, even if engagement with systematic research were proven beneficial to design practice and practitioners’ professional habitus accepted its value, clients would also need to be convinced that systematic research is worth expenditure of additional capital in terms of time and money. This necessary step may prove particularly challenging, as (similar to that as mentioned in the previous point) past studies have
found that decision makers such as clients tend to accept and use research that confirms their prior beliefs while disputing or dismissing data and findings that don’t align with their own gut feeling or intuition (Durkin, 2014; H. Lee, Acito, & Day, 1987).

Such examples highlight that, even if clear evidence for the benefits of communication designers engaging with research can be collected, additional barriers will still need to be addressed.
Chapter 8: Conclusion and reflection

The preceding chapters of this thesis have described the background to, and execution of an investigation into practitioners’ research engagement within the Australian communication design profession.

This, the final chapter, concludes the thesis by briefly restating the overall findings arrived at in relation to the four main research questions that were investigated. This chapter also offers reflections on the extent to which the goals of the project have been achieved, discusses the limitations that have been overcome, and outlines opportunities for future inquiry.

The mixed methods empirical investigation and accompanying theoretical analysis undertaken for the present study have arrived at better understandings of how research is characterised in the Australian communication design field and how and why communication design practitioners engage with it. Similarities and differences between the opinions of field members have been explained in terms of Bourdieu’s theories and the future role of research in communication design practice has been forecast, as the field continues its transition from craft and trade to profession.

In terms of the first main research question, three types of research recognised within the field were identified: academic, market and creative research. Communication design practitioners and academics were found to characterise research differently to each other. Academics characterised research as more systematic and investigative than practitioners did, and described research as being for more fundamental knowledge-building purposes. In contrast, practitioners described research as involving a combination of less systematic information gathering and investigation for the purpose of improving project outcomes.

In terms of the second main research question it was found that communication design practitioners engage mainly via conducting (rather than reading) research. Practitioners reported high engagement with types of investigations that align with their own characterisation of research, but low engagement with the more systematic types of investigation that meet academia’s more conventional research criteria. This finding aligned with common discussions in the literature about divisions between research and practice. Other findings did not align with this perceived divide, however, as evidence indicated that communication design academics in Australia had a close
understanding of what levels and types of research engagement were typically taking place within Australian communication design practice.

The purposes for which communication designers typically engage with research were found to be mainly exploratory and generative, i.e. for understanding the context of design projects and generating possible design solutions, rather than evaluative research to test the effectiveness of design prototypes or final outcomes.

The reasons why practitioners engage with research as they do were found to be predominantly related to communication designers’ professional habitus, yet were also interrelated with various forms of capital, such as time, cost, research skills and research knowledge and field forces such as client preferences and workplace situations.

The reasons for which increased research engagement is being advocated for communication design practitioners were discovered to be substantially attributable to the influence of universities rather than any empirical evidence of engagement with more formal research being beneficial for communication design practice. Increasing calls for research engagement were also attributed to research constituting a form of capital that can endow design practice with additional credibility and power.

In terms of the third main research question, the differences and similarities between the opinions of practitioners and academics were found to be explicable by their various field contexts and respective professional habitus. That is, the similarities between their opinions were attributable to their common membership of the communication design field and also their formative experiences in communication design practice that appear to have influenced their habitus. And the differences were attributable to the differing interests of the communication design and academic fields within which they also operate, and the cohorts’ differing characterisations of research. The differences in research characteristics and values were found to demonstrate a mismatch in research values, which has resulted in a hysteresis effect within the field. As the mismatch was found to be predominantly attributable to arbitrarily introduced academic values the introduction of more formal systematic research to communication design practice was found to equate to symbolic violence.

And finally, in terms of the fourth main research question, engagement with more systematic research within communication design practice was forecast to increase in
future due to the anticipated continuing influence of universities’ interests, and the increasingly complex nature of some communication design projects.

**Valuable understandings gained**

The overall findings of the present investigation are valuable for understanding the present situation of research engagement within Australian communication design practice, why the present situation exists and what the future is likely to hold. These findings are particularly significant for universities, including researchers and communication design academics. This is because the key insights about present and forecast types and levels of research engagement in design practice will help to focus research efforts to explore remaining gaps in knowledge and plan appropriate curricula for communication design programs in higher education.

The findings of this study are also significant for Australian communication design practitioners as a forecast for the more prominent role research engagement is likely to play during the continuing transition from trade to established profession. These findings can prepare practitioners for the likely shifts in practice, equip them with insights to help understand and overcome barriers they may encounter and support them to capitalise on newly created opportunities that are expected to arise within the field.

**Limitations encountered and addressed**

The present study was limited in a number of ways, as any study unavoidably is. Some of these limitations have been discussed already, including the methodological limitations considered in Chapter 3 and limitations of sample sizes discussed in Chapter 5, however, the following additional considerations are also important to acknowledge.

The limitations of conducting an inquiry to fulfill requirements for a research qualification included the researcher’s skill limitations, (as various research methods were learnt and practiced), and time and budget constraints imposed by institutional requirements. These predictably limited the volume of data that could be collected and analysed. More efficient skills and further time and funding could have enabled collection of responses from a greater sample of survey and focus group participants, and therefore made it possible to conduct further qualitative and statistical analyses.
with greater ability to offer deep, as well as more generalisable findings and predictions. Such further investigation still remains possible, however, and could be conducted in future to further confirm the validity and reliability of the present study’s conclusions.

As mentioned previously in Chapter 4, the researcher’s familiarity with the profession and discipline may have also limited the present investigation by inadvertently introducing bias. However, this closeness was also regarded as a strength at times, particularly during the qualitative analyses, during which familiarity with terminology and issues described by participants in both cohorts supported more effective probing questions and accurate interpretation.

A recent study found that understanding of terminology within the communication design field varies (Maidel, 2014), so while the present study was designed intentionally to mitigate this problem it remains possible that terminology used within the study could have been broadly interpreted or misunderstood by the participants. Equally, it also remains possible that practitioners who participated in the survey and focus groups could have inadvertently or intentionally misrepresented their own attitudes or behaviours in their responses, which is a limitation with any research method that involves self-reporting. Additional investigation via other methods such as observations could help verify practitioners’ claims and thus further confirm whether terminology has been correctly understood and behaviours have been accurately reported.

**Opportunities for future research**

The findings of the present study highlight four particular opportunities for future investigation.

First, the same data could be collected within the context of another country, as Borg has done (2009) in the field of education, to investigate whether differences in, for example, economy, design culture and pedagogical model might affect research engagement by professional communication designers. Findings from such a study could provide further evidence of which factors enable or constrain research engagement in design practice.

Second, the inverse relationship between the present study’s cohorts of interest could be explored by investigating if, how and why communication design academics engage with design practice. Such an inquiry could prove to be particularly valuable in the
future. This is because, as discussed in Chapter 7, communication design academics that participated in this study were found to typically hold experience in industry and most reported ongoing engagement with design practice. These links appeared to be reflected in academics’ accurate understandings of research activities reported by practitioners in the present study. However, as also discussed earlier in Chapter 7, this situation is likely to change in the future as tertiary design students are being encouraged to consider and pursue career paths that skip industry experience and instead undertake higher research degrees immediately after graduation to pursue careers in academia. If this trend continues, and consequently communication design academics progressively hold less, or no experience in design practice, the field values may shift again, with communication design academics potentially not having the close understandings of practice they evidently hold at present.

Third, in the long term, findings from the present study could be valuable as a foundation for future investigations to track shifts in research engagement within the field. Comparison with the same data collected in, for example, five years’ time could evaluate whether any efforts by academia or industry to support engagement with research have had an impact on the way that Australian communication designers characterise, conduct and read research. This approach would be similar to what has been done by Karlsson and Tornquist (2007) within the field of occupational therapy in Sweden or in North American design on a smaller scale by Hanington (2005). Identifying any significant changes in the perceptions or reported activities of practitioners would provide useful empirical evidence for whether the Australian communication design industry is shifting its attitudes towards or engagement with systematic research in any particular ways.

And finally, fourth, further research is needed to gather empirical evidence for whether research engagement of any particular kind improves communication design practice and outcomes. To do this, obvious challenges exist in terms of evaluating design outcomes and assessing the impact of various types of research. However, other fields face similar challenges, such as evaluation of teaching quality (Cherastidtham et al., 2013) or measuring creativity (Guilford, 1950). These fields have already embarked on similar investigations and so lessons could be learnt from their tools and methods. In terms of measuring quality in design outcomes, even if, for example, design quality were only measured via a limited index such as product sales, self-reported client satisfaction or repeat business, a statistically significant improvement in these indices
could be attainable and still prove valuable. And, the preliminary scales for measuring research engagement developed during the present study's Exploratory Factor Analysis could be used as a starting point for full development of a new scale for measuring research engagement in design practice.

However, even if a study were able to gather empirical evidence for research engagement improving professional communication design practice, it must also be recognised that this alone may still not be sufficient to change behaviour of design practitioners. As discussed in Chapter 7, past studies have shown that even when evidence or data are provided to support a claim, decision makers (including designers as well as clients) still often make judgments based on their pre-existing personal preferences. In light of this and the substantial influence communication designers' habitus was found to have on research engagement in practice, gaining practitioners' endorsement is essential to the success of research engagement in design practice.

Therefore, perhaps the greatest opportunity during this period of transition will be for communication design practitioners and academics to actively collaborate during the investigation and development of more systematic research methodologies, methods, materials and literature that address the requirement for validity and reliability (appropriate to the purpose of the investigation and design task) while also being genuinely relevant and useful for improving design practice and outcomes. If practitioners and academics develop the new research culture collaboratively it arguably has the greatest chance of successfully balancing the concerns for relevance and practicality held by practitioners with the interests in rigor and reliability held by academics.

**Closing reflections**

When I commenced my PhD candidature I was an experienced Australian communication design practitioner with moderate involvement in higher education teaching. I held no formal research training or experience and was—at once—curious and skeptical about what research is, should be and will be in my profession.

Early in my candidature I often told others that I was undertaking a PhD only to attain a job in academia. As I explained, “holding a PhD in design will not make me a better designer”. But as I approach completion of my study I am no longer so sure.
I now consider myself to be a far more hybrid design professional than I was when I started. My experience in design practice remains of principal importance to me and I still identify myself primarily as a communication designer. However, I am surprised to find myself convinced that research engagement will grow in significance as a part of communication design practice in Australia, even if only because of the influence of universities. Consequently, it appears that my newly acquired research skills may prove valuable within my design practice after all.

I believe there are likely to be some—or perhaps even many—benefits of research engagement for communication design practitioners but they need to be proven. Based on my own experiences in professional design practice, I agree with arguments that research engagement can be impractical to integrate effectively into design projects. At the same time, however, I also see reason in the many claims that design projects are becoming more complex. While not all communication design projects will increase in complexity, arguably more and more will, and the value of knowledge beyond that of the individual designer’s experience appears to be indisputable. In light of these well-reasoned arguments for and against the benefits of research engagement broad empirical evidence is needed to truly understand and prove if and how conducting or reading research can improve design practice and outcomes.

As communication via various channels progressively becomes ubiquitous in contemporary society and business, communication design can arguably play an important role in many—or perhaps even all—design projects. So as communication design continues its transition towards becoming a fully-fledged profession the field appears to be well placed to explore the possibilities and potential of research engagement for supporting design practice and improving design outcomes.

In light of the outstanding gaps in knowledge and potential for exploring them within communication design I am genuinely interested in embarking on further research to discover which methods and modes of research engagement can be proven as beneficial in communication design practice. Determining exactly how research can be relevant and practical for supporting design practice in these new contexts, particularly in Australia with its large proportion of individual owner-operator communication design businesses, remains an interesting and valuable issue to be explored.
Bibliography


A profession in transition: Practitioners' research engagement in the Australian communication design field

Emma Fisher


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A profession in transition: Practitioners’ research engagement in the Australian communication design field


Nini, P.J. (2011, 26th October 2011). [Email: Regarding "what graphic designers say they do"].


A profession in transition: Practitioners’ research engagement in the Australian communication design field


Poggenpohl, S., & Winkler, D.R. (2010). What have we learned from communication design failure? Visible Language, 44(1), 127-139.


A profession in transition: Practitioners’ research engagement in the Australian communication design field


Appendices

Appendix A

Ethics approval

SUhREC Project 2012/054 Ethics Clearance
From: Sheila Hamilton-Brown
To: Emma Fisher; Keith Robertson
CC: Resethics
Date: Friday - April 20, 2012 2:20 PM
Subject: SUHREC Project 2012/054 Ethics Clearance
To: Dr Keith Robertson/Ms Emma Fisher, Design

Dear Keith and Emma

SUHREC Project 2012/054 Research and Practice Nexus: What Designers Do
Dr Keith Robertson, Design; Ms Emma Fisher
Project Duration: 20/04/2012 To 30/07/2013 [Adjusted]

I refer to the ethical review of the above project protocol undertaken by a SUHREC Subcommittee (SHESC3). Your responses to the review, as e-mailed on 20 April 2012, were put to and approved by SUHREC delegate(s).

I am pleased to advise that, as submitted to date, the project may proceed in line with standard on-going ethics clearance conditions here outlined.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the current National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator/supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project.

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact me if you have any queries about on-going ethics clearance. The SUHREC project number should be quoted in communication. Chief Investigators/Supervisors and Student Researchers should retain a copy of this email as part of project record-keeping.

Best wishes for project.

Yours sincerely,
Sheila Hamilton-Brown
Secretary, SHESC3

********************************************************************************
Sheila Hamilton-Brown
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(Tues, Wed & Fri only)
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Tel: + 61 3 9214 5935
Fax: + 61 3 9214 5267
Ethics compliance

All conditions pertaining to the preceding ethics clearance were properly met. Annual reports were completed as requested throughout the project, and the final report was submitted on 5th September 2013.
### Appendix B

**Standard framework for literature analysis**

The following information was documented for each piece of literature that was identified to be particularly relevant to this study:

<table>
<thead>
<tr>
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<th>Description</th>
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<tr>
<td>1</td>
<td>Author</td>
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<td>2</td>
<td>Author’s main position within the field (i.e., academic, professional, etc.)</td>
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<td>3</td>
<td>Year of publication</td>
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<td>4</td>
<td>Title of article / paper / book etc.</td>
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<td>5</td>
<td>Field or specialism discussed</td>
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<tr>
<td>6</td>
<td>Brief summary of article main argument or purpose</td>
</tr>
<tr>
<td>7</td>
<td>Does it discuss if practitioners do or should engage with research?</td>
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<tr>
<td>8</td>
<td>Does it discuss how practitioners do or should engage with research?</td>
</tr>
<tr>
<td>9</td>
<td>Does it discuss why practitioners do or should engage with research?</td>
</tr>
<tr>
<td>10</td>
<td>Does it discuss whether practitioners believe engaging with research is important to practice?</td>
</tr>
<tr>
<td>11</td>
<td>Basis for argument/s (be it author’s expert or unqualified opinion, theory, observed behavior or other empirical evidence)</td>
</tr>
</tbody>
</table>
Summary of highly relevant literature

The following example shows a section of the table that was developed to summarise the literature identified as highly relevant to the present study.
Appendix D

The following screen shots are taken of the online questionnaire survey for communication design practitioners in Australia, and the online questionnaire survey for communication design academics in Australia.

Please note that some question wording was programmed to adjust according to the respondent’s previous answers, and some questions were programmed to not appear for respondents for which they were not relevant. For example, questions seeking details about a qualification did not appear if a participant’s previous responses indicated they had not completed a qualification.

Therefore, while the following examples include all possible questions a respondent could have encountered when participating in either survey, some wording and question numbering may have varied slightly for different participants, and some participants may have answered fewer questions than are shown here.
Survey for Australian communication design practitioners

RESEARCH AND PRACTICE NEXUS: WHAT DESIGNERS DO SURVEY FOR COMMUNICATION DESIGN PRACTITIONERS

Welcome

This survey seeks to understand how you currently engage with research in your communication design practice and how important you feel research is to design practice generally.

Should you participate?

If you are a communication designer working from within Australia; yes, you are eligible—and encouraged—to participate. This includes graphic designers, visual communicators, graphic artists, finished artists, illustrators, web designers and other similar professionals, irrespective of what kind of organisation you work in, or what kind of communication design projects you work on. So, communication designers working within an Australian design studio, advertising agency, as an independent freelancer, or as a designer within a non-design organisation, are eligible to participate, even if the projects or clients are international.

This survey is not intended for designers from other specialisations (such as industrial design, fashion design or architecture), or technicians who are involved in communication design projects (such as web programmers), and is not intended for anyone who is currently working from outside of Australia (even if you are an Australian communication designer or have worked in Australia previously).

If you are an academic, (i.e., you teach, research or manage communication design students or programs at a university), please go to the separate survey at tinyurl.com/comdesignacademics to participate.

If you work as both a practitioner and an academic in the discipline of communication design, please complete the survey that relates to whichever activity you typically spend most of your time doing.

If you are still unsure as to whether it is appropriate for you to participate, please email Emma Fisher at sfisher@swin.edu.au for further details.

Before you start

Participation in this survey is completely voluntary, anonymous and confidential, and you can choose to withdraw from participation at any time without explanation. The full consent information statement for this study is available at tinyurl.com/consentinfostatement.

Your participation in the survey constitutes your acceptance of the information statement and your consent to participate in the study.

If you are interested in receiving a copy of the findings or participating in future stages of this study, there are details at the end of this survey of how to express your interest.

The survey will take approximately 10-15 minutes to complete and must be completed in one session. Please respond to every question and click “finish” at the end to ensure your responses are complete and can be included in the study.

Thank you for your interest in this study. Your participation is extremely important to its success.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

1. What is your gender?
   - Female
   - Male

2. What is your age?
   - 19 years or less
   - 20 – 29 years
   - 30 – 39 years
   - 40 – 49 years
   - 50 – 59 years
   - 60 years or more

3. In which Australian state or territory is your main workplace?
   - Australian Capital Territory
   - New South Wales
   - Northern Territory
   - Queensland
   - South Australia
   - Tasmania
   - Victoria
   - Western Australia

4. For how many years have you worked as a communication designer?
   - Within Australia: [ ]
   - Outside Australia: [ ]

5. Have you completed a design qualification?
   - Yes
   - No

   19%

6. What is the highest design qualification you have completed?
   - Doctorate
   - Masters
   - Bachelor with Honours
   - Bachelor
   - Associate (Diploma, Certificate)
   - Other qualification [ ]

   23%
A profession in transition: Practitioners’ research engagement in the Australian communication design field

7. In what year did you complete your Other qualification in design?

8. In what design specialisation is your Other qualification?
   - Communication design (including graphic design / commercial art / finished art etc.)
   - Other (please specify):

9. Have you completed any non-design qualifications?
   - Yes
   - No

10. What is the highest non-design qualification you have completed?
    - Doctrate
    - Masters
    - Bachelor with Honours
    - Bachelor
    - Associate (Diploma, Certificate)
    - Other qualification

34%

38%
A profession in transition: Practitioners’ research engagement in the Australian communication design field

11. In what year did you complete your non-design Other qualification?

   

12. In what discipline is your non-design Other qualification?

   

13. How often have you engaged with university-level education in the past 12 months by:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at all</th>
<th>Once or twice</th>
<th>Frequently</th>
<th>On a regular basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being a guest speaker to tertiary students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervising tertiary work experience students or interns</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Teaching as a sessional lecturer</td>
<td></td>
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</tr>
<tr>
<td>Participating in research grant projects</td>
<td></td>
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<tr>
<td>Personally undertaking university study</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Other ways (please specify):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Within which type of organisation do you mainly work?

   Choose one of:
   - Design studio
   - Advertising agency
   - In-house design department of larger organisation (that is not a design or advertising firm)
   - Freelancer (self-employed and engaged on a casual basis by clients or other design organisations)
   - Other (please specify):
15. Approximately how many employees of any position work within your organisation?

Please include both full-time and part-time employees. If you are a freelancer, who sub-contracts to other organisations, please select the first option to indicate that you are self-employed.

Choose one of:

☐ 1 (self-employed)
☐ 2-5
☐ 6-20
☐ 21-50
☐ More than 50

16. Approximately how many communication designers work within your organisation?

Please include both full-time and part-time designers. If you are a freelancer, who subcontracts to other organisations, please select the first option to indicate that you are self-employed.

Choose one of:

☐ 1 (self-employed)
☐ 2-5
☐ 6-20
☐ 21-50
☐ More than 50

17. Which other (non-communication design) professionals do you have regular contact with, or are employed by your organisation?

Choose all applicable responses from:

☐ Industrial/product designers
☐ Interior designers
☐ Architects
☐ Web/multimedia programmers
☐ Writers or editors
☐ Photographers or artists/illustrators
☐ Marketing experts
☐ Engineers
☐ Strategy or branding experts
☐ None (we only work with communication designers)
☐ Others (please specify): __________________________

18. What types of clients are served by your organisation?

Please note: this question asks about the size and nationality of your clients, not the location of your contact person. So, for example, if you deal with the local office of an international organisation, please select 'International' clients to indicate this.

Choose all applicable responses from:

☐ International clients
☐ National clients
☐ Regional clients
☐ Local clients
☐ Purely online clients that have unknown location and/or size
In the past 12 months, for how many of your design projects have you gathered information about:

<table>
<thead>
<tr>
<th>Topic</th>
<th>None</th>
<th>A few</th>
<th>Half</th>
<th>Most</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>A client's previous design efforts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A client's current competitors</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Whether the client's brief is appropriate and/or ways to improve it</td>
<td></td>
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<tr>
<td>Who the end users are</td>
<td></td>
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<tr>
<td>The end users' values</td>
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<tr>
<td>What the end users want in the design solution</td>
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<tr>
<td>Testing craft designs with end users</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Materials (e.g., stocks, paint finishes or plastics)</td>
<td></td>
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</tr>
<tr>
<td>Technology (e.g., programming languages, software or hardware)</td>
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<tr>
<td>Production processes (e.g., printing, construction or manufacturing)</td>
<td></td>
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</tr>
<tr>
<td>Success of the final design, once produced and in use</td>
<td></td>
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<td></td>
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<tr>
<td>Other aspects (please specify):</td>
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</tbody>
</table>

In the past 12 months, for how many of your design projects have you gathered information by personally conducting:

<table>
<thead>
<tr>
<th>Method</th>
<th>None</th>
<th>A few</th>
<th>Half</th>
<th>Most</th>
<th>Unsure as to what this is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online searches</td>
<td></td>
<td></td>
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<tr>
<td>Archival searches</td>
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<tr>
<td>Site visits and evaluations</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
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<tr>
<td>In-person meetings with clients</td>
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<tr>
<td>Focus groups</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td></td>
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<td></td>
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<tr>
<td>Cultural probes</td>
<td></td>
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<tr>
<td>Questionnaire surveys</td>
<td></td>
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<tr>
<td>Experiments</td>
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<tr>
<td>Other methods (please specify):</td>
<td></td>
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</tbody>
</table>
A profession in transition: Practitioners’ research engagement in the Australian communication design field

(Please note: the following question, 21, appeared with questions 19 and 20 on one screen)

<table>
<thead>
<tr>
<th>Mass-market publications (e.g. print or online news for the general public)</th>
<th>None</th>
<th>A few</th>
<th>Half</th>
<th>Most</th>
<th>All</th>
<th>Unsure of what this is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design publications (e.g. design books, magazines or e-newsletters)</td>
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<tr>
<td>Academic journals (from design or other disciplines)</td>
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<tr>
<td>Conference presentations or proceedings</td>
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<tr>
<td>Australian or International Standards, legal guidelines or regulations</td>
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<tr>
<td>Findings from research commissioned by the client (e.g. market research)</td>
<td></td>
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</tr>
<tr>
<td>Findings from research commissioned by you (e.g. market research)</td>
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<tr>
<td>Social media (e.g. internet forums, blogs, wikis, podcasts)</td>
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<tr>
<td>Other resources (please specify):</td>
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</tbody>
</table>

80%
22. What do you do with the information you read or gather?

Choose all applicable responses from:

- Use it to write return briefs
- Include it in written rationales for designs
- Include it in written follow-up reports
- Verbally communicate it to clients
- Use it to explore or define the design problem
- Use it to generate or develop design options
- Use it to evaluate draft designs
- Publish it
- Sell it
- Retain it for future reference
- Nothing (I usually do not end up using the information I gather)
- Other (please specify): 

23. When you gather and use information, how systematically do you usually do it?

- Highly systematically
- Very systematically
- Somewhat systematically
- Not at all systematically

88%
24. In your opinion, **what is research?**

25. Regardless of how you are currently able to engage with research during your design work, **how important do you believe engaging with research is to practicing professionally as a communication designer?**
   - Irrelevant
   - Of little importance
   - Of moderate importance
   - Very important
   - Extremely important

26. If you have any additional comments you would like to offer they are very welcome here.
Survey for Australian communication design academics

RESEARCH AND PRACTICE NEXUS: WHAT DESIGNERS DO SURVEY FOR COMMUNICATION DESIGN ACADEMICS

Welcome
This survey seeks your opinion, as a communication design academic, of how important research is to communication design practice and how you believe design practitioners in Australia currently engage with research.

Should you participate?
If you are a communication design academic working from within Australia: yes, you are eligible—and encouraged—to participate. This includes anyone who teaches, researches, or manages students, classes or programs, within the communication design discipline at an Australian university. For the purpose of this study, communication design is intended to include graphic design, visual communication, graphic art, finished art, illustration, web design and other similar specialisms.

This survey is not intended for academics who only work with other design specialisations (such as industrial design, fashion design or architecture), or who only work with technicians who are involved in communication design projects (such as web programmers). This survey is also not intended for anyone who is currently working from outside of Australia (even if you are involved on a remote basis with an Australian communication design university course or have worked in Australia previously).

If you mainly work as a practicing communication designer, please go to the separate survey at tinyurl.com/condesignpractitioners to participate.

If you work as both a practitioner and an academic in the discipline of communication design, please complete the survey that relates to whichever activity you typically spend most of your time doing.

If you are still unsure as to whether it is appropriate for you to participate, please email Emma Fisher at efisher@swin.edu.au for further details.

Before you start
Participation in this survey is completely voluntary, anonymous and confidential, and you can choose to withdraw from participation at any time without explanation. The full consent information statement for this study is available at tinyurl.com/consentinfostatement.

Your participation in the survey constitutes your acceptance of the information statement and your consent to participate in the study.

If you are interested in receiving a copy of the findings or participating in future stages of this study, there are details at the end of this survey of how to express your interest.

The survey will take approximately 10-15 minutes to complete and must be completed in one session. Please respond to every question and click “finish” at the end to ensure your responses are complete and can be included in the study.

Thank you for your interest in this study. Your participation is extremely important to its success.
A profession in transition: Practitioners’ research engagement in the Australian communication design field

RESEARCH AND PRACTICE NEXUS: WHAT DESIGNERS DO
SURVEY FOR COMMUNICATION DESIGN ACADEMICS

1. What is your gender?
   - Female
   - Male

2. What is your age?
   - 19 years or less
   - 20 – 29 years
   - 30 – 39 years
   - 40 – 49 years
   - 50 – 59 years
   - 60 years or more

3. In which Australian state or territory is your main workplace?
   - Australian Capital Territory
   - New South Wales
   - Northern Territory
   - Queensland
   - South Australia
   - Tasmania
   - Victoria
   - Western Australia

4. For how many years have you worked in the following situations?
   - Within Australia as a professional designer:
   - Outside Australia as a professional designer:
   - Within Australia as an academic:
   - Outside Australia as an academic:

5. Have you completed a design qualification?
   - Yes
   - No

21%
A profession in transition: Practitioners’ research engagement in the Australian communication design field

6. What is the **highest design qualification** you have completed?
   - Doctorate
   - Masters
   - Bachelor with Honours
   - Bachelor
   - Associate (Diploma, Certificate)
   - Other qualification
   - 26%

7. In what year did you complete your Other qualification in design?
   - 

8. In **what design specialisation** is your Other qualification?
   - Communication design (including graphic design / commercial art / finished art etc.)
   - Other (please specify):

9. Have you completed any **non-design** qualifications?
   - Yes
   - No
   - 39%

10. What is the **highest non-design qualification** you have completed?
    - Doctorate
    - Masters
    - Bachelor with Honours
    - Bachelor
    - Associate (Diploma, Certificate)
    - Other qualification
    - 43%
A profession in transition: Practitioners’ research engagement in the Australian communication design field

### Questionnaire:

11. In what year did you complete your non-design Other qualification?
   
12. In **what discipline** is your non-design Other qualification?
   
13. How often have you engaged with professional communication design practice in the past 12 months by:
   
<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at all</th>
<th>Once or twice</th>
<th>Frequently</th>
<th>On a regular basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending exhibitions of professional design work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attending industry association events (such as AGDA’s)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Being a guest speaker to professional practitioners</td>
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<td></td>
</tr>
<tr>
<td>Collaborating on a commercial project with professional practitioners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consulting to commercial design studios or advertising agencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personally undertaking communication design projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other ways (please specify):</td>
<td></td>
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</tr>
</tbody>
</table>

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**Percentage:** 56%
The following questions seek your personal opinion of how you believe communication designers in Australia generally work.

All references to ‘designers’ are intended to relate specifically to communication designers (including graphic designers etc.) who are working within Australia.

14. In a typical 12 month period, for how many of their design projects do you believe designers gather information about:

- A client’s previous design efforts
- A client’s current competitors
- Whether a client’s brief is appropriate and/or ways to improve it
- Who the end users are
- The end users’ values
- What the end users want in the design solution
- Testing draft designs with end users
- Materials (e.g. stocks, paint finishes or plastics)
- Technology (e.g. programming languages, software or hardware)
- Production processes (e.g. printing, construction or manufacturing)
- Success of the final design, once produced and in use
- Other aspects (please specify):

15. In a typical 12 month period, for how many of their design projects do you believe designers personally conduct:

- Online searches
- Archival searches
- Site visits and evaluations
- Interviews
- In-person meetings with clients
- Focus groups
- Observations
- Cultural probes
- Questionnaires surveys
- Experiments
- Other methods (please specify):
A profession in transition: Practitioners’ research engagement in the Australian communication design field

(Please note: the following question, 16, appeared with questions 14 and 15 on one screen)

16. In a typical 12 month period, for how many of their design projects do you believe designers read material from:

- Mass-market publications (e.g. print or online news for the general public)
- Design publications (e.g. design books, magazines or e-newsletters)
- Academic journals (from design or other disciplines)
- Conference presentations or proceedings
- Australian or International Standards, legal guidelines or regulations
- Findings from research commissioned by the client (such as market research)
- Findings from research commissioned by the designer (such as market research)
- Other resources (please specify):

- None
- A few
- Half
- All
- Unsure of what this is

69%

17. What do you believe designers do with the information they read or gather?

Choose all applicable responses from:

- Use it to write return briefs
- Include it in written rationales for designs
- Include it in written follow-up reports
- Verbally communicate it to clients
- Use it to explore or define the design problem
- Use it to generate or develop design options
- Use it to evaluate draft designs
- Publish it
- Sell it
- Retain it for future reference
- Nothing (I believe they do not end up using the information they gather)
- Other (please specify): 

18. When designers gather and use information, how systematically do you believe they usually do it?

- Highly systematically
- Very systematically
- Somewhat systematically
- Not at all systematically

78%
19. In your opinion, what is research?

20. In your opinion, what is design research?

21. Regardless of how designers currently engage with research in their work, how important do you believe engaging with research is to practicing professionally as a communication designer?
   - Irrelevant
   - Of little importance
   - Of moderate importance
   - Very important
   - Extremely important

22. What key benefits to designers do you believe engaging with research offers?

23. If you have any additional comments you would like to offer they are very welcome here.

100%
Appendix E

Descriptive statistics for data collected via the practitioners’ survey

**Question 1: What is your gender?**

![Gender distribution](image)

*Figure 26: Gender of respondents to practitioners' survey*
Question 2: *What is your age?*

![Bar chart showing age distribution of respondents to practitioners' survey](image)

**Figure 27: Age groups of respondents to practitioners' survey**
Question 3: In which Australian state or territory is your main workplace?

Figure 28: Main workplace of respondents to practitioners’ survey
Question 4: **For how many years have you worked as a communication designer within Australia and outside Australia?**

Data collected via question four were recoded into two variables for analysis. First, the responses to each of the two parts of the question were summed to give the total number of years that the respondent had worked as a communication designer. To facilitate clear statistical analysis, this scale data were recoded into four ordinal categories based on typical levels of experience recognised in the design profession; junior, mid-weight, senior, and those designers with extensive experience of between 16–25 years and 26 years or more, as shown in Figure 29.

Secondly, a variable was created based on whether the respondent had worked overseas or not, as shown in Figure 30.
Question 5: Have you completed a design qualification?
Question 6: What is the highest design qualification you have completed?

Questions 5 and 6 were presented to participants separately to streamline survey. However, they were reviewed as a combined variable to check distribution as shown below in Figure 31, and then grouped into levels for statistical analysis as shown in Figure 32.

![Figure 31: Type of highest design qualification of respondents to practitioners' survey](image1)

![Figure 32: Level of highest design qualification of respondents to practitioners' survey](image2)
**Question 7: In what year did you complete your highest qualification in design?**

Question 7 was recoded from being a scale variable (consisting of the individual years entered by respondents) to be a nominal variable with four categories for three reasons.

First, this approach accommodated those respondents who had not completed a design qualification as a separate category.

Second, it removed the ordinal hierarchy of the data. This was useful for when evaluating the hypothesis that a more recently qualified designer may engage with research more than those who had graduated a long time ago (or had never graduated), due to the shift toward research in design education in recent years.

And third, recoding into four categories simplified the data based on relevant periods of design education. Designers who had graduated in the last 10 years had completed their qualification during the period when design research has attracted more attention and emphasis in communication design education within Australian Universities. Those respondents who had graduated in the preceding 10 years completed their qualification during the period when communication design first entered into Universities in Australia, yet had not yet adopted a strong research agenda. And those respondents who had graduated more than 20 years ago would have completed their qualification before communication design was offered at Australian Universities, and so it is reasonable to expect very little emphasis on research skills or engagement would have been included in their education.

![Figure 33: Year of graduation from highest design qualification of respondents to practitioners' survey](image-url)
Question 8: *In what specialisation is your highest qualification in design?*

Data collected in response to question eight were recoded into three categories based on whether a respondent’s highest qualification was from within the field of communication design, within another design field, or whether they did not hold a design qualification as shown in

![Figure 34: Specialisation of highest design qualification of respondents to practitioners' survey](image)

Respondents who indicated their highest design qualification was from outside of communication design were asked to specify the specialization. Seven design disciplines were identified, with multimedia/digital/web design being most common \((N = 9)\), followed by industrial and product design \((N = 3)\), architecture \((N = 2)\), advertising \((N = 2)\), and design history, interior design and textile design being equally smallest \((N = 1\) each). As each of these groups are small, it was not feasible to statistically compare the different design specialisations with each other.
**Question 9:** Have you completed any non-design qualifications?

**Question 10:** What is the highest non-design qualification you have completed?

As was done with questions five and six, questions nine and ten were presented to participants separately to streamline survey. However, they were reviewed as a combined variable as shown below in Figure 35 to check distribution and used as a categorical variable during analysis.

![Graph showing level of highest non-design qualification held by respondents to practitioners' survey](image)

**Figure 35:** Level of highest non-design qualification held by respondents to practitioners’ survey
**Question 11: In what year did you complete your highest non-design qualification?**

Question 11 was recoded from being a scale variable (consisting of the individual years entered by respondents) to be a nominal variable with four categories. This was done for the same reasons discussed previously in relation to question seven, that is, to accommodate those respondents who had not completed a non-design qualification, to remove the ordinal hierarchy of the data, and to simplify the data based on relevant periods of design education.

![Figure 36: Year of graduation from highest non-design qualification by respondents to practitioners' survey](image)
**Question 12: In what discipline is your highest non-design qualification?**

As shown in Figure 35 and Figure 36, 39.6 per cent ($N = 84$) of respondents to the practitioners’ survey indicated they held a non-design qualification. When asked to specify what discipline their highest non-design qualification was in, 30 different fields were identified. The most common of these were creative, performing and fine arts ($N = 16$, 7.5 per cent), business ($N = 14$, 6.6 per cent), and education, teaching and training ($N = 6$, 2.8 per cent). In terms of the least frequent responses, 17 fields were nominated by only one respondent each ($N = 1$, 0.5 per cent each).

Due to the high number of different disciplines identified via this question, and the low number of frequencies in most disciplines, statistical analysis to compare disciplines was deemed inappropriate.
**Question 13: How often have you engaged with university-level education in the past 12 months?**

To measure engagement with higher education in the past 12 months, respondents were asked to indicate how frequently they participated in five university-based activities that professional designers commonly participate in. These were: being a guest speaker to tertiary students, supervising tertiary work experience students or interns, teaching as a sessional lecturer, participating in research grant projects, and personally undertaking university study.

Each activity was rated on a four-point scale of frequency that ranged from *Not at all*, through to *Once or twice, Frequently* and *On a regular basis*. Also, an open space was offered for respondents to include other ways they had engaged with higher education in the past 12 months.

To simplify the collected data for analysis, each participant’s responses to all options were averaged to calculate a new statistic. This statistic was then recoded to become binary, with all values below 2.5 deemed to indicate limited engagement with higher education, and therefore *not engaged with higher education*, and values 2.5 or above determined to represent reasonably frequent engagement with higher education, and so these respondents were classified as *engaged with higher education*.

![Figure 37: Higher education engagement of respondents to practitioners’ survey](image)
Question 14: Within which type of organisation do you mainly work?

The response option *Freelancer* was explained to represent the designer was self-employed and engaged on a casual basis by clients or other design organisations.

The response option *In-house design department* was defined to be within a larger organisation that is not a design or advertising firm.

Figure 38: Types of employing organisation of respondents to practitioners' survey
Question 15: **Approximately how many employees of any position work within your organisation?**

This question was asked to gather data that indicated the size of organisation that each respondent worked within. Organisation size was considered important to collect because, as outlined in the OECD’s Frascati Manual, “size generally affects the extent and nature of the R&D programmes of entities in the business enterprise sector (2002, p. 61).

Total number of employees was chosen as the most appropriate classification for organisation size, as this is recommended as the least ambiguous measure of an organisation’s size (2002, pp. 61–62).

Categories of 1, 2–5, 6–20 and 21 or more total employees were chosen for their relevance to the Australian communication design industry. According to the latest IBISWorld industry report, of the 8399 communication design enterprises in Australia, 64.7 per cent have been estimated to be individual owner-operators, with 33.7 per cent having between 1–19 employees, and only 1.6 per cent having 20 or more employees (E. J. Lee, 2012, p. 19)

Respondents were asked to include both full-time and part-time employees in their calculation. If the respondent was a freelancer, who sub-contracts to other organisations, they were instructed to select the first option, to indicate that they were self-employed.

![Image of bar chart]

**Figure 39: Size of employing organisation of respondents to practitioners’ survey**
Question 16: **Approximately how many communication designers work within your organisation?**

As per question 15, respondents were asked to include both full-time and part-time employees in their calculation. If the respondent was a freelancer, who sub-contracts to other organisations, they were instructed to select the first option, to indicate that they were self-employed.

**Figure 40: Number of communication designers working within organisation**

![Bar chart showing the distribution of communication designers across different organisational sizes.](image-url)
Question 17: Which other (non-communication design) professionals do you have regular contact with, or are employed by your organisation?

A list of nine professions (from non-design fields) was offered for respondents to choose all applicable options from. An additional option was offered for None (to indicate that the respondent only worked with other communication designers), and finally an optional open response space was offered for any additional responses to be entered. Eight additional types of professional were included in the open responses received.

Due to the large number of different professions included in responses, and relatively low frequencies within some of them, statistical analysis to compare designers who collaborated with particular other professions regularly was not feasible.

Therefore, instead, the total number of other professions that each respondent had regular contact with was summed to form a new statistic. This variable indicated the diversity of other professions that each respondent dealt with on a regular basis and is shown in Figure 41.
Question 18: What types of clients are served by your organisation?

Respondents were asked to identify if they dealt with international, national, regional, local or purely online clients, as it was hypothesized that designers whose clients were larger and more multi-national might be expected to provide research-based evidence for their design decisions.

It was clarified in the question’s instructions that this question was intended to ask about the size and nationality of the client organisation, not the location of their contact person. So, for example, if the designer dealt with the local office of an international organisation, they were instructed to select 'international' clients to indicate this.

Further consideration of the question wording and response options after the survey was launched revealed that this question was poorly designed because it asked two questions at once (the size and the location of the organisation) without offering the opportunity to respond (for example) that a client was small yet located outside Australia. Also, it was realised that further clarification was required to explain what differentiated national, regional and local clients. Consequently, data collected via this question were recoded into a new categorical variable that indicated whether the participant worked for international clients or not, as shown in Figure 42.

![Figure 42: Proportion of practitioner respondents who work for international clients](image-url)
Question 19: *In the past 12 months, for how many of your design projects have you gathered information about:*

- **A client’s previous design efforts**
- **A client’s current competitors**
- **Whether the client’s brief is appropriate and/or ways to improve it**
- **Who the end users are**
- **The end users’ values**
- **What the end users want in the design solution**
- **Testing draft designs with end users**
- **Materials (for e.g. stocks, paint finishes, or plastics)**
- **Technology (for e.g. programming languages, software or hardware)**
- **Production processes (e.g. printing, construction or manufacturing)**
- **Success of the final design, once produced and in use**

**Colour legend**
- Investigated for none of my projects
- Investigated for a few of my projects
- Investigated for half of my projects
- Investigated for most of my projects
- Investigated for all of my projects

*Figure 43: Topics investigated by respondents to practitioners’ survey*
A profession in transition: Practitioners’ research engagement in the Australian communication design field

**Question 20:** In the past 12 months, for how many of your design projects have you gathered information by personally conducting:

![Bar chart showing methods of investigation used by respondents to practitioners’ survey](chart.png)

**Colour legend**

- Investigated for none of my projects
- Investigated for a few of my projects
- Investigated for half of my projects
- Investigated for most of my projects
- Investigated for all of my projects

*Figure 44: Methods of investigation used by respondents to practitioners’ survey*
Question 21: *In the past 12 months, for how many of your design projects have you read material from:*

![Source of reading material used by respondents to practitioners' survey](image)

**Colour legend**
- Investigated for none of my projects
- Investigated for a few of my projects
- Investigated for half of my projects
- Investigated for most of my projects
- Investigated for all of my projects

*Figure 45: Sources of reading material used by respondents to practitioners' survey*
A profession in transition: Practitioners’ research engagement in the Australian communication design field

Question 22: What do you do with the information you read or gather?

Figure 46: Uses of information by respondents to practitioners’ survey

<table>
<thead>
<tr>
<th>Uses for information</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use it to generate or develop design options</td>
<td>75%</td>
</tr>
<tr>
<td>Use it to explore or define the design problem</td>
<td>75%</td>
</tr>
<tr>
<td>Verbally communicate it to clients</td>
<td>50%</td>
</tr>
<tr>
<td>Use it to evaluate draft designs</td>
<td>25%</td>
</tr>
<tr>
<td>Retain it for future use</td>
<td>0%</td>
</tr>
<tr>
<td>Include it in written rationales for designs</td>
<td>0%</td>
</tr>
<tr>
<td>Use it to write return briefs</td>
<td>25%</td>
</tr>
<tr>
<td>Include it in written follow-up reports</td>
<td>50%</td>
</tr>
<tr>
<td>Publish it</td>
<td>75%</td>
</tr>
<tr>
<td>Sell it</td>
<td>50%</td>
</tr>
<tr>
<td>Nothing (I usually do not end up using the information I gather)</td>
<td>25%</td>
</tr>
</tbody>
</table>

Colour legend
- Used this way
- Didn’t use this way

Figure 46: Uses of information by respondents to practitioners’ survey
Question 23: When you gather and use information, how systematically do you usually do it?

Figure 47: How systematically information is gathered and used by respondents to practitioners’ survey
Question 24: In your opinion, what is research?

Respondents to the practitioners’ survey were offered an open response space to describe what they think research is. Practitioners referred to 47 different themes when describing what research was to them. Practitioners most commonly described research as a verb, that is, an activity (83 per cent of respondents, \(N = 176\)), with only a few referring to research as a noun, that is, being an outcome or product of investigation (4.2 per cent, \(N = 9\)), and the remaining definitions being non-specific.

Research was most commonly described as involving:

- Collecting or gathering information (39.6 per cent of responses, \(N = 84\))
- Investigating, searching or discovering (36.3 per cent of responses, \(N = 77\))
- Analysing, synthesizing or interpreting (15.6 per cent of responses, \(N = 3\))

In contrast, it was least commonly described as involving:

- Being systematic, in-depth or methodical (3.8 per cent of responses, \(N = 8\))
- Communicating or publishing the findings (1.9 per cent of responses, \(N = 4\))

The aim of research was most commonly described as being to:

- Gain deeper or more accurate understanding (27.8 per cent \(N = 59\))
- Inform design (or non-design) decisions, processes or outcomes (25.9 per cent, \(N = 55\))
- Understand context of a project (background, marketplace, competitors, previous similar projects, or current trends) (17.9 per cent, \(N = 38\))
- Test, understand or define the brief, problem or project (14.2 per cent, \(N = 30\))
The final open question of the practitioners' survey invited participants to enter any extra comments they wished to offer. These were also analysed via Excel spreadsheet to identify the most common themes within the data.

Of the 212 practitioner surveys included in the analysis, 60 offered additional comments. The most common points offered in the open feedback were:

- Research is important (to communication design practice and/or me) (46.7 per cent, \( N = 28 \))
- The cost of research is a barrier (20 per cent, \( N = 12 \))
- Client disposition can be a barrier (15 per cent, \( N = 9 \))
- Client size can be a barrier, i.e., small clients can't afford research (11.7 per cent, \( N = 7 \))
- Lack of time is a barrier (8.3 per cent, \( N = 5 \))
- Intuition of a designer is important, separate, or in addition to, research (6.7 per cent, \( N = 4 \))
Question 25: Regardless of how you are currently able to engage with research during your design work, how important do you believe engaging with research is to practising professionally as a communication designer?

Figure 48: Importance of research to practice according to practitioners
Question 26: If you have any additional comments you would like to offer they are very welcome here.

The final open question of the practitioners’ survey invited participants to enter any extra comments they wished to offer. These were also analysed via Excel spreadsheet to identify the most common themes within the data.

Of the 212 practitioner surveys included in the analysis, 60 offered additional comments. The most common points offered in the open feedback were:

- Research is important to communication design practice and/or me (13.2 per cent, $N = 28$)
- The cost of research is a barrier (5.7 per cent, $N = 12$)
- Client disposition can be a barrier (4.2 per cent, $N = 9$)
- Client size can be a barrier in that small clients can’t afford research (3.3 per cent, $N = 7$)
- Lack of time is a barrier (2.4 per cent, $N = 5$)
- Intuition of a designer is important, separate, or in addition to, research (1.9 per cent, $N = 4$)
Appendix F

Full report of in-depth statistical analysis of practitioners’ survey data

Questions 19, 20 and 21 of the practitioners’ survey were designed to measure a respondent’s engagement with research through their self-reported activities. These asked respondents about what topics they gather information about, what investigation methods they conduct, what sources of information they read from, and how frequently they generally conducted each of these activities.

Each of these three survey questions included a number of individual response options. For example, within question 19 (which asked what topics designers gathered information about), respondents were asked to indicate how frequently they gathered information about 11 specific topics (such as A client’s previous design efforts, and The users’ values), with the opportunity to add any other key topics they gather information about too. Each of the individual response options constituted an item within the scope of the present study. Each of these items produced ordinal data via a five-point Likert-type scale based on how frequently the activity in question had been conducted by the respondent within the past 12 months (i.e., for None, A few, Half, Most or All of their projects). Between survey questions 19, 20 and 21, there were a total of 29 items, which were all included in the Exploratory Factor Analysis (EFA).

First, the data from the 29 items were evaluated to check whether they met the assumptions of EFA and were therefore suitable for this method of analysis. To do this, the following theoretical and practical limitations of EFA (Tabachnick & Fidell, 2013, pp. 616–620) were checked.

Theoretical limitations

Within the exploratory context of EFA, it is recognised that theoretical and practical limitations are somewhat relaxed in favour of what Tabachnick and Fidell refer to as “frank exploration of the data” (2013, p. 616). That said, it is also logically important to include all theoretically relevant factors within the analysis, and it is statistically important to include at least five or six hypothesized factors to ensure the solution is stable (Tabachnick & Fidell, 2013, p. 616). Consequently, efforts were made to collect data about as many potentially relevant factors (ways that designers could or do engage with research) as possible within a reasonably usable length of survey. Choice
of factors was based on the research engagement literature from the design field, as well as the more substantial literature on research engagement from non-design fields, as discussed in Chapter 2. While this cannot guarantee that all relevant factors have been included, it was the best approach possible within the present study's limitations.

**Practical limitations**

- **Sufficient sample size and no missing data**
  The dataset of 212 responses (after cleaning) qualified as an acceptable sample size for EFA (MacCallum, Widaman, Zhang, & Hong, 1999) and, as noted previously, missing data were addressed through removing cases with incomplete responses prior to commencing statistical analysis.

- **Normality**
  A review of histograms for the 29 items was conducted, which revealed 13 items to be positively skewed, seven negatively skewed, and the remaining nine showing various levels of kurtosis. While this is far from the ideal of all items having a normal distribution, it has been argued that when EFA is being conducted only to summarise the relationships within data, normality is not required (Tabachnick & Fidell, 2013, p. 618).

- **Linearity**
  While review of pairwise scatterplots is recommended for checking there is linearity between all pairs of items (Tabachnick & Fidell, 2013, pp. 618–619), inspecting all possible combinations of the 29 variables was unfeasible. In such circumstances, an acceptable alternative is to review a random selection of scatterplots (for example see Tabachnick and Fidell (2013, p. 657)). A spot check of randomly selected variables was conducted accordingly. While the plots were less than ideal, no evidence of true curvilinearity (i.e., evidence of violation of the assumption of linearity), was found.

- **Absence of Multivariate outliers among cases**
  To identify Multivariate outliers among cases, linear regression was conducted. Mahalanobis’ distance was computed for each case and compared against the critical value of 58.302 (for 29 items) (Tabachnick & Fidell, 2013, p. 949). This process identified six cases as multivariate outliers, and consequently these were removed from the dataset prior to conducting EFA.
• **Absence of Multicolinearity**
  The correlation matrix was checked to assess whether Multicolinearity was present within the 29 items. Intercorrelations among items were less than .75 (see Appendix H), indicating no issues with colinearity.

• **Factorability**
  To check the factorability of the data, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was checked. The KMO value was 0.87, which was above the minimum requirement of 0.6, suggesting enough shared variance in the data (Tabachnick & Fidell, 2013, p. 620). Furthermore, Bartlett’s (1941) test of sphericity was significant, $\chi^2(406) = 2487.87, p < .001$ indicating there were significant correlations among the variables to be analysed.

On the basis of the above checks of theoretical and practical limitations, it was deemed most appropriate to proceed with EFA, yet regard the results with substantial caution.

EFA was then conducted on the 29 items from questions 19, 20 and 21 of the practitioner survey. Individual tests were conducted and logged on a spreadsheet. Each test employed a different combination of: extraction method (either principal component analysis, principal axis factoring, alpha factoring, unweighted least squares, generalised least squares, image factoring, or maximum likelihood), rotation type (direct oblimin, varimax or promax), number of factors (commencing with five, as suggested by parallel analysis, and also testing four and three), and number of items (commencing with all 29, and gradually excluding seven).

The six items that were excluded progressively during the process of EFA were removed due to cross-loadings that indicated they related to more than one factor. The seven items excluded were; 19i (frequency the designer collects information about technology), 19f (frequency the designer collects information about what the user wants in the design solution), 20b (frequency the designer collects information via archival searches), 20d (frequency the designer collects information via interviews), 20e (frequency the designer collects information via in-person meetings with clients), and 21e (frequency the designer collects information by reading Australian or international standards, legal guidelines or regulations).

Each of the Factor Analysis tests conducted was evaluated on the basis of how well it met the four required criteria of; a) simple structure (judged from the pattern matrix), b) a high percentage of variance explained, c) communalities all above the minimum of .3,
and, d) a low percentage of nonredundant residuals with absolute values greater than 0.05.

The Factor Analysis judged to be most successful employed the generalised least squares extraction method, direct oblimin rotation, and identified four factors as being present within the 23 variables remaining in the analysis. This achieved simple structure within the pattern matrix (see Appendix I for pattern and structure matrices) and explained 44.99 per cent of the variance within the data. This solution achieved communalities all above .369, which is reasonable, and had 22 per cent nonredundant residuals above 0.05. Although this was greater than the ideal of < 10 per cent residuals above 0.05, it was the best solution achieved, and due to its exploratory purpose and theoretical validity, was determined to be adequate to proceed with.

Once EFA had suggested that four factors were identifiable within the data, the items classified as measuring each factor were grouped to form four sub-scales. On the basis of what each group of items conceptually related to, each sub-scale was given a title that reflected what underlying factor that scale was believed to measure. The four sub-scales were titled; investigating context (eight items); investigating production (two items); reading (four items), and; conducting conventional research (eight items). While the sub-scale for investigating production contained only two items, which is usually regarded as insufficient for factorial stability, two items can be sufficient as long as they are highly correlated with the factor, but not with each other. Due to these issues the scale for investigating production was treated with caution and it was noted that future studies should incorporate additional items in this factor to improve replicability.

Averaging the items belonging to each factor formed the four new subscales (or summated scales (Hair et al., 2010, p. 142)). The four factors succinctly represented the extent to which each respondent engaged with the four activities of investigating context, investigating production, reading, and conducting conventional research in the preceding 12 months.

While there is some debate about the best method for evaluating the reliability and validity of any scale (for example see Robinson, Shaver and Wrightsman, (1991), and Cronbach and Shavelson (2004)) Cronbach’s alpha continues to be the most widely used reliability coefficient (Hair et al., 2010, p. 125). Therefore, Cronbach’s alpha was calculated for all four sub-scales to test for internal consistency. Resulting values were: investigating context $\alpha = 0.859$, investigating production $\alpha = 0.856$; reading $\alpha = 0.689$. 

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and; conducting conventional research $\alpha = 0.773$. As alpha values above 0.8 are recognised as good, the scales that measure investigating production, and investigating context were deemed to be reliable. As values above 0.7 are considered acceptable, the scale that measured conducting conventional research was also deemed to be sufficiently reliable. The alpha value of 0.689 for the scale that measured reading falls just below the widely referenced threshold of 0.7, and therefore was classified as questionable. However, values between 0.6 and 0.7 have been discussed as acceptable in exploratory research (Hair et al., 2010, p. 92) and so, for the purpose of the present study, the scale for measuring reading was also determined to be reliable enough to retain with caution.

The theoretical validity of the four scales for addressing the present study’s research questions was given due consideration. The soundness of using these scales to measure the level of research engagement is highly contingent on the definition of research that is accepted. As discussed previously in Chapter 3, research is defined extremely diversely within both the communication design profession and discipline. Consequently, while conducting conventional research is easy to justify as constituting research engagement, whether reading qualifies as research is more debatable (particularly considering that the variables that EFA indicated belonged within the reading scale measured reading sources of research literature as well as mass-market publications), and investigating context also may or may not qualify as research, depending on the research criteria adopted.

While it is undeniable that the four scales developed during the EFA have substantial theoretical and statistical limitations, due to the exploratory intention of the analysis, the diversity of research definitions accepted within the field, all four scales were retained for subsequent testing, and interpreted with caution when necessary.

As shown in Table 41, all of the four factors were moderately correlated with each other, as would be expected from conducting Factor Analysis. This level of correlation suggested that if a practitioner reported they conducted one of these activities, they were likely to conduct the other three as well.

The highest mean was for investigating context, closely followed by investigating production. When these figures are considered in relation to what the scale values represent (i.e. the proportion of projects for which the given activity was conducted in the preceding 12 months, with $1 = \text{none}$, $2 = \text{a few}$, $3 = \text{half}$, $4 = \text{most}$ and $5 = \text{all}$)
projects), the means for investigating context and production issues indicated on average, designers conducted these activities for just over half of their projects. Reading’s mean of 2.65 indicated that on average designers read for just under half of their projects, and conducting conventional research’s mean of 1.33 (the lowest of all activities), indicated that on average, practitioner respondents conducted conventional research for slightly more than a few of their projects.

Table 41: Results of Explanatory Factor Analysis for practitioners’ survey data

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Investigating context</th>
<th>Investigating production</th>
<th>Reading</th>
<th>Conducting conventional research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.45</td>
<td>3.28</td>
<td>2.65</td>
<td>1.33</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.812</td>
<td>1.236</td>
<td>0.830</td>
<td>0.229</td>
</tr>
<tr>
<td>Chronbach’s α</td>
<td>0.862</td>
<td>0.856</td>
<td>0.689</td>
<td>0.773</td>
</tr>
</tbody>
</table>

Correlations

<table>
<thead>
<tr>
<th>Investigating context</th>
<th>Investigating production</th>
<th>Reading</th>
<th>Conducting conventional research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating production</td>
<td></td>
<td>0.428**</td>
<td>0.435**</td>
</tr>
<tr>
<td>Reading</td>
<td>0.435**</td>
<td>0.305**</td>
<td>0.477**</td>
</tr>
<tr>
<td>Conducting conventional research</td>
<td></td>
<td>0.296**</td>
<td>0.467**</td>
</tr>
</tbody>
</table>

All had significance (2-tailed) .000
**Correlation is significant at the 0.01 level (2-tailed)

Once the four sub-scales for measuring research activities were developed, the next stage of analysis sought to discover whether there were any significant differences between the levels of research engagement reported by distinctive groups or types of respondents. For example, to learn: do higher qualified respondents generally engage more with conventional research than lower qualified respondents? Or, do less experienced designers read for more of their projects than more experienced designers?
Based on the literature reviewed and discussed in Chapter 2, it was hypothesized that the following independent variables could be related to engagement with research:

- Age
- Whether a respondent had practiced communication design overseas
- Length of professional experience
- Level of highest design qualification (if any held)
- How recently they had graduated from their highest design qualification (if any held)
- Level of highest non-design qualification (if any held)
- Whether they had ongoing engagement with higher education
- Type of employing organisation (be it design studio, advertising, other, or freelance)
- Size of employing organisation (by number of employees)
- Extent of collaboration with other professions (by number of other professions)
- Whether they worked for foreign clients
- How systematically a respondent claimed to gather and use information
- How important they stated research engagement was for professional communication design practice

A factorial Multivariate Analysis of Variance (MANOVA) was conducted to discover whether any significant differences in research engagement existed between groups, based on the above 13 independent variables. Prior to conducting the test, the data were checked to determine whether they met the assumptions of MANOVA. This was accomplished by checking the data for the theoretical and practical limitations (Tabachnick & Fidell, 2013, pp. 251–255) as follows.

**Theoretical limitations**

While MANOVA can identify which groups of respondents behave in significantly different ways, it is important to note that any inference of causality between the
independent and dependent variables is purely based on logic, and thus the results of any MANOVA are limited by theory (Tabachnick & Fidell, 2013, p. 251). Theoretical limitations also affect the choice of variables (both dependent and independent) as their validity relies on logical decisions rather than statistical ones (Tabachnick & Fidell, 2013, p. 251).

Practical limitations

• **Sufficient sample size and no missing data**
  As discussed previously, all missing data were identified and removed prior to analysis. The sample size was checked and there were more than four cases per cell, as required for an analysis that includes four dependent variables. Individual cells within each variable were also checked for evenness. While it is ideal to have relatively even numbers of cases per cell within each independent variable, several cells were found to have substantial unevenness. Also, some had less than the ideal minimum of 20 cases per cell. Consequently, the analysis and findings were interpreted with caution.

• **Multivariate normality**
  Field recommends that as there is no specific test for multivariate normality for MANOVA in SPSS, the only practical approach is to evaluate Univariate normality instead and acknowledge that while Univariate normality is required for multivariate normality, it is not an absolute guarantee of it (2009, pp. 603–604). To evaluate Univariate normality of the four dependent variables, each was reviewed via histograms and box plots. The data distribution for investigating context and reading were regarded as normal. The histogram for investigating production issues was platykurtic, however was not regarded a serious problem because this scale was already recognised as less reliable (due to only including two variables). It was therefore already being employed with caution. The distribution of the fourth dependent variable, conducting conventional research, was positively skewed and so a square root transformation was applied. The resulting variable was still positively skewed, however, it did improve the normality of the distribution somewhat, removed all outliers, and as this variable was theoretically important to the research questions, it was deemed valid for inclusion on the MANOVA.

• **Absence of outliers among cases**
  To identify outliers among cases, standardised scores (z-scores) were calculated
for the four dependent variables included in the MANOVA. Maximum and minimum z-scores for each variable were checked and all were found to be > -3.29 and < 3.29. Therefore no Univariate outliers were found and the assumption of absence of Univariate outliers was deemed to be satisfied. To identify Multivariate outliers among cases, linear regression was conducted so that Mahalanobis’ distance could be computed for each case. Mahalanobis’ distance was compared against the critical value of 18.467 (for four items) (Tabachnick & Fidell, 2013, p.952). This process identified one case as a multivariate outlier, and consequently this was removed from the dataset prior to conducting MANOVA.

- **Linearity**
  As discussed previously in relation to checking this assumption prior to EFA, reviewing scatterplots of every possible combination of independent and dependent variables is the ideal process to check for the presence of linearity. As the number of possible combinations is impractical to review within the present study’s limitations, a random selection of variables were plotted and compared. Again, while the plots were less than ideal, no evidence of true curvilinearity (i.e., evidence of violation of the assumption of linearity), was found.

- **Absence of Multicollinearity**
  MANOVA is recognised to work best with either highly negatively correlated dependent variables, or moderately correlated dependent variables in either direction (about |.6|) (Tabachnick & Fidell, 2013, p. 270). Therefore the dependent variables (i.e. the four factors developed through EFA) were checked and were confirmed to be not highly correlated (known as absence of multicollinearity). To check the strength of correlations between the dependent variables, the correlations table was reviewed (see Table 41) As correlations ranged between .296 and .477, and it is only correlations around .8 or higher that are reason for concern, the assumption of multicolinearity was considered satisfied.

On the basis of these checks, it was deemed appropriate to proceed with the factorial MANOVA, with due caution for the limitations as outlined here. Data for the 13 hypothetically or theoretically relevant demographics were input as the independent variables, and the composite scores for the four research activities were input as the dependent variables.
Field recommends conducting Levene’s test to check whether the assumption of equality of variances between groups is met, followed by Box’s test to account for covariances (2009, p. 604). Levene’s test was conducted and all four dependent variables were found to be not significant, as is required to meet the assumption of equality of variance. However, Box’s test failed to calculate and therefore could not be confirmed. As this constituted evidence that the assumption of homogeneity of variance-covariance matrices could have been violated, it was decided to use Pillai’s criterion in the MANOVA, as it is regarded as robust to violation of this assumption (Tabachnick & Fidell, 2013, p. 271). The Pillai’s criterion model was also chosen for its recognised robustness when—as was the case with these data—sample size decreases and cells or groups are unequal (Tabachnick & Fidell, 2013, p. 271).

As the results of the MANOVA presented in Table 42 show, there was a statistically significant difference between groups in their overall level of engagement with research for six independent variables: Experience working overseas ($p = .047$), Type of employing organisation ($p = .039$), Number of other professions collaborated with ($p = .043$), How systematic the respondent claimed to be ($p = .011$), and How important the respondent stated research is for communication design practice ($p = .003$). Also, the variable for How recent the highest design qualification was ($p = .093$) was also considered to be significant. This was based on the directed hypothesis that designers who had graduated more recently from their highest design qualification would be more likely to have been taught research skills. Due to this directionalized hypothesis, the $p$ value for this variable was divided by two (as the $p$ value obtained within SPSS is two tailed), and therefore $p = .0465$. 
Table 42: Multivariate tests matrix for practitioners’ survey data

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>F statistic</th>
<th>Hypothesis df</th>
<th>Sig (p value)</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.581 a</td>
<td>8</td>
<td>.129</td>
<td>.034</td>
</tr>
<tr>
<td>Experience working overseas</td>
<td>2.456 a</td>
<td>4</td>
<td>.047*</td>
<td>.052</td>
</tr>
<tr>
<td>Length of experience</td>
<td>1.467</td>
<td>12</td>
<td>.132</td>
<td>.032</td>
</tr>
<tr>
<td>Level of highest design qualification</td>
<td>.653 a</td>
<td>8</td>
<td>.733</td>
<td>.014</td>
</tr>
<tr>
<td>How recent the highest design qualification was</td>
<td>1.718 a</td>
<td>8</td>
<td>.093*</td>
<td>.037</td>
</tr>
<tr>
<td>Level of highest non-design qualification (if any held)</td>
<td>.614</td>
<td>12</td>
<td>.831</td>
<td>.013</td>
</tr>
<tr>
<td>Ongoing engagement with higher education</td>
<td>.647 a</td>
<td>4</td>
<td>.407</td>
<td>.630</td>
</tr>
<tr>
<td>Type of employing organization</td>
<td>1.844</td>
<td>12</td>
<td>.039*</td>
<td>.039</td>
</tr>
<tr>
<td>Size of employing organisation</td>
<td>.862</td>
<td>12</td>
<td>.587</td>
<td>.019</td>
</tr>
<tr>
<td>Number of other professions collaborated with</td>
<td>2.024 a</td>
<td>8</td>
<td>.043</td>
<td>.043</td>
</tr>
<tr>
<td>Works for international clients</td>
<td>1.745 a</td>
<td>4</td>
<td>.142</td>
<td>.038</td>
</tr>
<tr>
<td>How systematic the respondent claimed to be</td>
<td>2.200</td>
<td>12</td>
<td>.011*</td>
<td>.047</td>
</tr>
<tr>
<td>How important the respondent claimed research is for</td>
<td>2.496</td>
<td>12</td>
<td>.003*</td>
<td>.053</td>
</tr>
<tr>
<td>communication design practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bolded p value was divided by 2 due to directionalized hypothesis
*p<.05, **p<.01  a. Exact statistic.

Univariate tests using a Bonferroni adjusted alpha level of .0125 revealed that of the six independent variables found to be significant in the Multivariate tests, only four pairs of variables had differences that reached statistical significance. The Number of other professions collaborated with and How recent the highest design qualification
was did not reveal any significant differences between groups, which was attributed to insufficient sample size and unequal groups, and consequently these two variables were not investigated further.

The first pair of variables with significant difference between groups was Conducting conventional research and experience working overseas ($p = .002$). Inspection of the mean scores for the groups who had and hadn’t worked overseas revealed that designers with experience outside Australia engaged significantly more with conventional research than those who had only worked in Australia (see Table 43).
Table 43: Average research engagement for different groups of designers

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Investigating context</th>
<th>Investigating production</th>
<th>Reading</th>
<th>Conducting conventional research</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>(SD)</td>
<td>M</td>
<td>(SD)</td>
<td>M</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29yrs or less</td>
<td>3.34</td>
<td>(.86)</td>
<td>3.45</td>
<td>(1.24)</td>
<td>2.72</td>
</tr>
<tr>
<td>30-49yrs</td>
<td>3.52</td>
<td>(.85)</td>
<td>3.21</td>
<td>(1.22)</td>
<td>2.62</td>
</tr>
<tr>
<td>50yrs or more</td>
<td>3.31</td>
<td>(.97)</td>
<td>3.23</td>
<td>(1.35)</td>
<td>2.54</td>
</tr>
<tr>
<td>Experience working overseas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not worked overseas</td>
<td>3.42</td>
<td>(.89)</td>
<td>3.28</td>
<td>(1.24)</td>
<td>2.65</td>
</tr>
<tr>
<td>Had worked overseas</td>
<td>3.55</td>
<td>(.78)</td>
<td>3.28</td>
<td>(1.25)</td>
<td>2.65</td>
</tr>
<tr>
<td>Length of experience practising com. design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5yrs</td>
<td>3.42</td>
<td>(.88)</td>
<td>3.31</td>
<td>(1.31)</td>
<td>2.78</td>
</tr>
<tr>
<td>6-15yrs</td>
<td>3.43</td>
<td>(.79)</td>
<td>3.18</td>
<td>(1.21)</td>
<td>2.59</td>
</tr>
<tr>
<td>16-25yrs</td>
<td>3.56</td>
<td>(.92)</td>
<td>3.40</td>
<td>(1.20)</td>
<td>2.61</td>
</tr>
<tr>
<td>26-40yrs</td>
<td>3.44</td>
<td>(1.08)</td>
<td>3.46</td>
<td>(1.27)</td>
<td>2.46</td>
</tr>
<tr>
<td>Level of highest design qualification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No design qualification</td>
<td>3.39</td>
<td>(.86)</td>
<td>2.80</td>
<td>(1.12)</td>
<td>2.71</td>
</tr>
<tr>
<td>Associate or certificate</td>
<td>3.56</td>
<td>(.87)</td>
<td>3.32</td>
<td>(1.28)</td>
<td>2.56</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>3.44</td>
<td>(.85)</td>
<td>3.33</td>
<td>(1.23)</td>
<td>2.69</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>3.36</td>
<td>(.96)</td>
<td>3.38</td>
<td>(1.29)</td>
<td>2.52</td>
</tr>
<tr>
<td>How recent the highest design qualification was</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never held</td>
<td>3.39</td>
<td>(.86)</td>
<td>2.80</td>
<td>(1.12)</td>
<td>2.71</td>
</tr>
<tr>
<td>Graduated 2002-2012</td>
<td>3.49</td>
<td>(.81)</td>
<td>3.39</td>
<td>(1.26)</td>
<td>2.68</td>
</tr>
<tr>
<td>Graduated 1992-2001</td>
<td>3.44</td>
<td>(.98)</td>
<td>3.08</td>
<td>(1.16)</td>
<td>2.51</td>
</tr>
<tr>
<td>Graduated 1991 or prior</td>
<td>3.37</td>
<td>(.95)</td>
<td>3.50</td>
<td>(1.25)</td>
<td>2.70</td>
</tr>
<tr>
<td>Level of highest non-design qualification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None held</td>
<td>3.36</td>
<td>(.85)</td>
<td>3.29</td>
<td>(1.22)</td>
<td>2.61</td>
</tr>
<tr>
<td>Associate or certificate</td>
<td>3.80</td>
<td>(.81)</td>
<td>3.36</td>
<td>(1.38)</td>
<td>2.64</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>3.48</td>
<td>(.84)</td>
<td>3.28</td>
<td>(1.19)</td>
<td>2.79</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>3.41</td>
<td>(1.07)</td>
<td>3.00</td>
<td>(1.32)</td>
<td>2.55</td>
</tr>
<tr>
<td>Ongoing engagement with higher education (HE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn’t engage with HE</td>
<td>3.39</td>
<td>(.88)</td>
<td>3.17</td>
<td>(1.23)</td>
<td>2.58</td>
</tr>
<tr>
<td>Engages with HE</td>
<td>3.62</td>
<td>(.78)</td>
<td>3.59</td>
<td>(1.20)</td>
<td>2.81</td>
</tr>
</tbody>
</table>
(Table 43 continued)

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Investigating context</th>
<th>Investigating production</th>
<th>Reading</th>
<th>Conducting conventional research</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
</tr>
<tr>
<td><strong>Type of employing organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design studio</td>
<td>3.46 (.86)</td>
<td>3.47 (1.23)</td>
<td>2.69 (.76)</td>
<td>1.35 (.22)</td>
<td>96</td>
</tr>
<tr>
<td>Advertising agency</td>
<td>3.42 (.99)</td>
<td>2.33 (1.13)</td>
<td>2.40 (.88)</td>
<td>1.35 (.25)</td>
<td>18</td>
</tr>
<tr>
<td>Embedded</td>
<td>3.30 (.88)</td>
<td>3.24 (1.26)</td>
<td>2.54 (.83)</td>
<td>1.34 (.24)</td>
<td>50</td>
</tr>
<tr>
<td>Freelancer</td>
<td>3.62 (.79)</td>
<td>3.30 (1.12)</td>
<td>2.76 (.93)</td>
<td>1.27 (.23)</td>
<td>48</td>
</tr>
<tr>
<td><strong>Size of employing organisation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (self employed)</td>
<td>3.57 (.80)</td>
<td>3.31 (1.15)</td>
<td>2.71 (.95)</td>
<td>1.28 (.23)</td>
<td>55</td>
</tr>
<tr>
<td>2-5 employees</td>
<td>3.50 (.84)</td>
<td>3.59 (1.16)</td>
<td>2.56 (.68)</td>
<td>1.36 (.22)</td>
<td>58</td>
</tr>
<tr>
<td>6-20 employees</td>
<td>3.32 (.97)</td>
<td>3.10 (1.35)</td>
<td>2.71 (.79)</td>
<td>1.32 (.20)</td>
<td>48</td>
</tr>
<tr>
<td>21+ employees</td>
<td>3.40 (.85)</td>
<td>3.08 (1.26)</td>
<td>2.61 (.91)</td>
<td>1.36 (.26)</td>
<td>51</td>
</tr>
<tr>
<td><strong>Number of other professions collaborated with</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2 other professions</td>
<td>3.34 (.95)</td>
<td>3.15 (1.35)</td>
<td>2.49 (.80)</td>
<td>1.25 (.20)</td>
<td>71</td>
</tr>
<tr>
<td>3-5 other professions</td>
<td>3.45 (.82)</td>
<td>3.22 (1.15)</td>
<td>2.68 (.83)</td>
<td>1.36 (.24)</td>
<td>114</td>
</tr>
<tr>
<td>6-10 other professions</td>
<td>3.78 (.72)</td>
<td>3.91 (1.11)</td>
<td>2.93 (.83)</td>
<td>1.42 (.21)</td>
<td>27</td>
</tr>
<tr>
<td><strong>Experience working with international clients</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3.50 (.88)</td>
<td>3.45 (1.25)</td>
<td>2.67 (.82)</td>
<td>1.30 (.23)</td>
<td>108</td>
</tr>
<tr>
<td>Some in past 12 months</td>
<td>3.40 (.84)</td>
<td>3.11 (1.21)</td>
<td>2.62 (.84)</td>
<td>1.37 (.23)</td>
<td>104</td>
</tr>
<tr>
<td><strong>How systematic the respondent claimed to be</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all systematic</td>
<td>3.02 (1.00)</td>
<td>2.93 (1.11)</td>
<td>2.37 (.81)</td>
<td>1.24 (.19)</td>
<td>41</td>
</tr>
<tr>
<td>Somewhat systematic</td>
<td>3.39 (.78)</td>
<td>3.27 (1.26)</td>
<td>2.63 (.79)</td>
<td>1.32 (.22)</td>
<td>120</td>
</tr>
<tr>
<td>Very systematic</td>
<td>3.83 (.67)</td>
<td>3.51 (1.21)</td>
<td>2.86 (.76)</td>
<td>1.41 (.20)</td>
<td>40</td>
</tr>
<tr>
<td>Highly systematic</td>
<td>4.44 (.49)</td>
<td>3.90 (1.24)</td>
<td>3.18 (1.15)</td>
<td>1.59 (.33)</td>
<td>11</td>
</tr>
<tr>
<td><strong>How important the respondent stated research is for practising communication design</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of little importance</td>
<td>2.64 (1.17)</td>
<td>2.38 (.75)</td>
<td>2.13 (.97)</td>
<td>1.16 (.20)</td>
<td>4</td>
</tr>
<tr>
<td>Of moderate importance</td>
<td>3.33 (.78)</td>
<td>2.94 (1.28)</td>
<td>1.99 (.66)</td>
<td>1.27 (.20)</td>
<td>18</td>
</tr>
<tr>
<td>Very important</td>
<td>3.21 (.80)</td>
<td>3.19 (1.14)</td>
<td>2.54 (.65)</td>
<td>1.30 (.20)</td>
<td>86</td>
</tr>
<tr>
<td>Extremely important</td>
<td>3.71 (.84)</td>
<td>3.46 (1.30)</td>
<td>2.87 (.91)</td>
<td>1.38 (.25)</td>
<td>104</td>
</tr>
</tbody>
</table>
The remaining four pairs of variables that Univariate tests revealed to have significant differences between groups were: *Type of employing organisation* and *investigating production issues* \((p = .010)\); *How systematic the respondent claimed to be and investigating context* \((p = .011)\); *How systematic the respondent claimed to be and conducting conventional research* \((p = .008)\) and finally; *How important the respondent claimed research is for communication design practice and reading* \((p = .000)\). As the independent variables within these pairs had more than two ordinal categories, a simple comparison of means was unsuitable for finding out which groups were significantly different in their engagement levels. Therefore, post hoc tests using Student-Newman-Keuls (SNK) were conducted. Results revealed the significant differences to be as follows:

- Designers who had worked 16-25 years *conducted conventional research* significantly more than designers who had worked 26-40 years

- Designers who worked either in-house within non-design organisations, within design studios, or as freelancers *investigated production issues* significantly more than designers who worked in advertising agencies

- Designers who claimed to gather and use information highly systematically engaged with *investigating context, reading, and conducting conventional research* more than those who claimed to gather and use information only somewhat systematically or not at all systematically

- Designers who regarded engaging with research to be extremely important to practising as a communication designer *investigated context and read* significantly more than designers who regarded research engagement to be of little importance

When the significant results from the MANOVA (that is, the Multivariate tests and Univariate tests), and Post-Hoc tests were compared, groups from only four independent variables were found to have significant differences in level of research engagement overall: holding overseas experience, type of employing organisation, how systematic the designer claimed to be, and how important the designer stated research engagement was to practising.
Therefore, the final results of the MANOVA were as follows:

- Designers who had worked overseas reported *conducting conventional research* significantly (albeit slightly) more frequently than designers who had not worked overseas.

- Designers who worked in design studios reported *investigating production issues* the most, followed by in-house designers who worked in non-design organisations, freelance designers, and respondents who worked in advertising agencies. This finding was considered with caution, due to the subscale for measuring this factor containing only two items, as explained previously. Future studies that investigate this factor will need to add additional items to the scale to improve reliability.

- There was a positive linear relationship between how systematic a designer claimed to be, and how much they investigated context and conducted conventional research. That is, those respondents who indicated that they were *not at all systematic* in their information gathering and use reported they investigated context and conducted conventional research the least often, while respondents who indicated they were *highly systematic* reported that they investigated context and conducted conventional research the most of all respondents.

- Finally, those who reported the belief that research is *extremely important* for practising communication design reported higher levels of investigating context and reading than those who indicated they believed that engaging with research was of little importance.
Appendix G

Descriptive statistics for data collected via the academics’ survey

Question 1: What is your gender?

Figure 49: Gender of respondents to academics’ survey
A profession in transition: Practitioners’ research engagement in the Australian communication design field

**Question 2: What is your age?**

![Bar chart showing age groups of respondents to academics' survey]

**Figure 50: Age groups of respondents to academics' survey**
Question 3: **In which Australian state or territory is your main workplace?**

![Bar chart showing the frequency of main workplaces in different Australian states and territories.](image)

**Figure 51: Main workplace of respondents to academics' survey**
Question 4: For how many years have you worked as a communication designer and an academic, both within Australia and outside Australia?

Data collected via question four were recoded for analysis. First, the total number of years that the respondent had worked as a communication designer (regardless of location), and also the total number of years they have worked as an academic (again, irrespective of location) were calculated and then recoded into ordinal categories based on typical levels of professional experience as shown in Figure 52 and Figure 53.

![Figure 52: Years of experience as a designer of respondents to academics' survey](image)

![Figure 53: Years of experience as an academic of respondents to academics' survey](image)
Secondly, two new binary variables were created according to whether a respondent had worked overseas as a designer or as an academic, as shown in Figure 54 and Figure 55.

![Figure 54: Overseas experience as a designer of respondents to academics' survey](image1)

![Figure 55: Overseas experience as an academic of respondents to academics' survey](image2)
Questions 5 and 6 were presented to participants separately to streamline the survey. However, they were reviewed as a combined variable to check distribution as shown below in Figure 56.

Figure 56: Highest design qualification of respondents to academics’ survey
**Question 7: In what year did you complete your highest qualification in design?**

As was done for the practitioners’ survey, question 7 in the academics’ survey was recoded from being a scale variable (consisting of the individual years entered by respondents) to be a nominal variable with four categories for three reasons.

First, this approach accommodated those respondents who had not completed a design qualification as a separate category.

Second, it removed the ordinal hierarchy of the data. This was useful for when evaluating the hypothesis that a more recently qualified designer may engage with research more than those who had graduated a long time ago (or had never graduated), due to the shift toward research in design education in recent years.

And third, recoding into four categories simplified the data based on relevant periods of design education. Designers who had graduated in the last 10 years had completed their qualification during the period when design research has attracted more attention and emphasis in communication design education within Australian Universities. Those respondents who had graduated in the preceding 10 years completed their qualification during the period when communication design first entered into Universities in Australia, yet had not yet adopted a strong research agenda. And those respondents who had graduated more than 20 years ago would have completed their qualification before communication design was offered at Australian Universities, and so it is reasonable to expect very little emphasis on research skills or engagement would have been included in their education.

![Year of graduation from highest design qualification of respondents to academics’ survey](image-url)
**Question 8: In what specialisation is your highest qualification in design?**

Data collected in response to question eight were recoded into three categories based on whether a respondent’s highest qualification was from within the field of communication design, within another design field, or whether they did not hold a design qualification as shown in Figure 58.

![Figure 58: Specialisation of highest design qualification of respondents to academics’ survey](image)

Respondents who indicated their highest design qualification was from outside of communication design were asked to specify the specialization. Twelve design disciplines were identified, with multimedia/digital/web design being most common ($N = 6$), followed by industrial and product design ($N = 2$), then one respondent for each of the remaining ten design specialisations. As each of these groups are small, it was not feasible to statistically compare the different design specialisations with each other.
**Question 9: Have you completed any non-design qualifications?**

**Question 10: What is the highest non-design qualification you have completed?**

As was done with questions five and six, questions nine and ten were presented to participants separately to streamline survey. However they were reviewed as a combined variable as shown below in Figure 59 to check distribution and used as a categorical variable during analysis.

![Figure 59: Highest non-design qualification of respondents to academics' survey](image)

**Figure 59: Highest non-design qualification of respondents to academics' survey**
**Question 11: In what year did you complete your highest non-design qualification?**

Question 11 was recoded from being a scale variable (consisting of the individual years entered by respondents) to be a nominal variable with four categories. This was done for the same reasons discussed previously in relation to question seven, that is, to accommodate those respondents who had not completed a non-design qualification, to remove the ordinal hierarchy of the data, and to simplify the data based on relevant periods of design education.

![Bar chart](image)

*Figure 60: Year of graduation from highest non-design qualification of respondents to academics’ survey*
**Question 12: In what discipline is your highest non-design qualification?**

As shown in Figure 59 and Figure 60, 53.6 per cent \((N = 30)\) of respondents to the academics’ survey indicated they held a non-design qualification. When asked to specify what discipline their highest non-design qualification was in, 14 different fields were identified. The most common of these were; education and training \((N = 11, 19.6\) per cent), and Info tech, computer systems and computer science \((N = 4, 7.1\) per cent). In terms of the least frequent responses, 9 fields were nominated by only one respondent each \((N = 1, 1.8\) per cent each).

Due to the high number of different disciplines identified via this question, and the low number of frequencies in most disciplines, statistical analysis to compare disciplines was deemed inappropriate.
**Question 13: How often have you engaged with professional communication design practice in the past 12 months?**

To measure their engagement with professional communication design practice in the past 12 months, respondents were asked to indicate how frequently they participated in six industry-based activities that design academics commonly participate in. These were: attending exhibitions of professional design work, attending industry association events (such as AGDA’s), being a guest speaker to professional practitioners, collaborating on a commercial project with professional practitioners, consulting to commercial design studios or advertising agencies, and personally undertaking communication design projects. Each activity was rated on a four-point scale of frequency that ranged from *Not at all*, through to *Once or twice*, *Frequently* and *On a regular basis*. Also, an open space was offered for respondents to include other ways they had engaged with higher education in the past 12 months.

To simplify the collected data for analysis, each participant’s responses to all options were recoded to one new binary statistic that indicated whether the respondent was considered to be *not engaged with professional communication design practice*, or *engaged with professional communication design practice*. This statistic was calculated by two methods. First, respondents who indicated they conducted the activities that were considered to constitute a high level of engagement (such as collaborating on professional projects) *frequently* or *on a regular basis* were deemed to qualify as engaged with practice. Second, for respondents who indicated they did multiple activities but less frequently, their score on the relevant variables was averaged, and if it was 2.5 or higher, they too were deemed to qualify as engaged with practice. By cross-referencing these two approaches, each respondent was classified into the categories shown in Figure 61.

![Figure 61: Engagement with professional practice as reported by respondents to academics’ survey](image-url)
Question 14: *In a typical 12 month period, for how many of their design projects do you believe designers gather information about?*

![Diagram showing the percentage of respondents for various topics of investigation](image)

**Colour legend**
- Investigate for none of their projects
- Investigate for a few of their projects
- Investigate for half of their projects
- Investigate for most of their projects
- Investigate for all of their projects

**Figure 62: Opinions of respondents to academics’ survey about what designers gather information about**
Question 15: *In a typical 12 month period, for how many of their design projects do you believe designers personally conduct:*

![Diagram showing the percentage of respondents for various methods of investigation.](Figure 63: Opinions of respondents to academics' survey about what methods of investigation designers conduct)

Emma Fisher
Question 16: In a typical 12 month period, for how many of their design projects do you believe designers read material from:

Figure 64: Opinions of respondents to academics’ survey about what sources designers read from.
Question 17: *What do you believe designers do with the information they read or gather?*

![Bar chart showing the uses for information](chart.png)

**Figure 65: Opinions of respondents to academics’ survey about what designers use gathered information for**
Question 18: *When designers gather and use information, how systematically do you believe they usually do it?*

![Bar chart](image)

Figure 66: Opinions of respondents to academics’ survey about how systematically designers gather and use information
Question 19: In your opinion, what is research?

Respondents to the academics’ survey were offered an open response space to describe what they think research is.

Academics referred to 35 different themes when describing what they believed research is. Academics most commonly described research as a verb, being an activity (94.6 per cent of respondents, \(N = 53\)), with only a few referring to research as a noun, that is, as an outcome or product of investigation (3.6 per cent, \(N = 2\)). Three definitions were non-specific in this regard.

Of academic respondents, 73.2 per cent (\(N = 41\)) expressed their opinion of what research is by describing what kind of activity it involved. The five activities referred to were:

- Investigating, searching or discovering (53.6 per cent of responses, \(N = 30\))
- Collecting or gathering information (28.6 per cent of responses, \(N = 16\))
- Being systematic, in-depth or methodical (23.2 per cent of responses, \(N = 13\))
- Analysing, synthesizing or interpreting (16.1 per cent of responses, \(N = 9\))
- Communicating or publishing the findings (3.6 per cent of responses, \(N = 2\))

Of academic respondents, 66 per cent (\(N = 37\)) expressed their opinion of what research is by describing its purpose. A total of ten different aims or purposes were identified within the academics’ responses. The most common referred to were:

- Gain deeper or more accurate understandings (37.5 per cent \(N = 21\))
- Acquire new knowledge (16.1 per cent, \(N = 9\))
- Problem solve or answer a question (16.1 per cent, \(N = 9\))
- Inform decisions or processes (7.1 per cent, \(N = 4\))
- To build knowledge base of design philosophies (7.1 per cent, \(N = 4\))
Of the academic respondents, 21.4 per cent ($N = 12$) referred to one or two specific methods in their response that would constitute research. All of these responses mentioned specific methods in addition to describing a type of activity, a purpose, or both. A total of nine method-related themes were referred to, with the following five activities were most commonly referred to as follows:

- Methods (unspecified) in general (7.1 per cent, $N = 4$)
- Experimenting (5.4 per cent, $N = 3$)
- Testing prototypes (3.6 per cent, $N = 2$)

Reading, observing, online materials, questionnaire surveys, market research and focus groups (1.8 per cent, $N = 1$ each)
Question 20: In your opinion, what is design research?

Of the academics’ responses, 42.9 per cent ($N = 24$) described design research as being an activity of design practice, 14.3 per cent ($N = 8$) described it as an activity of both practice and academia, 10.7 per cent ($N = 6$) described it as an activity of academia, and the remaining 32.1 per cent ($N = 18$) described design research in a generic way that could have related to either or both.

The types of activity most commonly referred to by academics when defining design research were:

- Investigating, searching or discovering (46.4 per cent of responses, $N = 26$)
- Collecting or gathering information (37.5 per cent of responses, $N = 21$)
- Being systematic, in-depth or methodical (23.2 per cent of responses, $N = 13$)
- Analysing, synthesizing or interpreting (21.4 per cent of responses, $N = 12$)
- Developing knowledge (19.6 per cent of responses, $N = 11$)

The purposes most commonly referred to by academics when defining design research were:

- Gain deeper or more accurate understandings (30.4 per cent $N = 17$)
- Acquire new knowledge (25 per cent, $N = 14$)
- Problem solve or answer a question (23.2 per cent, $N = 13$)
- Inform decisions or processes (23.2 per cent, $N = 13$)
- To understand or explore the design brief (12.5 per cent, $N = 7$)
Question 21: Regardless of how designers currently engage with research during their design work, how important do you believe engaging with research is to practising professionally as a communication designer?

![Bar Chart]

Figure 67: Opinions of respondents to academics’ survey about how important research is for practising design
Question 22: What key benefits to designers do you believe engaging with research offers?

Within the responses received from academics, 31 different benefits to practitioners of research engagement were identified. The most common were:

- Enhancing design outcomes (39.2 per cent, $N = 22$)
- Gain expanded awareness and insights into how the world works and why (17.8 per cent, $N = 10$)
- Improved understanding of the end user or audience (16.1 per cent, $N = 9$)
- Improves design process or practice (14.3 per cent, $N = 8$)
- Supports problem solving and answering questions (10.7 per cent, $N = 6$)
**Question 23:** *If you have any additional comments you would like to offer they are very welcome here.*

Of the 56 academic surveys included in the analysis, 18 offered additional comments about the role of research in design. A wide range of topics was identifiable in the comments received. The most common points offered in the open feedback were:

- Engaging with research is important for practising communication design (12.5 per cent, \( N = 7 \))
- Cost is a barrier (3.6 per cent, \( N = 2 \))
- Client disposition is a barrier (3.6 per cent, \( N = 2 \))
- Designers’ intuition or practice skills are still important (3.6 per cent, \( N = 2 \))

A further 19 different points were evident within the academic’s general comments, however only one participant referred to each one, suggesting no further patterns. Comments ranged from mentioning barriers to practitioners’ research engagement (such as lack of time and small size of some clients), to the belief that practitioners consider research to be irrelevant to the real world, don’t engage much with research, or even shouldn’t conduct research, but read it instead.
Appendix H

Intercorrelations, means and standard deviations for practitioners’ survey data

Table 44: Intercorrelations, means and standard deviations for practitioners (N = 212)

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Note: *p < .05, **p < .001, ***p < .001
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
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</table>

Note: *p < .05, **p < .01, ***p < .001

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).
## Appendix I

**Pattern and structure matrices for Exploratory Factor Analysis**

### Table 45: Pattern matrix for Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Q19d Who the end users are</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>.937</td>
<td>0.052</td>
<td>-0.134</td>
<td>0.069</td>
<td></td>
</tr>
<tr>
<td>Q19e The end users' values</td>
<td>0.803</td>
<td>0.041</td>
<td>0.032</td>
<td>-0.040</td>
</tr>
<tr>
<td>Q19c Whether the client's brief is appropriate and/or ways to improve it</td>
<td>0.766</td>
<td>-0.023</td>
<td>0.004</td>
<td>0.088</td>
</tr>
<tr>
<td>Q19b A client's current competitors</td>
<td>.676</td>
<td>-0.055</td>
<td>-0.007</td>
<td>-0.077</td>
</tr>
<tr>
<td>Q19a A client's previous design efforts</td>
<td>.649</td>
<td>-0.048</td>
<td>-0.032</td>
<td>-0.029</td>
</tr>
<tr>
<td>Q19k Success of the final design, once produced and in use</td>
<td>.501</td>
<td>-0.078</td>
<td>0.226</td>
<td>0.081</td>
</tr>
<tr>
<td>Q20a Online searches</td>
<td>.357</td>
<td>-0.007</td>
<td>0.040</td>
<td>-0.073</td>
</tr>
<tr>
<td>Q19g Testing draft designs with end users</td>
<td>.349</td>
<td>-0.086</td>
<td>0.158</td>
<td>-0.180</td>
</tr>
<tr>
<td>Q20c Site visits and evaluations</td>
<td>.340</td>
<td>-0.171</td>
<td>0.093</td>
<td>-0.191</td>
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<tr>
<td>Q19h Materials (e.g. stocks, paint finishes or plastics)</td>
<td>.080</td>
<td>-0.866</td>
<td>0.024</td>
<td>-0.008</td>
</tr>
<tr>
<td>Q19j Production processes (e.g. printing, construction or manufacturing)</td>
<td>.062</td>
<td>-0.807</td>
<td>0.003</td>
<td>-0.027</td>
</tr>
<tr>
<td>Q20f Focus groups and workshops</td>
<td>.022</td>
<td>0.120</td>
<td>0.705</td>
<td>0.136</td>
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<tr>
<td>Q21f Findings from research commissioned by the client (e.g. market research)</td>
<td>-.010</td>
<td>-0.061</td>
<td>0.599</td>
<td>-0.122</td>
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<tr>
<td>Q20h Cultural probes</td>
<td>-.003</td>
<td>-0.089</td>
<td>0.541</td>
<td>0.007</td>
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<tr>
<td>Q20j Experiments</td>
<td>-.047</td>
<td>-0.222</td>
<td>0.506</td>
<td>-0.003</td>
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<tr>
<td>Q20i Questionnaire surveys</td>
<td>.101</td>
<td>0.036</td>
<td>0.503</td>
<td>-0.017</td>
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<tr>
<td>Q21g Findings from research commissioned by you (e.g. market research)</td>
<td>.058</td>
<td>0.112</td>
<td>0.491</td>
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<tr>
<td>Q21d Conference presentations or proceedings</td>
<td>.021</td>
<td>0.062</td>
<td>0.462</td>
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<td>Q20g Observations</td>
<td>.090</td>
<td>-0.091</td>
<td>0.414</td>
<td>-0.013</td>
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<tr>
<td>Q21b Design publications (e.g. design books, magazines or e-newsletters)</td>
<td>-.002</td>
<td>-0.135</td>
<td>-0.166</td>
<td>-0.846</td>
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<tr>
<td>Q21a Mass-market publications (e.g. print or online news for the general public)</td>
<td>.078</td>
<td>0.004</td>
<td>0.002</td>
<td>-0.648</td>
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<tr>
<td>Q21h Social media (e.g. internet forums, blogs, wikis, podcasts)</td>
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<td>0.086</td>
<td>0.121</td>
<td>-0.443</td>
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<td>Q21c Academic journals (from design or other disciplines)</td>
<td>-.060</td>
<td>-0.061</td>
<td>0.197</td>
<td>-0.385</td>
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Extraction Method: Generalized Least Squares.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 8 iterations.
### Table 46: Structure Matrix for Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Question</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
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<tr>
<td>Q19d Who the end users are</td>
<td>.839</td>
<td>-.220</td>
<td>.208</td>
<td>-.205</td>
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<tr>
<td>Q19e The end users' values</td>
<td>.816</td>
<td>-.252</td>
<td>.366</td>
<td>-.336</td>
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<tr>
<td>Q19c Whether the client's brief is appropriate and/or ways to improve it</td>
<td>.744</td>
<td>-.264</td>
<td>.286</td>
<td>-.202</td>
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<td>Q19b A client's current competitors</td>
<td>.720</td>
<td>-.306</td>
<td>.313</td>
<td>-.337</td>
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<tr>
<td>Q19a A client's previous design efforts</td>
<td>.663</td>
<td>-.271</td>
<td>.255</td>
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<tr>
<td>Q19k Success of the final design, once produced and in use</td>
<td>.590</td>
<td>-.280</td>
<td>.414</td>
<td>-.217</td>
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<td>Q19g Testing draft designs with end users</td>
<td>.509</td>
<td>-.289</td>
<td>.394</td>
<td>-.396</td>
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<tr>
<td>Q20c Site visits and evaluations</td>
<td>.507</td>
<td>-.360</td>
<td>.350</td>
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<td>Q20a Online searches</td>
<td>.402</td>
<td>-.157</td>
<td>.217</td>
<td>-.222</td>
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<td>-.901</td>
<td>.256</td>
<td>-.276</td>
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<td>Q19j Production processes (e.g. printing, construction or manufacturing)</td>
<td>.350</td>
<td>-.836</td>
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<td>Q21f Findings from research commissioned by the client (e.g. market research)</td>
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<td>-.226</td>
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<td>Q20f Focus groups and workshops</td>
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<td>-.012</td>
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<td>Q21g Findings from research commissioned by you (e.g. market research)</td>
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<td>-.095</td>
<td>.606</td>
<td>-.478</td>
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<td>Q21d Conference presentations or proceedings</td>
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<td>-.130</td>
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Extraction Method: Generalized Least Squares.
Rotation Method: Oblimin with Kaiser Normalization.