ABSTRACT
This paper explores a blended learning approach to entrepreneurship education by discussing the integration of this pedagogical initiative aimed at infusing entrepreneurial skills and behaviour among students in a higher education setting. We employ a pragmatic perspective, using an inductive paradigm. The classification is exploratory in nature, based upon a grounded theory strategy. As such, the initiative seeks an interpretative process, with blended learning being an integral pedagogical technique in the vast array of available entrepreneurship education interventions. The value of this approach is in integrating desirability, propensity to act and feasibility to enhance entrepreneurial intentionality within an entrepreneurship program.

Keywords: Entrepreneurship education, blended learning, pedagogy.

INTRODUCTION
The entrepreneurship-directed approach to learning is based on the idea of experiential learning, in which new activity produces a new experience and new thinking through reflection (Heinonen & Poikkijoki, 2006). We further enhance this reflection by introducing blended learning as an innovative pedagogical initiative within an entrepreneurship education context. Blended learning is defined as learning that is facilitated by the effective combination of different modes of delivery, models of teaching styles of learning, and founded on transparent communication amongst all parties involved with a course (Heinze & Procter, 2004).

This paper is based upon the exploration of blended learning approaches to entrepreneurship education by proposing different teaching techniques aimed at infusing entrepreneurial skills and behaviour among students (Maritz, 2010a). It is proposed that a blended learning approach (Heinze & Procter, 2004; Harris, Connolly & Feeney, 2009; Mitchell & Honore, 2007; Yeun, Deng & Fox, 2009) seems to be well suited to entrepreneurship education (Heinonen & Poikkijoki, 2006) as it encourages students to broaden their perspectives, and also develop the entrepreneurial skills and behaviour required for their studies. Online resource and integration includes application of the Stanford Technology Ventures Entrepreneurship online resource portal (see: http://ecorner.stanford.edu/) and online discussion boards.

Whilst literature on blended learning is abound, the integration of entrepreneurship is scant. This project will not only facilitate blended learning application, but add to the body of knowledge between these two constructs. We commence by conceptualising entrepreneurship education.

Conceptualising entrepreneurship education
Given that entrepreneurship is the “engine that drives the economy of most nations” (Gorman et al., 1997, p. 56), an environment that encourages and allows for entrepreneurship to happen is “congenial to creating potential entrepreneurs” (Krueger and Brazeal, 1994, p. 99). Entrepreneurship education
programs, which empower entrepreneurs and provide them with the tools necessary to undertake a new business, have arisen and are growing in most nations with the primary goals of increasing the quantity and quality of entrepreneurs (Matlay, 2005). In this section, we identify two prominent entrepreneurship education constructs, teaching entrepreneurship and components of entrepreneurship education programs (EEP).

Teaching entrepreneurship
The question of whether entrepreneurship can be taught must precede any discussion of how to teach entrepreneurship; the question of “if” must be answered before any question of “what” or “how” can take place. One difficulty in knowing whether entrepreneurship can be taught is due to the infancy of the field (Brazeal and Herbert, 1999), which is why conceptual and methodological debates persist. Fiet (2000a, p. 4) points out the danger in not answering the fundamental questions, stating that “we weaken our teaching effectiveness when we try to teach the answers to questions that have not been addressed in the literature from a theoretical stream of research.” However, Fiet (2000a) later points out that students can be taught imperfect theory if they are cautioned regarding its imperfections. Students may actually be able to strengthen theory if they think critically on how it can be improved. Another interesting view of teaching entrepreneurship is that, while some may not believe entrepreneurship can be taught, students can learn it by studying the successes of other entrepreneurs (Fiet, 2000a).

Components of entrepreneurship education programs (EEP)
An entrepreneurship education program consists of various components that are designed to meet program goals. Program components are necessarily interrelated, and an understanding of the nature of such relationships is necessary to run an effective EEP. The relationship between components of an EEP can be seen in Figure 1, which is based on the framework created by Alberti et al. (2004). Concerning teaching models or frameworks, entrepreneurship education scholars Fayolle and Gailly (2008, p. 571) state that such models are “rarely used in the entrepreneurship field [since] there is no common framework or agreed good practices regarding how to teach or educate.” Béchard and Grégoire (2005b, p. 107) define a teaching model as, “the representation of a certain type of setting designed to deal with a pedagogical situation in function of particular goals and objectives, that integrates a theoretical framework justifying this design and giving it an exemplary character.” (as cited in Fayolle and Gailly, 2008, p. 571)

Figure 1. Components of an EEP framework (source: Alberti et al., 2004)

In specifying basic questions such as why (objectives), what (content), how (pedagogies), and for whom (audiences), EEPs are likely to run more effectively and efficiently, as well as being more susceptible to assessment measures, which will ideally improve programs over time. The components of an EEP are interrelated and it is necessary, in order to design an effective EEP, to understand the nature of these relationships. There are essentially five components with eight relationships, some of which are reciprocal in nature (Alberti et al., 2004). The first component consists of the objectives of
an EEP, which will depend on the intended audience (relationship 1). For example, an audience of students will most likely have the objective of seeking a degree or qualification, while an older audience may be seeking to actually start a business. The second component, assessment, should assess the objectives (relationship 2). If the objectives are fixed and explicit then a proper assessment can be used. In an audience of existing small business owners, the assessment may include, for example, completion of a 3-year growth plan. The contents of the EEP, then, will depend on both its objectives (relationship 3) and audience (relationship 4). For example, if the objective is to teach marketing directors how to write a market plan, then the content could consist of dissecting a marketing plan. Pedagogical approaches and methods should be considered after the content is explicit (relationship 5) and based on audience needs and characteristics (relationship 6). Assessment will depend on both the content (relationship 7) and pedagogies (relationship 8). If the content is based on the objective of writing a personal development plan, then assessment may include a scale to measure the quality of the plan. Whilst each component within an EEP framework is interdependent, this study particularly places emphasis on a blended learning approach, hence, highlighting the integration of pedagogical initiatives.

**Pedagogical initiatives in entrepreneurship education**

The chosen pedagogical methods and contents of EEPs “will be decisive factors of success for entrepreneurship education in the twenty-first century” (Fayolle et al., 2006, p. 711; Volkman, 2004). Pedagogy should be seen as a means to achieve the objectives of the program, and not as an end in themselves (Fayolle and Gailly, 2008). In continuing the discussion of content regarding the theoretical vis-à-vis the practical, the discussion of pedagogical methods and approaches will continue to incorporate these ideas. Pedagogical methods may differ significantly based on content, and content has already been distinguished as some combination of theory and practice. It is important to emphasize that theoretical content does not necessarily lead to more “traditional” teaching methods (e.g. lectures), and, similarly, practical content is not always taught with more experimental methods (e.g. business simulations) (Fiet, 2001a). This section will discuss traditional and experimental methods of teaching entrepreneurship (see *Erreur! Source du renvoi introuvable.*Figure 2). Common pedagogical methods are depicted in Table 1. Applications and assessment of entrepreneurship pedagogical initiatives has been identified by Maritz, 2010a.
Table 1. Common pedagogical methods (source: compiled by author)

<table>
<thead>
<tr>
<th>Methods</th>
<th>Observations</th>
<th>Indicative literature</th>
</tr>
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<tbody>
<tr>
<td>Business plans</td>
<td>This is typically an outcome measure, but is also a method when the longer-term outcome is the creation of a new venture. Business plans may be prepared individually or in groups; business plan competitions are also becoming more common. Ideally these would follow a feasibility plan.</td>
<td>Wyckham and Wedley, 1990; Honig and Karlsson, 2004; Mason and Stark, 2004; Hindle and Mainprize, 2006; Liao and Gartner, 2006; Hindle, 2007; Lange et al., 2007; OECD, 2008</td>
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<tr>
<td>Business simulation</td>
<td>Participants start and manage either a real venture or a virtual venture, e.g., computer-assisted programs. Case studies may also be used.</td>
<td>Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004</td>
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<tr>
<td>Case studies</td>
<td>Presentation and discussion of cases of real companies and entrepreneurs who succeeded (or failed) in setting up a new venture, and subsequent management of growth. These should focus on problems potential entrepreneurs will most likely encounter (OECD, 2008). One of the most common methods (Ahiarah, 1989).</td>
<td>Shepherd, 2004; Hegarty, 2006</td>
</tr>
<tr>
<td>Classroom lectures</td>
<td>Typical lectures include the use of a textbook, and are themes such as marketing, accounting, financing, strategy, etc. Entrepreneurial methods of teaching and approaches to learning are becoming a major area of research in entrepreneurship education.</td>
<td>Hytti and Gorman, 2004; Shepherd, 2004; Hegarty, 2006; OECD, 2008</td>
</tr>
<tr>
<td>Clubs and networks</td>
<td>Societies and networks can be created to discuss entrepreneurship issues and for those who seek mutual support.</td>
<td>OECD, 2008</td>
</tr>
<tr>
<td>Communication training</td>
<td>Presentation skills, including the use of PowerPoint, public speaking, writing, etc.</td>
<td>Sexton and Upton, 1987; Solomon et al., 1994</td>
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<tr>
<td>Feasibility studies</td>
<td>Usually conducted to determine whether a business plan, and ultimately a venture, is worth undertaking.</td>
<td>Vesper, 1986</td>
</tr>
<tr>
<td>Games and competitions</td>
<td>This may include computer-assisted programs or business plan competitions. An increasingly common and experimental method to build ambiguity and real decision-making, including dealing with the consequences, into the program.</td>
<td>Solomon et al., 1994; Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004; Hegarty, 2006</td>
</tr>
<tr>
<td>Guest lecturers</td>
<td>Typically from the local business community. These may include owners of start-ups or those with a specialization in a topic, e.g., accounting, marketing. This is an excellent opportunity for EEPs to connect with the business community.</td>
<td>Shepherd, 2004; Hegarty, 2006; Brand et al., 2007</td>
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</table>
Traditional methods

Traditional teaching methods, such as lectures, seminars, workshops, and case studies, have some advantages as pedagogical methods, but also disadvantages in terms of delivering entrepreneurship education, although these continue to be the most common forms of delivering entrepreneurship education. For instance, research done by Hytti and O’Gorman in 2004 found that traditional methods were the most common among education programs, followed by business simulation, workshops, counselling/mentoring, study visits, setting up a business, games, and practical training. The benefit of traditional approaches is that they are helpful in presenting information in a “consistent and predictable manner” (Honig, 2004, p. 264). Ahiarah (1989) found that traditional methods, such as lectures and cases, were the most commonly used pedagogical tools. Lectures are excellent for delivering information to a large audience in a short period of time, and case studies of real-life entrepreneurs can provide insight into a “behind-the-scenes” look at an entrepreneur’s life, thus possibly providing inspiration to the audience (OECD, 2008).

However, the form of communication in these methods is more likely to be one way, from the teacher to the program participant, as opposed to two-way, as a dialogue between teacher and participant, or multi-way between all participants. This lack of interaction has the problem of receiving little feedback from participants, and little discussion (Hegarty, 2006). Team work, or group work, can be used in many ways, both traditional and experimental. For example, group projects that include written assignments may be better than lectures for entrepreneurship education, but do not explore the greater possibilities and synergies that can come from group work. They also can become unstructured and more chaotic without a facilitator with the skills to organise effective teams and activities (Hegarty, 2006). In contrast, groups that use more creative methods and that are given creative activities (e.g., creating a television advertisement; see Fiet, 2001a) can explore one another’s innovations. This allows the audience to express themselves and to learn while doing, which is more characteristic of the “real world”. As an example of using teams in non-traditional ways, Pittaway and Cope (2007) suggest the team be required to develop a business idea, a business plan or proposition, and then to present the proposition to actual investors. Benefits of the task include the presentation of a real-world problem, the time and context elements of entrepreneurship, and the teams’ need to engage the attention of investors, who actually may be looking to invest in a business idea. Less-traditional pedagogy can include guest speakers and interviews with real entrepreneurs. Obvious advantages of these methods include the knowledge that comes from seeing and hearing someone who has gone through an entrepreneurial process and most likely who has experienced failures and successes. Guest speakers and interviews are also engaging, where the audience can ask questions and receive practical advice.

| Mentors | Individual and/or group mentoring for advice on a business plan, business idea, a specific business topic (e.g., accountancy); mentors are typically teachers, business people, entrepreneurs or other experts. | Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004 |
| Placements with SMEs/Consulting projects | Short-term placements with SMEs can be used to allow participants to assist with business development projects. This may require significant resources and preparation time. However, participants may end up creating a new venture within an existing company. | Solomon et al., 1994; OECD, 2008 |
| Practical training | Students work inside an existing organisation for a period of time. | Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004 |
| Setting up a business | Real companies are set up and managed within the program. This is typically a business incubator program. | Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004 |
| Study visits | Participants go on-site to visit an entrepreneurial company and to become more familiar with the inside operations of a company. | Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004 |
| Workshops | May mean group work, group discussions or project-based work. | Hytti and Gorman, 2004; Hytti and Kuopusjärvi, 2004 |
The audience is therefore actively seeking learning instead of being given what they should learn from a teacher (who perhaps has not had actual experience).

However, there are disadvantages associated with speakers and interviews. Speakers, if not briefed as to the content of the program or nature of the audience or topic, can ramble on about something not relevant or pertinent to the audience. It is also possible that the speaker is egotistical (Hegarty, 2006) or too pessimistic. In short, if the audience does not identify with the speaker in some way, it could be that they decide all entrepreneurs fit into the personality of the speaker, thus dissuading them from continuing the entrepreneurial process. In addition, the use of speakers and interviews does not always incorporate theories, which may be generalised to other contexts (Fiet, 2001a). However, the skills of the teacher could help to overcome this after a discussion of the speaker’s remarks. Because of the disadvantages of traditional methods in teaching the inherently practical and creative process of entrepreneurship, many “non-traditional” methods of teaching have arisen and are becoming more common (see Erreur! Source du renvoi introuvable. Figure 2).

Non-traditional methods

Non-traditional, or experimental, methods are becoming increasingly more utilised in entrepreneurship education. “Experiential” learning may be more conducive to teaching entrepreneurship (Fiet, 2001a), and many researchers have advocated that entrepreneurship be taught based on the action-learning approach (cf. Jack and Anderson, 1999; Leitch and Harrison, 1999; Hytti and O’Gorman, 2004) and that entrepreneurship should be viewed as a process, not just an event (e.g. starting a business). Interestingly, this is a return to the debate of the economic theories of the entrepreneur. Many static theories of the entrepreneur do not incorporate the dynamic process of entrepreneurship (Kirzner, 1973) and a static approach may be responsible for teaching methods that are also more static, i.e. more traditional.

Action learning is one approach where the participants’ role is primary and teachers act as coaches or facilitators of learning (Hytti and O’Gorman, 2004). Entrepreneurship, in many ways by its very nature unpredictable, would benefit from a teaching style that aims to mirror the risk and unpredictability (uncertainty) that come with entrepreneurship (Knight, 1921). Experiential models can be used to help students experience and learn from failure. Managerial skills would be learned as part of such a program through the actions and experiences of program participants. In contrast, when knowledge and skills are taught using traditional methods, Honig (2004, p. 264) argues that such methods often “fail to transfer to the actual environment where they might be utilized, in contrast to non-formal techniques.” In 1994, Solomon et al. expressed their hope for a move toward more “unconventional, experiential-based teaching and evaluation methods” (p. 350). They advocated such a shift due to their view of what entrepreneurship learning and teaching should be: to increase the horizons and perceptions of individuals, who then go on to “blaze new trails for others to follow” (Solomon et al., 1994, p. 350).

Pitaway and Cope (2007) also detail ways to stimulate entrepreneurial learning. For example, if the objective is to help participants cope with uncertainty and ambiguity, they recommend project-based learning to learn how to deal with problems in a “real-world” environment. They argue that, in order to increase experiential learning, essays, exams, and case studies (i.e. traditional teaching methods) should be abandoned. In this way, the teams’ performance—which is a more realistic view of the entrepreneurial activity they will be engaged in—is also linked to their performance on the program. Project-based learning of this type also builds more emotional exposure into the program. Maritz (2010b) also identified that assessment items directed to real world entrepreneurial opportunities provided student stimulation and active participation.

Psychological theories of the entrepreneur contain personality traits that are also more likely to be learned by the use of non-traditional methods. Sexton and Upton (1987) suggested that EEPs be used to teach students psychological traits (Solomon et al., 1994), by which they mean programs with less structure and more problems that require novel solutions, and with ambiguity and risk built into the program. Over two decades ago, Vesper (1986) found that many new methods were being used. Programs that used computers were then (and still are) seen as more experimental. Live cases were also beginning to be used instead of written cases. Other novelties included evaluation of business plans by venture capitalists and other program participants. Additionally, the assessment measures regarding the theoretical and practical methods will vary according to content and pedagogy. According to Peterman and Kennedy (2003), practical, real-world programs may be more useful to
Enhance intentionality, which is determined by perceived desirability and perceived feasibility. Relevant pedagogical methods would then focus on “applied, hands-on activities, resulting in experiential learning” as opposed to the teaching of general principles (Honig, 2004, p. 264).

<table>
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<tr>
<th>Authors</th>
<th>Traditional pedagogy</th>
<th>Experimental pedagogy</th>
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<tbody>
<tr>
<td>Hills, 1988</td>
<td>assigned lectures</td>
<td>computer simulations</td>
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<td></td>
<td>readings</td>
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<td></td>
<td>case studies</td>
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<td></td>
<td>business plan</td>
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<td></td>
<td>speakers models</td>
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<tr>
<td>Carroll and College, 1993</td>
<td>class tests projects expert lecturers role</td>
<td>computer simulations</td>
</tr>
<tr>
<td></td>
<td>work</td>
<td></td>
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<tr>
<td>Gibb, 1993</td>
<td>peer interaction</td>
<td>problem-solving activities</td>
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<td></td>
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<td>mistake-making activities</td>
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<tr>
<td>Solomon et al., 1994</td>
<td>lectures case studies business plan workshops</td>
<td>product design simulation</td>
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<tr>
<td>Henry et al., 2003</td>
<td>lectures handouts videos speakers work-based placements role</td>
<td>case incidents behavioural simulations</td>
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<tr>
<td>Hytti and Gorman, 2004</td>
<td>lectures exams essays case studies group work workshops mentoring/ counselling study visits games/ competitions business simulation</td>
<td></td>
</tr>
<tr>
<td>Hegarty, 2006</td>
<td>lectures case studies</td>
<td>speakers teamwork competitions e-learning</td>
</tr>
<tr>
<td>Carrier, 2007</td>
<td>videos life stories</td>
<td>reading classical literature computer-based simulations behavioural simulations</td>
</tr>
<tr>
<td>Cope and Pittaway, 2007</td>
<td>group dynamics unfamiliar activities (uncertainty &amp; ambiguity)</td>
<td></td>
</tr>
</tbody>
</table>
Whilst many of these pedagogical initiatives involve integration appropriate to objectives, it is apt to provide a short overview of blended learning within entrepreneurship education.

**Integrating blended learning pedagogy to entrepreneurship education**

Many higher education institutions have embedded blended and e-learning approaches as a key priority and “preferred approach”, highlighting the many advantages of such approaches. Other than enhancing meaningful educational experiences, such approaches provide cost and resource effective methodologies (Harris, Connoly & Feeney, 2009). Its first appearance in 2001 could be seen as a response to the perceived failure of e-learning to achieve its potential (Sloman, 2007).

Sloman (2007: p36) defines blended learning as, “an approach to education and training design that involves a combination of delivery methods and in some cases learning methodologies. In particular, blended learning suggests that e-learning will be the most effective when it is part of an overall strategy involving the classroom and on-the-job workplace learning”. It has been found that a similar approach, referred to as, ‘theory for practice sake’, has successfully been implemented in postgraduate education in an entrepreneurship context (Maritz, 2010a). Mitchell & Honore (2007) further emphasise the e-learning and blended learning integration as learning involving multiple methods and approaches, commonly a mixture of classroom and e-learning.

Heinze & Procter (2004: p16) provide a somewhat broader perspective, by including the communications component; “ learning that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved in a course”. They postulate that most communication efficiency is achieved online on discussion boards, and maximum efficaciy is achieved in the face-to-face sessions. For example, discussion boards can be recommended for use by students to support each other, thereby enhancing efficiency. The resolution of more challenging issues can be met in face-to-face sessions with members of staff. Yuen, Deng & Fox (2009) found that students prefer e-learning as a supplement to face-to-face interaction, rather than its replacement. They considered the traditional lecture as more effective and efficient to grasp concepts and principles. The importance of the basic lecture must not be negated, albeit the addition of alternative innovative pedagogical initiatives (Maritz, 2009).

In a higher education context, Ennew & Young (2006) found that models of online learning that exclude any face-to-face contact may have limited opportunities, but blended models offer considerable potential both on and off campus. A study by Adam & Nel (2009) also found that where integrating blended learning using face-to-face teaching, digital media and digital communication with simple navigation between the content items leads to positive student perceptions. Baldwin-Evans (2006) identifies the following key steps to implementing a successful blended learning strategy:

- Ensure learner readiness
- Presentation
- Demonstration
- Practice
- Assessment
- Provide support and assistance
- Coaching
- Collaboration

The value of blended learning in a higher education environment has the proven potential to enhance both the effectiveness and efficiency of meaningful learning experiences (Garrison & Kanuka, 2004). In this study, we propose the application of blended learning as complimentary to, and not in place of other pedagogical initiatives discussed (Maritz, 2010).

**Discussion and conclusion**

We propose the integration of e-learning and experiential pedagogical initiatives discussed within a unit of study in the higher education environment. Particular application includes the use of Stanford Technology Ventures Entrepreneurship online resource portal, commonly referred to as “e-corner” (see: [http://ecorner.stanford.edu/](http://ecorner.stanford.edu/)). Evaluation will, predominantly be longitudinal in nature, using the
measurement of entrepreneurial intentions (Krueger et al., 2000) and self-efficacy (Zhao et al., 2005). Models of such assessment include Ajzen’s (1991) theory of planned behaviour; and Shapiro’s (1982) model of the entrepreneurial event. The latter highlights the effect of perceived desirability, propensity to act and perceived feasibility on entrepreneurial intentions.

Not only have we identified traditional and experimental pedagogical initiatives applicable to entrepreneurship education, but an appropriate approach to integrate blended learning within these methods. Whilst experiential initiatives may well have identified e-learning and computer-based simulations as appropriate entrepreneurship education pedagogical methods, this study has identified blended learning as an appropriate initiative. In line with the literature, we propose that such integration will not only enhance student self-efficacy and intentionality, but may well lead to a cost reduction and resource efficiency. We also propose Faculty and University wide application (once the pilot test has been concluded), with possible application in a wider higher education domain.

Limitations are predominantly centred on the integration within a particular unit of study (pilot project), however, transferability of knowledge is certainly not limited within this constraint. The proposed next stage in this research process is the application and assessment of blended learning in the pilot-project, with further publication of the effectiveness and efficiency of the project.

References


