A CRITICAL REVIEW OF STUDENT CHANGE AND DEVELOPMENT THEORIES

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Abstract: There are commonalities in substance in many student change and development theories. Many models that have evolved from theorists are based on the American college model and its associated values. This paper discusses the various change and development models that have evolved and their impact on innovation in teaching. The Australian higher education system is used as a case study to highlight the need to treat the US model with caution when applying to other countries and cultures. Developments in the use of information technology have implications on the changing student profile.

1. INTRODUCTION

A common thread in theories of student change and development is the recognition that between the ages of 18 to 24 students are developing their adult persons. The theorists agree that institutions of higher education can influence this development, cultivate it, and set the climate for the future (Little 1975; Erikson, Chickering, Marcia, Kohlberg, Kitchener, Gilligan as cited in Pascarella & Terenzini, 1998). Individuals of the same age group experience change in this time period whether at university or not. The numbers of theories expounded are an attempt to provide evidence that the change instilled by a university education is more beneficial than standard developmental change.

The similarities in the substance of student development theories are that externally originated controls on behaviour slowly give way to internal controls. There is an emergence of an understanding and appreciation of the roles of other people and obligations to them. The higher levels of growth mark a progression toward self-definition and integration (Pascarella & Terenzini, 1998).

The similarities in process of student change and development theories are that development is continuous and part of normal maturation; it is cumulative; it passes along a continuum from simpler to more complex behaviours; it tends to be orderly and stage related and it is reflected in developmental tasks. The theorists agree that cognitive readiness is a necessary but not sufficient condition for development. There also needs to be a capacity for detachment from self as well as a capacity for empathy to enable access to higher developmental levels. (Pascarella & Terenzini, 1998:44-46).
Information technology developments have influenced changes in the student profile and student experiences of higher education. Student change and development theories have yet to incorporate the increasing use of information technology in education to support course delivery and student learning. This reliance on technology has the possibility of creating a greater disparity between students who can afford their own equipment and those who are reliant on university systems. The impact of the gendered use of information technology, which has been widely observed in most western countries, may also contribute to disparity in student experiences. There are already alarming trends of reducing female enrolments in information technology degrees in both the USA and Australia.

1.1 The changing student population

There is an acknowledgement that the environment plays a role in student change. Universities themselves change with the times; have differing cohorts and employ varying strategies to get the best results from their students. There are commonalities in universities across continents; studies and reports from the USA and UK for example echo the same changes that are occurring in Australia. The decreasing levels of engagement of students at university; the convergence of career aspirations between males and females; a greater use of technology by both academic staff and students and a change in the philosophical outlook of students.

The demographic profile of students attending tertiary institutions has changed considerably over the last forty years (Asin, 1998; Kuh, 2001; Marchese, 1998; McInnis, 2001; Pascarella & Terenzini, 1998; Tinto, 1998). Universities in Australia used to be a male dominated environment with only 26% female enrolment in 1969. Females now outnumber males on campus 55% to 45% (DETYA, 2001:5). In the USA instead of young full-time students living on campus, many students are now older, often enrolled part-time and commuting to campus.

The career aspirations and overall dedication of students to their studies have also altered focus, in some cases to the detriment of the pursuit of a generalist higher education and more in favour of maximising potential earning capacity in the employment market. The profile of the student has changed and many are having a different experience of university life than students thirty years ago.

While there are commonalities in educational institutions and student cultures between countries and between institutions in the same country, care must be taken when applying theories because there are also unique differences. The need for theories and models to be developed country specific with a suitable range of data from varied institutions is essential.

2. CHANGE AND DEVELOPMENT THEORIES, MODELS AND TYPOLOGIES

Pascarella and Terenzini (Pascarella & Terenzini, 1991) published a synthesis of more than 2600 pieces of research carried out at various institutions in the USA over a 30 year time span. Their purpose was to summarise and classify a large number of student change and development theories. Little observed that ‘theories and perspectives are overlapping more and more’ (Little, 1975 :208). Pascarella and Terenzini’s compilation and summary of hundreds of studies substantiates this statement. They applied a classification to group the development theories into four main areas, psychosocial, cognitive, typological models and person environment theories. In doing so they were also attempting to determine ‘what makes a difference’ to student development (Pascarella & Terenzini, 1991:4). They acknowledge a bias in the many samples because the majority of studies were conducted with “non-minority” students attending 4 year institutions full-time and living on campus. The sample sizes varied considerably between institutions with the larger sized samples more likely to identify statistical significant results, and the use of different operational
measurements between the studies (Pascarella & Terenzini, 1991:13). Little’s model was developed in the early 1970s and based on a homogenous group of students attending an Australian university.

2.1 Psychosocial theories

The theories of Erikson, Chickering, Marcia, Cross and Helm are classified as psychosocial because of their focus on individual development as a process. At the core of Erikson’s ‘epigenic principle’ is that sequential, related, biological and psychological development is shaped by personal environment. Identity versus identity confusion is the dominant developmental task of people of college age (Pascarella & Terenzini, 1991:19-20). Chickering’s seven vectors of student development attempted to produce a systematic framework for synthesising empirical evidence. Critics of this theory point out that it is less of a theory and more of a description of what should ideally happen. Marcia’s model of ego identity built on Erikson’s theory in explaining the shift that individuals encounter as they accommodate life cycle changes. Cross’s block identity formation assumed similar processes to Marcia’s while Helm used two racial identity strands. Heath’s maturity model offered dimensional as opposed to stage model development, his is similar to Chickering’s seven vectors but only has five dimensions.

These psychosocial theories are based on middle-class white Anglo-Saxon culture. The Eastern culture which incorporates respect for family and strong sense of familial duty is not accounted for, nor the holistic religions of these students. This is a major flaw when applying psychosocial theories to stages of development of students today. The student cohort at universities, particularly in Australia, is more diverse than it was 30 years ago.

2.2 Cognitive structural theories

Cognitive structural theorists focus on the content of development and describe the process of change on student cognitive structures. (Pascarella & Terenzini, 1991:27). The stages through which individuals pass in response to external stimulus or challenge are described. Perry’s scheme of intellectual and ethical development maps the development of acceptance or questioning of knowledge. His theory has been criticised for its difficulty with the measurement of positional change. There is a great deal of subjectivity in the measurement and the subjectivity of the researcher cannot be easily divorced from the classification process. There is a blurring of definitions especially that of commitment, which can vary across cultures.

Kohlberg’s theory of moral development takes into account that moral judgements may be socially or culturally determined (Pascarella & Terenzini, 1991:31), and describes the movement through stages of consequential value, need for approval, and duty as a social contract. Once more the cultural base of the USA defines the stages of the theory. In many cases the desire for approval guides behaviour throughout a lifetime, not just a phase and is influenced by whose approval is being sought (e.g. child/parent). Both Kohlberg and Perry place a great deal of value on the function of a college education to develop citizenship in students. This emphasis on the social responsibility of students and the role that higher education plays in its development is much stronger in the USA than Australia.

Kitchener and King’s reflective judgement model defines the processes of forming judgements, while Gilligan’s different voice model questions the validity of most earlier models because they are based on the male ‘voice’ only. She emphasised that female values of care and connection are salient in female models of thinking yet not acknowledged in the models. Females predominately reason with the ‘care voice’ while males predominately reason with the ‘justice voice’ (Pascarella & Terenzini, 1991:34). Gilligan emphasised that her theory is not in conflict with Kohlberg’s but that females and males have different ways of viewing the world. Loevinger’s theory of ego development identifies nine stages of development and placed college students predominately in the middle stage.
of ‘self-aware, conformist, conscientious’. Pascarella and Terenzini's review identified no students at the final stage of ‘individualistic, autonomous and integrated’ (Pascarella & Terenzini, 1991:35).

As in the psychosocial theories, these cognitive theories are based on homogenous groups, and do not account for cultural and gender differences.

2.3 The Australian perspective

In the 1970s universities in Australia were for the elite, a university education was an expensive pursuit predominated by males. There was only a 30% female enrolment in 1972 that increased to 39% in 1974 with the inclusion of Teaching College statistics (DETYA, 2001:5). Through a series of commentaries and profiles focusing on class, community, activism, assimilation, residence and identity, Little produced a psychosocial analysis of students in the 1970s. The profiles indicate a high degree of social class stratification between courses and faculties within the university. Teaching College students were derived mainly from the working class, Arts students were predominately upper-class females, and Law and Medicine were dominated by upper and middle class males. (Little, 1975:18-22).

Little classified student styles based on family climates. Unlike some of the American models, he did not incorporate individual learning style (although preferences are stated) or institution styles. According to Little families can be cultivating, indulging, training or neglecting. The corresponding work ethic of the students from these families can be predominately productive, erratic or personal, dutiful or impersonal, or fitful. There are also corresponding student styles of autonomous, dependent, dutiful and withdrawn, for example the indulging dependent model is ascribed mainly to females who lacked orientation at university (Little, 1975:219).

While this relatively simple model was effective when applied to individual students, it is less useful when applied more widely. Little acknowledges that within a university there are different climates between faculties. The Engineering faculty for example may have a predominately training climate while the Education faculty an indulgent climate (Little, 1975:234). Little's model provides a snapshot of the student experience in Australia 30 years ago and is a good example of the culture of universities being reflective of the society.

2.4 Typologies

Typological models focus on the different ways individuals perceive their worlds or respond to conditions. The Myers Briggs model for example differentiates individuals according to their learning preferences. Most typological models of this nature are based on the beliefs that people are relatively stable and have indicative characteristics of the taxonomy. Typologies describe commonalities but do not attempt to explain them. (Pascarella & Terenzini, 1991:37). Type is assumed to be dynamic and can change over time, with mood changes and between environments. Once more these models have been developed from a white Anglo-Saxon based cohort. While they are useful to increase awareness of learning and teaching preferences there is little research into their wider application across cultures.

2.5 College impact models

A number of college impact models have been developed from observation and analysis of theories. Astin's theory of involvement focuses on “input-process-output” with students learning by becoming more involved (Pascarella & Terenzini, 1991:51). Tinto's theory of student departure is similar to Astin's with its focus on college attrition rates. Pascarella's general model for assessing change takes into account intra-institutional influences and defines growth as a product of sets of variables which
include a student’s background and pre-college characteristics (similar to Little’s family climate) combined with the structural or organizational features of the institution which create the college environment. (Pascarella & Terenzini, 1991:54). College impact models have the common thread of students being active participants in their development, and all acknowledge the importance of the environment as an active force in change.

3. COMMONALITIES AND DIFFERENCES

All the above mentioned theories and models have a similarity in substance in that externally originated controls in behaviour slowly give way to internal controls and move from simple to more complex behaviour. The role of environment in developmental change varies between theorists with none of them exploring the extent of environmental conditions on change. (Pascarella & Terenzini, 1991:46).

3.1. Socio-cultural differences.

There are socio-cultural differences between American and Australian higher education institutions. In the USA education commands a great deal of respect and has a strong role in the development of citizenship. There is a greater belief in attainability of high goals through education, an “anyone can be president” outlook, than in Australia. Is this because of a less obvious class structure in the USA or the “healthy disrespect for authority” and conformity that is part of the Australian ethos? The differences are also echoed in the sporting arena. Sport is a great part of the culture of both nations, but the Collegiate funding of sporting teams where the whole town or university comes out in support of games is not evident in Australian society. These socio-cultural differences cast doubt on the appropriateness of the application of theories and models developed in the USA to Australian circumstances.

Recent Australian government discussion papers reviewing higher education have placed minimal emphasis on the societal or citizenship development of students in higher education institutions. The priority apparently is how to increase non-government funding of higher education, fuelling the impression that the government is primarily concerned about higher education funding rather than the role these institutions play in society (Nelson, 2002). Unlike the USA where universities and colleges are expected to play an important role in “fostering a high level of verbal and mathematical skills; developing an in-depth understanding of social, cultural, and political institutions, facilitating one’s ability to think reflectively, analytically, critically, synthetically and evaluatively; developing one’s value structures and moral sensibilities; facilitation personal growth and self-identity; and fostering one’s sense of career identity and vocational competence” (Pascarella & Terenzini, 1991:1) the higher education review document produced recently by the Australian government leaves the impression that the main issue in higher education in Australia is “Who pays”?

3.2 Institutional differences.

There is a historic difference in the funding of higher education institutions in both countries. Australian higher education institutions have had a great deal more funding from governments than those in the USA where private funding is stronger. The question may be asked whether students have a stronger application and devotion to success at university because they are more aware of the economic strain on their parents to get them there? There is evidence from overseas students studying in both the USA and Australia to indicated that duty to the parental investment outweighs personal choice (Margolis & Fisher, 2002; Lang, 1999). There is a hierarchy of universities in both countries, but the number of private universities is much greater in the USA, and only a new (and not widely accepted) innovation in Australia.
3.3 Rite of passage

Going away to college is a perceived ‘rite of passage’ in the USA. Parents and students plan and argue about this for years prior to the event. It is an accepted part of citizenship and development. This is not the case in Australia. Many of the theories categorized and synthesized by Pascarella and Terenzini pre-suppose living on campus as an interacting environment on student development and therefore are less valid when applied to Australian students. In Australia the dormitory university is rare and the percentage of students living on campus is quite small compared to USA institutions.

4. CHANGES IN STUDENT PROFILE AND STUDENT EXPERIENCE

The liberal education outlook to which Little refers in the 1970s has moved to a much more vocational outlook in 2000. Universities in the USA and Australia are observing an increased vocational focus in their students. The Australian higher education student, as is the case with the British student, has a more immediate life goal on entering higher education and not the luxury of taking a first-year generalist course before making career choices, as is the case in the 4-year American university. Australia has a high percentage of international students studying at their universities that provides for a multicultural experience and environment. The relevance of this is that often these international full fee-paying students bring a strong vocational attitude to their education, where time is money, and further erode any liberal education outlook.

Kuh investigated what makes a good institution, using the National Survey of Student Engagement (NSSE) as a tool for seeking national benchmarks (Kuh, 2001). This survey did not assess learning outcomes but instead the extent of the use of good educational practices. Based on the seven principles of good learning, Kuh focused on five benchmarks and used a credible variety of survey techniques at a wide selection of institutions in the USA to gather data. The five benchmarks were: the level of academic challenge students experienced; the amount of active and collaborative learning undertaken in courses; the level of student interactions with academic staff; the number of enriching educational experiences; the perception of a supportive campus environment.

The results of this US survey showed that substantial proportions of students are experiencing active and collaborative learning (90% of students reported working with other students on projects which may or may not have included collaborative learning). However, poor student interactions with academic staff were reported as well as 56% of respondents spending only 15 hours a week in preparation for their courses, half the recommended amount of time. While this survey relied on self-reporting, steps were taken to ensure that the tool elicited truthful and recent responses. These included clearly worded questions referring to recent activities that did not intrude on private matters. An acceptable response distribution for most items was evident on analysis adding further credibility to the tool (Kuh, 2001). The survey results indicate that students are spending less time on campus and less time engaged in learning than that expected by academics, a trend also observed in Australian institutions.

4.1 Disengagement

Academics may be basing their assessment of what the desired amount of time spent on study is on the homogenous student cohort of the late sixties. The results of the Kuh survey contribute to the belief that students are becoming increasingly less engaged with tertiary learning in the sense that they are spending less time in preparation, and reporting limited interactions with academic staff.

A university education used to lead to a career for life it was thought. This notion of the certainty of a career path is less relevant in today’s youth, contributing to a different attitude to tertiary education.
Students are less certain of what their degree will lead to and have a decreasing desire for a generalist education, or to devote their time fully to education. A flexible study program is usually combined with part-time or full-time employment. Undergraduates are more likely to try and negotiate their commitment to study to fit around work, family and leisure activities than follow a prescribed path of recommended courses.

4.2 Changes in cohort

The changing commitment of students has led to some universities being over-responsive to student demands for flexibility rather than defining parameters in levels of engagement (McInnis 2001:4). Kuh observed that while students are spending less time on campus and less time doing homework, they are getting better grades and have higher expectations (Kuh, 2001:112). Some of these higher grades could be attributed to the older student cohort. McKenzie and Schweitzer report that older students often achieve higher grades than their younger counterparts. Their need to balance work, family and study requires higher-level organisational skills and their ability to compartmentalise and focus, for those who persist in university, contributes to their higher levels of achievement (McKenzie & Schweitzer, 2001). Alternatively the higher grades could be attributed to either a decline of academic standards or the increased effort and focus of students with distinct career outcomes in mind. Neither of these alternatives has been explored in great detail.

4.3 Financial Burden

A factor that may have an influence on the changing values of undergraduates is the financial burden they have to bear. Education costs are causing concern to students, increasing their stress levels and having an impact on the amount of time they can spend on study. The level of financial support provided to universities by the Australian government has decreased in real terms over recent time, while the number of students from more marginal economic groups attending university has increased. The number of students having to work while studying to help pay for their education expenses has increased. (Astin, 1998; McInnis, 2001; Sax, 2002). Many students now consider full-time study free of financial worries a luxury rather than the norm. This increased student focus on financial gains could be attributed to the lack of support available from governments and families.

Sax reports that close to 70% of USA first-year students experience concerns about financing their education in the first year of college, and nearly 20% experience serious financial difficulty. This need to finance education through working off campus, or supporting loans could contribute to a preoccupation with financial matters, and could well account for the increase of importance of economic stability in the lives of students (Sax, 2001:26).

4.4 Technology

Universities are increasingly moving in to electronically-supported flexible delivery of courses. Technology can be used to support a better learning environment, not dictate it (Chickering & Ehrmann, 1996) and is being implemented in some tertiary institutions to support principles of good practice. Electronic mail, electronic forums, computer conferencing, topic and subject specific newsgroups and the world wide web support interactions between student and academic staff as well as create virtual cooperative learning environments between students.

The extent to which computer-based tools encourage spontaneous student collaboration was one of the earliest surprises about computers. A clear advantage of email for today’s busy commuting students is that it opens up communication among classmates even when they are not physically together (Chickering & Ehrmann, 1996:3).
There are technologies that encourage active learning through the use of simulation activities to provide a "hands-on" environment for example. The immediate nature of electronic communication also promotes prompt and regular feedback to students, as well as allowing them to use their time on task to the best advantage by eliminating the need for tedious rewrites through the use of word processing software. There is some debate about the extent to which technology is contributing to the reduced level of engagement of students. Students can save time by using electronic library catalogues available on the world wide web rather than commuting to campus libraries to find out if books or articles are on the shelves, but there is little evidence on whether they are actually doing this. Ehrmann quotes a lecturer saving one and a half class teaching hours by using software to simulate an example and the responding increase in student results in that area of the final test, however there is little examination to date of the effect of technology on both student learning and time on task (Ehrmann,2002:7).

5. CONCLUDING REMARKS

The developing issues in the changing student experience are how much time students are spending preparing for classes, the use of technology to support and enhance student learning, and universities taking a leadership role in manipulating changing trends of decreased engagement and increased vocational relevance without compromising quality and standards. Universities have to be leaders in education to maintain their relevance to society and not evolve into training institutions, while ensuring that graduates enter the workforce with a set of relevant core skills. They must also be leaders in negotiating the level of engagement they expect from students. Included in this negotiated level of engagement is the need to structure courses to ensure that as well as allowing for specialisation streams and majors, there is a core body of knowledge imparted in even the most generalist degree (McInnis,2002). While students have always tried to negotiate their level of involvement at university, this trend is increasing due in part to the reactive rather than proactive way universities have been dealing with student demands (McInnis,2001:14). Students are no longer a homogenous group. There is a need for several different solutions to cater for the different cohorts of mature part-time students, young local part-time and full-time students, and the international student cohort.

The increasingly important role that technology plays in higher education by enabling flexible delivery modes has an impact on student attendance at lectures, as well as communication with academic staff and peers. The need and desire to have a home study with the latest information technology equipment could exacerbate the negotiated level of engagement of students as they work part-time to support their technological desires. The gender variances in approaches to and confidence in the use of computers could also have an impact on the student cohort, and needs further investigation. An assumption is sometimes made that students have both a base level of technological knowledge and that they can manage their learning through this medium.

The challenge to colleges and universities is to contribute informed resolutions to the debate of the changing student experience. This paper queries the relevance of past studies of best practice because they were not only based on a homogeneous middle-class group of on-campus residents, but also a homogeneity of educational process, instructional methods, educational settings and academic delivery cycles (Pascarella & Terenzini,1998:162). The shrinking financial support that higher educational institutions now have from governments is also creating a greater accountability in these institutions.

The purpose of this review of student change and development theories and their implication to teaching and learning is to stress that theories and models of student change and development in higher education cannot be applied universally across countries nor over time. Some academics consider universities of 2002 considerably less elitist, and a future of mass higher education
becoming a reality in the developed world and spreading to developing nations (Gilbert, 2001). Questions are raised about the increased technological reliance of mass education and whether it could in turn contribute to a divide between the information rich and the information poor as well as between genders.

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