

2007

Contemplating Whitehead's Freedom and Discipline

C. Jones
University of Tasmania

Follow this and additional works at: <https://ro.uow.edu.au/jutlp>

Recommended Citation

Jones, C., Contemplating Whitehead's Freedom and Discipline, *Journal of University Teaching & Learning Practice*, 4(1), 2007.

Available at: <https://ro.uow.edu.au/jutlp/vol4/iss1/2>

Contemplating Whitehead's Freedom and Discipline

Abstract

This paper extends the previous application of Alfred Whitehead's educational ideas to the domain of enterprise education. In doing so, a unique approach to enterprise education is illustrated that links students to their reality whilst also connecting the curriculum to contemporary entrepreneurship theory. The paper reports upon past cycles of reflective practice related to the developing *hic et nunc* teaching and learning framework. Two specific findings of note have emerged. First, that students' learning outcomes are enhanced through the oscillating influence of freedom and discipline. However, in the absence of either factor, suboptimal outcomes are seen to occur. That is, an imbalance between freedom and discipline has resulted in sub-optimal outcomes from either a lack of student interest or an inability to adequately apply acquired knowledge. Where gains have been made, the most obvious process has been through consultation with students. Second, that the students also play an important role in shaping the nature of the learning environments within which they interact. Both findings are of significant importance to all academics charged with the responsibility of developing enterprise education curriculum. The main implication of the paper is that in the absence of sound pedagogical practises, it is possible that enterprise programs may develop a tendency to reinforce past practises. The processes of constructive alignment and criterion-based assessment are argued to offer avenues through which students can influence the educational process. They also provide the educator with a reflective pathway through which continual improvements are constantly possible. This paper provides other academics with a window through which to view the ongoing development of a process that has been recognised nationally for teaching excellence and influenced many fine young entrepreneurs. The paper also draws attention to a set of core educational philosophies that have transferable value to any academic setting. It is noted that the task of developing a learner-centred curriculum for enterprise education has been an entrepreneurial endeavour in itself. Many mistakes have been made and many memorable achievements have been celebrated.



Contemplating Whitehead's Freedom and Discipline

Colin Jones

University of Tasmania
Colin.Jones@utas.edu.au

Abstract

This paper extends the previous application of Alfred Whitehead's educational ideas to the domain of enterprise education. In doing so, a unique approach to enterprise education is illustrated that links students to their reality whilst also connecting the curriculum to contemporary entrepreneurship theory. The paper reports upon past cycles of reflective practice related to the developing hic et nunc teaching and learning framework. Two specific findings of note have emerged. First, that students' learning outcomes are enhanced through the oscillating influence of freedom and discipline. However, in the absence of either factor, sub-optimal outcomes are seen to occur. That is, an imbalance between freedom and discipline has resulted in sub-optimal outcomes from either a lack of student interest or an inability to adequately apply acquired knowledge. Where gains have been made, the most obvious process has been through consultation with students. Second, that the students also play an important role in shaping the nature of the learning environments within which they interact. Both findings are of significant importance to all academics charged with the responsibility of developing enterprise education curriculum. The main implication of the paper is that in the absence of sound pedagogical practises, it is possible that enterprise programs may develop a tendency to reinforce past practises. The processes of constructive alignment and criterion-based assessment are argued to offer avenues through which students can influence the educational process. They also provide the educator with a reflective pathway through which continual improvements are constantly possible. This paper provides other academics with a window through which to view the ongoing development of a process that has been recognised nationally for teaching excellence and influenced many fine young entrepreneurs. The paper also draws attention to a set of core educational philosophies that have transferable value to any academic setting. It is noted that the task of developing a learner-centred curriculum for enterprise education has been an entrepreneurial endeavour in itself. Many mistakes have been made and many memorable achievements have been celebrated.

Introduction

This paper extends the previous application of Alfred Whitehead's educational ideas to the domain of enterprise education (Fiet 2000; Hindle 2005; Jones 2006a; 2006b). The discussion centres on the recently designed *hic et nunc* teaching framework that facilitates student learning in the here and now. The *hic et nunc* process has been greatly influenced by the past work of Alfred Whitehead, and continues to be further developed through the infusion of the ideas of Tyler (1949), Heath (1964), King and Kitchener (1994), and Baxter Magolda (2004). The entire process of curriculum development has been motivated by a desire to discover and create a process through which students can learn through and for enterprise (Gibb 2002). As such, it is the centrality of each individual student in the educational process that determines both learning outcomes as well as the emerging curriculum structure.

The teaching practices used within the *hic et nunc* program have received national recognition. Recognition based on the degree of reflective practice aimed at continually improving student learning outcomes through innovative curriculum design. This paper provides evidence of a self-reflective case study (Hayward 2000) through which a process of continual improvement has, and continues to occur. It outlines the process of initial experimental strategies designed to provide enterprise students with considerable freedom to learn through and for enterprise. Despite the emergence of a core set of deliberate strategies that now comprise the *hic et nunc* program, critical consideration is given to need to balance the various aspects of the *hic et nunc* program to achieve desirable balance between freedom and discipline.

The remainder of the paper is structured as follows. First, the nature of the research method used is explained and justified. Then, the *hic et nunc* program developed at the University of Tasmania is discussed with its current limitations presented. The discussion then introduces Whitehead's notion of discipline and brings to account to implications of achieving an incorrect balance of freedom and discipline. The paper concludes with summary of the educational philosophies used to develop the *hic et nunc* approach that may have transferability to other educational institutions.

Method

The research method used throughout this research has been modelled on Hayward's (2000) cycle of reflective practice within which the seminal works of Dewey (1933), Kolb (1984) and Schon (1983; 1987) were successfully integrated. This process of reflective practice is designed to allow the self-reflection of one's practice with the aim being the development of new knowledge that is personally relevant. The process began in 2002 with the author's participation in the development and delivery of a new degree program in entrepreneurship. During the last four years a continuous cycle of acquiring feedback from multiple sources (Brookfield, 1995), reflecting upon the information received, drawing inferences from that information, developing new patterns of thought and then taking action to alter practice has occurred. Evidence of the process and its outcomes can be found in the numerous peer-reviewed publications related to the programs past development (Jones 2006a; 2006b; 2006c; 2006d; 2006e; Jones 2005a; 2005b; 2005c, Jones & English 2004, Jones 2003, and English & Jones 2003).

The research is based on a single-site case study with the data collected almost entirely by the author. The following sources of data were collected; an initial review of literature related to entrepreneurship education, informal student feedback (both one-to-one and one-to-many), formal student feedback (Student Evaluation of Teaching and Learning), peer observation by colleagues, mentor feedback, and continuous interaction with the literature. The process of the data analysis was dictated by the open ended and emergent nature of the research questions. Predetermined coding categories were not imposed on the data, and issues related to the respondent's observations primary concerns emerged naturally. These included the nature of student engagement, authentic assessment, personal responsibility, and co-development of the learning environment. Multiple sources of data provided the means of triangulation to ensure internal validity. Due to space limitations, a full analysis of the results thus far is not possible. However, the next section presents an overview of the teaching and learning processes that have emerged from the process of self-reflective practice.

Intuition and Reflection: Lighting Fires

It was said by the great poet Yates, that 'education is not the filling of a pail, but the lighting of a fire'. This beautifully captures the essence of a learner-centred approach to teaching, effectively removing the notion of a *vessel in need of filling* from the equation. As previously discussed by Jones (2005a), a learner-centred enterprise program has been developing in recent years at the University of Tasmania. Despite more recently being inspired by the ideas of Whitehead (1929), Tyler (1949), Gibb (2002) and Biggs (2003), it began from the intuition of its founders' desire to co-develop knowledge and ability. The development of this framework provides an example of how a curriculum can emerge from continuous reflective practice (Brookfield 1995). Ongoing interaction with students, facilitators, colleagues and the literature have provided sources of direction and confirmation in the ongoing development of the *hic et nunc* approach. As time has passed, the ideas have Heath (1964), Baxter Magolda (1998; 2004), and King and Kitchener (1994) have assumed greater importance in influencing the emerging structure. The learning activities shown in Figure 1 relate to a specific unit (i.e. BMA204 Foundations of Entrepreneurship), but the underlying process illustrated is used throughout all courses within the Entrepreneurship Major at the University of Tasmania. The title of the framework, *hic et nunc*, is derived from the literal Latin translation of the term 'here and now'. The framework and its title are inspired by the past work of Whitehead who argued the students should learn in their here and now.

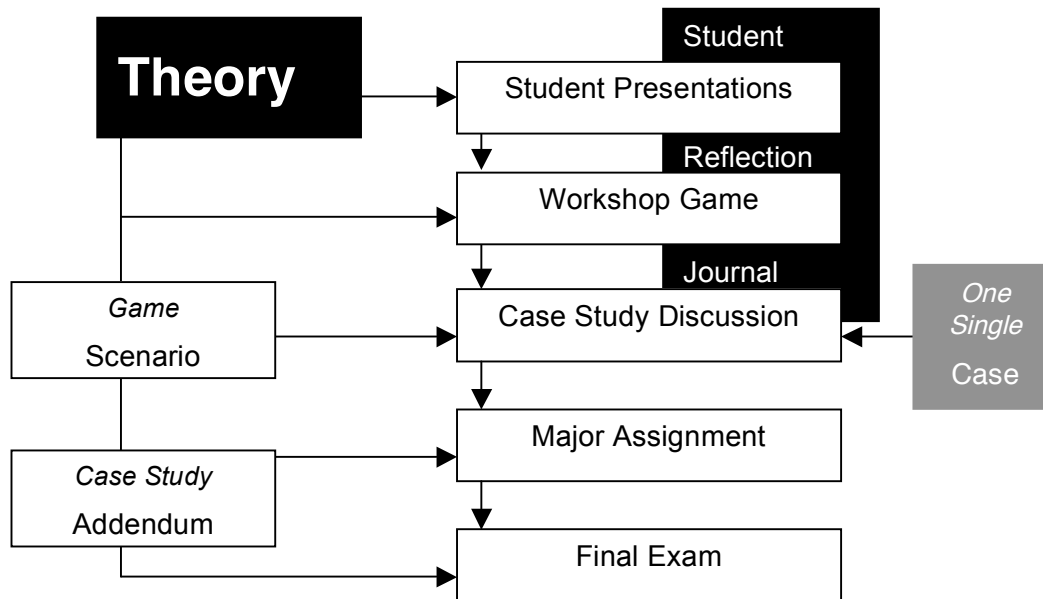


Figure 1: The *Hic et Nunc* Framework

The *hic et nunc* framework produces a replicating process through which several specifically chosen journal articles (and other sourced material) reinforce a specific and very focussed learning outcome to be acquired through a cumulative learning process. Within other units, the framework may move beyond the development of one major concept, to support learning outcomes related to a series of specific tasks (e.g. conducting market research and preparing financial statements). The full reasoning for not using a single textbook will be explained in more detail shortly. Suffice to say, in general they are seen to be too broad in the breadth of information presented, but too shallow in depth of any information from which useful future generalisation is possible. Essentially, the learning outcomes associated with the units in the major precede the selection of a theory source, and textbooks are deemed an insufficient source of theory to address the desired learning outcomes.

Sources of Literature

Whitehead (1929 p. 2) comments that we should not teach too many subject areas, but what we teach, we should teach thoroughly. That this process should represent a process of discovery, that the “general ideas give an understanding to that stream of events which pour through his [or her] life”. Whitehead argues strongly that the educator must be very precise what the students must know, and that an isolated focus must be brought to bear on those specific issues in a concentrated and timely fashion. We must give the students the desired knowledge quickly and then let them use it over and over. For example, in the creativity unit, students receive all knowledge of the process of creative problem solving and selling in the first two weeks. They then spend the remainder of the semester applying that knowledge and developing skills and wisdom.

The current learning outcomes have developed (or regressed as the case may be) towards fewer areas of focus. Essentially, across the major the students are required to gain an understanding of; 1) how the social and economic world changes, how this change is driven by entrepreneurs, and how they themselves relate to the process of positive deviant behaviour, 2) how problems can be solved and opportunities discovered through creativity, and how ideas and solutions can be successfully communicated to appropriate stakeholders, 3) how to determine the potential commercial feasibility of a business concept, and 4) how to construct a strong business plan for a feasible business opportunity vis-à-vis all keys aspects (e.g. marketing, financial, and organisational).

The evolutionary underpinnings of this curriculum have been previously discussed elsewhere (Jones 2005b) and will not be elaborated on here. The key point is that, the concise nature of the above noted learning outcomes introduces much redundancy to almost any textbook offered for enterprise education. Needless to say, many readings and alternative sources of theory are assembled on the basis of the direct value they convey to the learning outcomes noted. However, and importantly, the readings while limiting the horizontal boundaries of enquiry, place no vertical limits on the minds of those who wish to explore the issues more deeply. Contained within the readings are no premature and unnecessary sidetracks into issues that divert attention unnecessarily. For example, in the first unit, issues such as business plans, marketing, financing, and environmental scanning are inappropriate. While these issues are important, they require proper attention at an appropriate time when their consideration can occur within the *here and now* of the students engaged in the project-based elements of their study. Having justified the reason for and inclusion of specific literatures, the next section of the paper will outline the learning activities that have been developed.

Student Presentations

Since the program's inception student presentations have been used as a means of fostering entrepreneurial behaviours. Arranged in small teams, students are encouraged to take independent initiatives, exploit perceived opportunities, solve problems creatively, take risks in an uncertain environment, and flexibly respond to challenges, all forms of entrepreneurial behaviour (Caird 1993). Throughout the course of the semester, relevant concepts are introduced (via the readings). So, the presentations provide a process through which evidence of understanding is demonstrated. The presentations tend to introduce much variety regarding how the presence of such concepts (occurring in practice) can be viewed and understood. Students learn from both their peer assessment of each other's presentations, and through appreciation of how each team interprets the presence of the theoretical concepts in practice. At the conclusion of the presentations, a very brief lecturer is given to preview the literature for presentation during the next workshop. This lecturer would generally last between five and ten minutes. The purpose of this lecturer is to introduce new literature (or concepts), rather than explicitly explain it. It is important the students are left to make their own (collective) sense of how the literature relates to their here and now.

Workshop Game

Student presentations are followed by a variety of games which provides another way for the students to interact with the concepts in the *here and now*. The actual games require students (in teams) to solve problems. Numerous games have been developed to aid an understanding of how the social and economic world changes, how creative solutions need to be sold, how to evaluate a business plan, and how to pitch a business concept.

Case Study Discussion

Upon completion of the workshop game, a case study discussion session is conducted. This may represent a process through which students engage in a reconstructive analysis of a local industry, creative problem solving, or the discussion of their inner feeling with respect to a specific literature (e.g. Moltz 2003). Despite criticism of the merits of the Harvard Case method (e.g. Mintzberg 2004), it cannot be denied that this method (in the hands of a competent facilitator) creates much excitement and energy. It energises students to go beyond the obvious, to dig deeper and assess the underlying issues present within the case. First hand observation of this method can be a compelling experience. However, it is noted that not all business schools will be as fortunate as the Harvard Business School to be attended by so many quality students. The development of an innovative case discussion method has enabled a method of discussion to emerge that aids student learning regardless of prior knowledge or experience.

The case study discussion session developed is not premised on an assumption that students have already gained a sound understanding of the appropriate theoretical concepts during previous education and/or workplace experience. Rather, it is assumed that such an understanding does not exist. Therefore, the student presentations and workshop games provide learning activities during which students are primed with the necessary degree of understanding to contribute constructively to a study discussion. Whilst inspired by the case study method as delivered at Harvard Business School, the nature of the cases selected is quite different.

For example, in the first foundations unit, a single case study is used to illustrate an industry history. It is highly descriptive and does not seek to highlight specific decision makers or issues. It merely seeks to describe the nature of change in the industry and the drivers and consequences of such change throughout the entire life course of that industry. The chosen case then forms the sole case used during that semester. Students become very familiar with the process and patterns of change in that one industry. To begin with, this one industry is revisited during the case study discussion sessions using case study addendums. The addendum provides a link between the appropriate theoretical concepts related to a specific workshop and the industry context in the case study.

Half way through the semester, the addendums are dispensed with, and a format called an 'empty case study' is used. An empty case study is a process that relies only upon a context (i.e. the starting point) and an outcome (i.e. the end point). Students are required to construct multiple explanations that would logically explain the behaviour of firms and individuals within the discussed industry at any point in time between the starting and end points. The industry background remains the same as previously discussed so as to remove any unwanted ambiguity and to ensure students have a sound appreciation of the nature and process of change occurring in that specific industry. Once students are familiar with the process, other forms of discussion focused on specific ideas or literature is easily conducted.

Reflection Journal

The process of reflection is considered a critical element of the *hic et nunc* framework because "learning takes place through the reactions he [or she] makes to the environment in which he [or she] is placed" (Tyler 1949 p. 63). Therefore, student reflection on their participation in presentations, games, and case study discussion is strongly encouraged. This is facilitated through a journal entry shortly after each workshop.

The reflection journal aims to provide students with the opportunity to pause and reflect on how they as individuals are contributing to the success of their team presentations during the workshops. How they are doing with the development of a successful strategy for the workshop game. How they are participating in the case study discussion. Students are encouraged to consider what they have learnt about themselves during the period from one workshop to the next. As the semester progresses, they are encouraged to engage in meta-reflection and consider how they have improved throughout the entire semester. This is a vital process that allows the students to take stock of their behaviours and consider what personal changes are required to improve or maintain their individual outcomes.

Major Assignment

A variety of assignments have been developed to allow students to walk in (or alongside) the shoes of an entrepreneur. This can range from deliberately engaging in acts of positive deviance, to meeting and documenting a specific occasion in which an entrepreneur has, was, or is engaged in new entrepreneurial behaviour. As student progress through the major, the focus of the assignment work becomes more focused on their own particular business concept. Students are also supported to participate in industry placement programs working alongside other students from different faculties.

Final Exam

The last task for students is the final exam. The final exam represents a final check on the students' ability to demonstrate their understanding of the relationships between the various theoretical concepts used throughout the semester. This can take the form of an 'empty case study' format or a creative problem solving process. Whichever format is used, it also includes a reflective component related to what each individual student has learnt about themselves throughout that particular unit.

In summary, when taken together, repeated across each workshop, and each unit, the learning activities within the *hic et nunc* framework provide the means for continual interaction with a process of behaving in an entrepreneurial manner. What is so unique about the process is that as the students begin to view the process of entrepreneurship from an evolutionary perspective, they themselves become increasingly aware of the evolutionary change in their habits of thought (Veblen 1925). This in turn encourages a process of self-awareness and heightened reflection on how the theory under consideration relates to practice in their here and now. What is interesting about how the students learn is that they also gladly assume a co-development role of the curriculum as well. The significance of (and problems associated with) this contribution to their learning and the programs overall development is now considered.

Discussion

This section represents the beginning of the next cycle of reflective practice. As such this discussion is a reflective dialogue that expands upon recent feedback from students, peers, mentors, continual autobiographical efforts and interaction with contemporary and classic literature. The most obvious issue at present is the challenge of maintaining a vibrant and self-renewing learning environment whilst ensuring attainment of student learning outcomes. The current process appears too weighted towards student freedom.

Whilst freedom and personal responsibility are central to the philosophy of learner-centred approaches, a balance must exist between too much and not enough of either factor. For Whitehead (1929 p 30) "The only avenue towards wisdom is by freedom in the presence of knowledge. But the only avenue towards knowledge is by discipline in the acquirement of ordered fact. Freedom and discipline are the two essentials of education".

The apparent challenge is to ensure both student interest towards progress through the application of acquired knowledge in their here and now. A need to open up students to the possibility of intellectual growth (freedom) and the need to lock in and stimulate gains (discipline). Thus far, assessment has been designed to encourage student risk taking with safety nets built in to ensure failures can be learnt from and not avoided at all cost. Mechanisms have been used (deliberately) to create forms of positive discipline and ill-discipline. For example, a process of competitive bragging (Jones 2006f) was seen to occur whereby the students demonstrated a preparedness to fail in order to succeed. The ideas and behaviours of each group were proudly put forward for consumption by fellow groups. Ideas and techniques were revealed and their perceived advantages spilled across groups and resulted in mutations as the semester unfolded. Essentially the groups were energised by the presence of their fellow groups. They demonstrated the ability to accurately evaluate the performance of fellow students (i.e. peer assess), and incorporate perceived profitable traits into their future performance. It would seem that a balance between interest, freedom and discipline has been observed. However, this process was relatively unstable.

When the issue of who might become the *group of the year* was raised, a significant change occurred. Instead of competitive bragging, the groups engaged in a process of competitive jockeying. Admiration was replaced with suspicion, openness gave way to secrecy, and fair peer assessment became an instant casualty. In the presence of less (self-imposed) freedom, knowledge acquisition was more associated with inert knowledge and the contempt for the others groups' ideas. That is, an imbalance was occurring between the freedom and discipline. Within other learning activities similar outcomes have emerged.

For instance, and from another perspective, a difficulty in determining the *right way* to complete a task left many students unengaged in a workshop game. The game proceeds with students being given a game scenario that requires the application of related theory into the task of allocating resources across the life course of an industry with an option of using different types of strategies at anytime. The challenge is to interpret the suggested and possible pay-offs and attempts to influence the nature of environmental selection whilst anticipating the actions of other players. The spreadsheet will reward those players that have avoided the most hostile aspects of the industry's history and acquired the most profitable niche. Given that it cannot be known in advance what strategies other players will play, there is an element of luck with regard to the eventual ranking of the best players. However, for those that perform badly, it is not the challenge (or freedom) presented by the game that is problematic, it is an inability to apply past knowledge to the task at hand (i.e. discipline).

Also, whilst the case study discussion process works for many, it doesn't gain the interest of everyone. The result, too many students lack the interest (or desire) to become adequately interested in voicing their opinions. Whilst students may offer many forms of answers to the problems waiting to be solved during this discussion, they nevertheless must ensure their answers advance the direction of the discussion. For many, a sense that they do not know the exact answer ensures their eternal silence. In this instance, it is discipline that overrides freedom to crush the interest of many students.

Alternatively, student reflection in their journals is mixed between those that genuinely reflect of their own accord and those to do so through compliance. In this instance, it is a lack of freedom (or interest) that stifles the potential contribution of the learning activity. In the absence of genuine interest, discipline is imposed by the system and stifles any real attempt at reflective practise by the student thereby reducing the value of the activity.

What is becoming apparent is that where an imbalance occurs between freedom and discipline, the contribution of any of the developed learning activities to student learning outcomes lessens. One reason for this may simply be that the different types of personalities in the learning environment are naturally sorted by ability to compete successfully. Another reason could be that the development of the learning activities may have been too rushed, thereby restricting (student) understanding of the purpose and process of each. Given the experimental nature of the curriculum development, this latter explanation is quite possible, especially when it noted that it is often the feedback from a previous cohort that shapes the learning activities for the current cohort.

Whitehead (1929 pp. 34-35) argues that to develop a productive learning environment, the facilitator must account for rhythm of education. That is, allowances must be made to accommodate the stages of romance, precision, and generalisation. The assumption being that a balancing of freedom and discipline is achievable within separate learning activities, within units and across degree programs. This requires the educator to step back and ask the following questions. How can I create student interest in any task I require them to complete (i.e. freedom)? How can I transfer this interest towards application (discipline) whilst still allowing for the influence of their internal influence (freedom)? Finally, when something is definitely known, how we enable students to apply their newly gained principles to demonstrate (i.e. freedom) their growing wisdom?

It is becoming clear that these questions are likely to offer the profitable path forward. Past attempts to introduce less information by way of leaner learning objectives has opened up space to allow students to learn in their here and now. The remaining challenge would seem related to finding a balance between the integration of freedom and discipline. Given the number of different learning activities used throughout the major, this represents a significant challenge. The development of an interest (i.e. freedom) and application (i.e. discipline) audit may allow each activity to be fine-tuned. Such a process would also allow a means of stepping back to map learning outcomes across and within each unit. This would enable the development of a mapping process that seeks to highlight when (or if) sufficient student interest is developed, how knowledge gained is acquired/applied, the degree to which student interest remains during such acquisition, and finally, the degree to which students are able to apply their newly developed wisdom free of excessive detail. Whitehead (1929) suggests that this entails the educator delivering on two fronts. First, to create a learning environment related to larger knowledge outcomes (i.e. the attainment of wisdom) and second, to lead by example with endless and contagious enthusiasm.

Conclusion

So far the journey of developing a learner-centred curriculum for enterprise education has been an entrepreneurial endeavour in itself. Many mistakes have been made and many memorable achievements have been celebrated. It is clear that aspects of the program have made possible the lighting of a fire with regards the curiosity and passion of many students. It is also clear, that at times an imbalance between freedom and discipline has resulted in sub-optimal outcomes from either a lack of student interest or an inability to adequately apply acquired knowledge.

Where gains have been made, the most obvious tool has been through consultation with students. Asking them what should be kept, removed, or added to the program has elicited much insightful comment. It would seem that rather than allowing this consultative process to remain too open-ended, there is a need to insert some specific questions into the conversation. For instance, in order to increase student interest, what should be kept, removed, or added? Or, what should be kept, removed, or added in order to increase the opportunity for student application of acquired knowledge? This process can obviously be narrowed down even further by isolating the context of each individual learning activity.

The surfacing of student opinion in this manner has to date provided a focused starting point for personal reflection. Combined with the input from peers and mentors this has contributed much value and provided a tighter focus to reviewing current and past literature. While the nature of the feedback received from students, peers and mentors is extremely contextual, the nature of the literature sources used throughout this ongoing process are likely to be of value to other educators also seeking similar outcomes. As such, the remainder of this paper will briefly introduce several sources of literature that have inspired much change to the programs activities and underlying philosophy. Beyond the influence of Alfred Whitehead, the work of several scholars continues to remain central to the programs development.

First, the work of Heath (1964) provides a big picture view of our purpose as educators in higher education. His concept of the reasonable adventure establishes a focus on several important self-development outcomes that are worthwhile factoring in to our curriculum. King and Kitchener's (1994) reflective judgement model has seven stages that allow focus to be brought to the students' epistemological assumptions that are subject to change. In a similar vein, Baxter Magolda's (2004) work highlights the importance of engineering a transformation in each student's key educational assumptions (i.e. epistemological, intrapersonal and interpersonal) through validating the students as knowers in a process that is situated their individual experiences. The intent being to allow students to become self-authors of their lives. Such ideas that deal with moving students away from seeing knowledge as an absolute thing towards appreciating its contextually based uncertainty are at the heart of this research and are transferable to any education situation.

References

- Baxter Magolda, M (1998). Developing self-authorship in young adult life, *Journal of College Student Development*, 39(2), 143-156.
- Baxter Magolda, M (2004). *Making Their Own Way*. Virginia: Stylus.
- Brookfield, S (1995). *Becoming a critically reflective teacher*. San Francisco: Jossey-Bass.
- Caird, SP (1993) What do psychological tests suggest about entrepreneurs, *Journal of Psychology*, 8(6), 11-20.
- Dewey, J (1933). *How We Think. A restatement of the relation of reflective thinking to the educative process*. Boston: D. C. Heath.
- English, JW & Jones, C (2003). Creativity and Innovation in Education: The Tasmanian Experience, *Proceedings of the 16th Small Enterprise Association of Australia and New Zealand*, Ballarat, Australia.
- Fiet, JO (2000). The pedagogical side of entrepreneurship theory, *Journal of Business Venturing*, 16(2), 101-117.

- Gibb, AA (2002). Creating conducive environments for learning and entrepreneurship: Living with, dealing with, creating and enjoying uncertainty and complexity, *Industry & Higher Education*, 16(3), 135-148.
- Hayward, LM (2000). Becoming a self-reflective teacher: A meaningful research process, *Journal of Physical Therapy Education*, 14(1), 21-30.
- Heath, R (1964). *The reasonable adventurer*. Pittsburgh: University of Pittsburgh Publishing.
- Hindle, K (2005). Teaching entrepreneurship at university: From the wrong building to the right philosophy, *Proceedings of the 2nd AGSE International Entrepreneurship Teaching Exchange*, Melbourne, Australia.
- Jones, C (2003). Supporting the willing: A contemporary approach to entrepreneurship education', *Proceedings of the 26th ISBA National Small Firms Conference: SMEs in the Knowledge Economy*, Surrey, UK.
- Jones, C (2005a). Creating employability skills: Modification through interaction, *Journal of Industry and Higher Education*, 19(1), 25-34.
- Jones, C (2005b). A Darwinian approach to developing enterprise skills, *Proceeding of the, 14th Internationalizing Entrepreneurship Education and Training Conference*, Surrey, UK.
- Jones, C (2005c). A learner-centred approach to enterprise education, *Proceeding of the, 14th Internationalizing Entrepreneurship Education and Training Conference*, Surrey, UK.
- Jones, C (2006a). Stepping back to look inside the entangled bank, *Proceedings of the 3rd AGSE International Entrepreneurship Research Exchange*, Auckland, New Zealand.
- Jones, C (2006b). Enterprise education: Introducing Whitehead to Gibbs, *Education + Training*, 48(5), 356-367.
- Jones, C (2006c). Guided by the philosophy of constructive alignment, directed by the realisation of niche construction, *Proceedings of the 29th HERDSA Conference: Critical Visions*, Perth, Australia.
- Jones, C (2006d). Enterprise curriculum: Guided by ghosts, experts and our students' here and now', *Proceedings of the 51st ICSB Conference*, Melbourne, Australia.
- Jones, C (2006e). Reflections from a not so distant microcosm, *Proceedings of the 7th International Conference on the Dynamics of Strategy: Strategy and Sustainability*, Mahe, Seychelles.
- Jones, C & English, J (2004). A contemporary approach to entrepreneurship education, *Education + Training*, 46(8/9), 416-423.
- King, PM & Kitchener, KS (1994). Theories of college student development: Sequences and consequences, *Journal of College Student Development*, 35(6), 413-421.
- Kolb, DA (1984). *Experiential Learning: experience as the source of learning and development*. New Jersey: Prentice-Hall.
- Mintzberg, H (2004). *Managers not MBAs: A hard look at the soft practice of managing and management development*. San Francisco: Berrett-Koehler Publishers.
- Moltz, BJ (2003). *You need to be a little crazy: The truth about starting and growing your business*. Chicago: Dearborn Trade Publishing.

Schön, D (1983). *The Reflective Practitioner*. New York: Basic Books.

Schön, D (1987). *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.

Tyler, RW (1949). *Basic principles of curriculum and instruction*. Chicago: The University of Chicago Press.

Veblen, T (1925). *The theory of the leisure class*. London: George Allen & Unwin.

Whitehead, AF (1929). *The aims of education and others essays*. New York: The Free Press.