

A TAXONOMY OF ENTERPRISE EDUCATORS: PRELIMINARY CONSENSUS AND DISAGREEMENT

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ABSTRACT

The aim of the paper is to provocatively draw comment from practising enterprise educators to acquire multiple perspectives of who is currently teaching enterprise education. The paper aims to introduce the issue of student diversity into the current debate of how enterprise education should be delivered. An initial taxonomy of approaches to delivering enterprise education is conceived for comment from educators and their initial comments are considered. The preliminary conclusions are discussed with suggestions for future research directions.

INTRODUCTION

This paper challenges current approaches to defining the context and process of entrepreneurship education. In modeling our classrooms as a microcosm of the world our current and future students will enter, this paper brings to life (and celebrates) the ever-present diversity found within. This paper attempts to make an important (and unique) contribution to the field of enterprise education by illustrating how we can determine the success of 1) our efforts as educators, 2) our students, and 3) our various teaching methods.

The paper is based on two specific premises; the most fundamental being the assertion that the performance of student, educator and institution can only be accounted for by accepting the nature of the dialogic relationship between the student ↔ educator and the educator ↔ institution. A second premise is that at any moment in time, the educator can be assessed as being either efficient or inefficient due to the presence of observable heterogeneity in the learning environment that produces differential learning outcomes. This paper claims that understanding and appreciating the nature of heterogeneity in our classrooms provides an avenue for improvement in all facets of learning and teaching. To explain this claim, Haskell's (1949) original theory of coaction is resurrected to provide a lens through which all manner of interaction occurring within all forms of educational contexts can be explained.

Haskell (1949) asserted that coaction theory had three salient features. First, activity in society is typically associated with the presence of diversely powerful individuals, the strong and the weak; in this instance, the lecturer and the student. Second, these two entities can have nine and only, qualitatively different relations toward each other. Third, the major properties of societies vary with coaction. Therefore, within the context of this paper, if we can understand the nature of the coactions occurring between lecturer and (individual) student and the various contextual factors that govern and influence their behaviour (e.g. the lecturer's teaching philosophy/institutional setting and the students experience and aspirations etc), we can progress our ability to continually improve the factors that will most aid enterprise learning outcomes.

The paper suggests several (possible) examples of good and bad educational practice (on the part of the student and educator) that might give rise to the nine specific types of coaction from which either or both parties gain, loose out or remain unaffected. From this discussion several developmental

pathways for improved learning and teaching are suggested. Pathways that can be self-diagnosed and acted upon once the nature of the ever-present diversity are accounted for. This discussion is advanced through the modification of Pianka's (1973) Community Similarity Index to enable the identification of student diversity across the students learning preferences, personal aspirations and development. The model developed in the paper provides the means for enterprise educators in any learning context to understand the nature of interaction between all parties that collectively shape the learning environment and provides access to an intellectual pathway of self-improvement. The recently developed *hic et nunc* learning and teaching framework (see Jones, 2007) is offered as an example of an approach that facilitates the leveraging of student diversity to advance student enterprise learning outcomes. A fundamental component of this framework (that will be explained in detail) is self and group reflection.

The remainder of the paper is structured as follows. First, the research method used to conduct this (ongoing) research is explained. Second, the *hic et nunc* learning and teaching framework is briefly introduced. Third, the nature and importance of student diversity is discussed and its identification (within an enterprise context) is illustrated. Third the nature of student reflection used within the *hic et nunc* process is discussed. Fourth, Haskell's (1949) theory of coaction is introduced and discussed within the context of different types of enterprise student learning outcomes. Fifth, the seminal work of Alfred Whitehead is introduced to allow the forgoing sections to be united into a more coherent discussion. Finally, the paper concludes with consideration of the implications, vis-à-vis the enterprise educator, that arise from the paper. Specifically, the possible identification of developmental pathways for educators that include the provision of student diversity.

METHOD

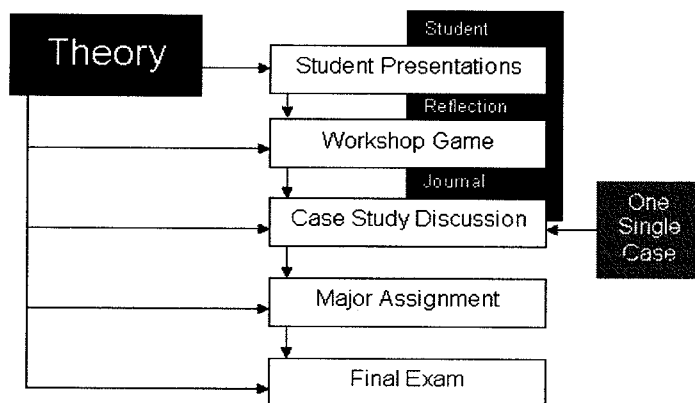
The research method used to develop this paper is two-fold. First, the paper builds on the author's growing body of work that has relied upon Hayward's (2000) cycle of reflective practice within which the seminal works of Dewey (1933), Kolb (1984) and Schön (1983; 1987) were successfully integrated. 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. During the last six 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. Second, several recent ideas related to the types of approaches for teaching entrepreneurship have been tested within the global community of enterprise educators. Using a Delphi approach to draw comment from a purposefully chosen sample of 65 practising enterprise educators, a preliminary conceptual taxonomy was developed using two distinct organising factors (i.e. type of approach and educator experience). Feedback for the enterprise educator community has informed the development of a *taxonomy of entrepreneurship education coactions*.

THE HIC ET NUNC LEARNING AND TEACHING FRAMEWORK

Inspired by the literal Latin conversion of the term, *here and now*, the *hic et nunc* framework encourages and enables each individual student to learn in their *here and now* (Whitehead, 1929), accommodating the development of differing interpretations of the required learning topics. As recently discussed (see Jones, 2007), a key factor in the learning process has been the provision for continuous student reflection (Tyler, 1949) related to the repeated learning activities that occur during and across fortnightly workshops.

Over time the learning activities have evolved to include games, case study discussion, workshop presentations and self-reflective diaries and group sense making activities that are all tied to the topics (i.e. theory) introduced cumulatively throughout workshops. The purpose of the learning activities developed and continually refined is to accelerate the "process of changing the behaviour patterns ... [of the students] ... using behaviour in the broad sense to include thinking and feeling as well as overt action" (Tyler, 1949, pp. 5-6). A typical configuration of the learning activities is illustrated in Figure 1 below.

Figure 1 – The *hic et nunc* Learning and Teaching Framework



The framework is used across several units in both undergraduate and post-graduate enterprise units at the University of Tasmania (UTAS). The framework has been developed to advance two specific aims of enterprise learning at UTAS. One relates to assisting students to be capable of making the journey from student to graduate entrepreneur and the other (more general) aim relates to helping the students develop the attributes of a reasonable adventurer. Heath (1964) defines the reasonable adventurer as a graduated student capable of making his or her own opportunities for satisfaction. A disposition argued to be a necessary pre-condition for engaging in entrepreneurial behaviours. Within the *hic et nunc* framework, processes are repetitive and typically commence with the introduction of new theory that is applied by the students across the various learning activities. An essential assumption being that students have the capacity to alter their habits of thought from one workshop to the next. Before we proceed to the main focus of the paper (i.e. the importance of student diversity), let us consider this assumption in more detail.

THE MODIFICATION OF STUDENT HABITS AND THOUGHTS

In the context of the above discussion, the view that student interaction within a particular learning environment would result in the sorting of students by specific (learning or skill) traits as ordered by the assessment procedures they encounter, is rejected. Rather it is assumed that regardless of the distribution of student learning outcomes, the learning environment will not remain unaltered through such interaction. As previously discussed (see Jones, 2005), it is assumed that change internal to the student (i.e. habits of thought) and its behavioural expression (i.e. phenotypic expression) is possible due to interaction with a learning environment. The process begins with the interaction between a student as an individual and as a group member within the learning environment. During this first period of time, each student and his or her group will engage in various learning activities, which will be assessed using both summative and formative feedback. During the process of assessment, the fitness of the routines used individually by each student and by his or her group will be assessed. Such routines represent the activity systems responsible for phenotypic expression (e.g. the content and context of the student's/group's performance and associated identity projected for consumption by the assessors).

As a consequence, the habits of thought of each student are subject to differential selection (for or against) on the basis of their contribution to the phenotypic expression of the individual and/or group. A combination of freedom (Whitehead, 1929) and reflection (Tyler, 1949) then provide the means through which the group, and therefore individuals, may alter behaviours via a shift in their collective and separate habits of thought. This process of group and individual change is facilitated in the first instance by the summative information received (i.e. a grading) and then by the formative information that relates to both negative and positive aspects of the group's/individual's performance. Therefore, the various assessment procedures used act as selection mechanisms.

This process of generating both summative and formative assessment performs two important functions. First, the summative feedback provides an indication of the immediate fitness of the group's/individual's performance vis-à-vis the assessment criteria at a particular moment in time. Second, the formative feedback provides feedback through which future change is possible. So the "difference between them is that at some point the judgement has to be final" (Biggs 2003, p 142). The other factor that influences the composition of the interacting elements is that of the internally held

perceptions within the group that may be altered to produce many different outcomes. So, three forms of inheritance are possible and likely throughout this process.

First, the students' habits of thought (derived from their habits of life) are subject to revision as they determine what mental capabilities will best assist their progress. Altered habits of thought are then inherited (or transferred) from one learning environment (i.e. each workshop) to the next either via individual student behaviour or through their contribution to their group. Second, those aspects of the modified phenotypic expression (deemed to be favourable) and related to any changed habits of thought, are inherited by the groups from one learning environment to the next. Third, and perhaps most importantly, the behaviours of the individuals and the groups has the potential to alter the nature of future interaction between the learning environment and all entities to be assessed. This is the central thesis of the niche construction concept (see Olding-Smee, Laland and Feldman, 2003); it provides a process through which students can alter their learning environment within their time and space and/or at least place pressure on the learning environment within their time and space. The discussion now turns towards the importance of student diversity.

STUDENT DIVERSITY

Whilst students can learn as individuals, within the learning context discussed here, it is argued that interaction with others has the potential to greatly advance learning outcomes. Acknowledging the overall increasing presence of student diversity within the higher education sector (Biggs, 2003), provides educators with a unique opportunity. Building upon past research that highlights the relationship between increased student learning outcomes from exposure to higher levels of student diversity (Gurin, 1999), the *hic et nunc* framework deliberately attempts uses student diversity in a positive way.

Within the *hic et nunc* framework student diversity is conceived to be more than a construct related to social and ethnic origins. An index of student similarity has been developed to identify a level of diversity within a single class (and therefore also between classes). Adapted from Pianka's (1973) ecological Community Similarity Index¹, the Student Similarity Index is also expressed as X/N , where X is the number of student traits common to each pair of students and N is the total number of student traits.

Within this approach, eight traits have been employed across three separate areas; 1) the background of the student (e.g. age, origin and area of study; 2) current situation of the student (e.g. work commitments, effort committed to study, and personal aspirations; and 3) the approach to learning of the student (learning style and learning personality). For example, when the index is applied to four enterprise units taught at UTAS in semester 1, 2008, it can be observed (see Figure 2 below) that within class student diversity ranges from approximately 44.5% to 49.5%.

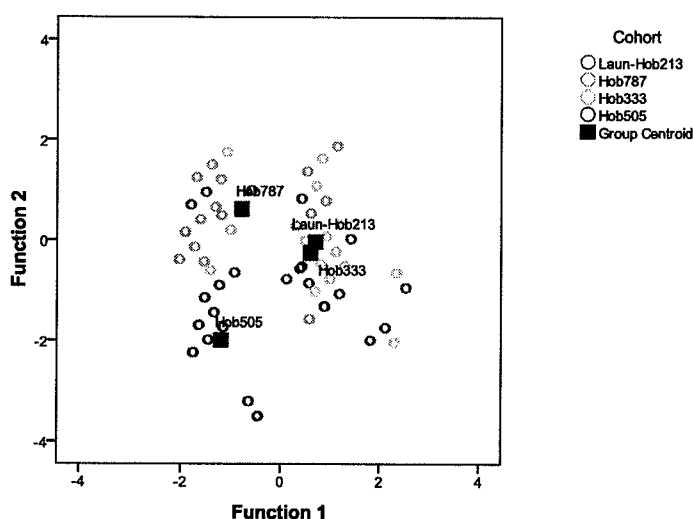
Figure 2 – Student Diversity across Four Separate Units

		Statistics			
		BMA333	BMA213	BMA787	BMA505
N	Valid	189	1296	1431	78
	Missing	1242	135	0	1353
<u>Mean</u>		<u>.4750</u>	<u>.4465</u>	<u>.4931</u>	<u>.4655</u>
Std. Error of Mean		.01361	.00505	.00455	.01952
Std. Deviation		.18713	.18195	.17193	.17236
Variance		.035	.033	.030	.030
Range		1.00	1.00	1.00	.75
Minimum		.00	.00	.00	.13
Maximum		1.00	1.00	1.00	.88

Importantly, while it can immediately be seen that the level of student similarity is quite low due to the differences across the eight traits examined, it is not apparent how the classes might differ. In Figure 3

below we are able to confirm the degree to which the nature of student diversity in the four units differs and/or is similar.

Figure 3 – Comparison of Student Diversity
Canonical Discriminant Functions



A useful method of analysis to tease out *how* the enterprise units (i.e. BMA 333, 213, 787 and 505) might differ is Discriminant Analysis. Using the individual units as a dependent categorical variable, we can test the relationship between each unit and eight independent variables (noted previously as age, origin, area of study, work commitments, effort committed to study, personal aspirations, learning style and learning personality).

Simply put, statistically, there is a highly significant difference between the examined units across a combination (i.e. discriminant functions) of the following variables; maturity (i.e. age), student type (i.e. origin), work commitments and learning style. These variables (illustrated in the structure matrix in Figure 4 below) provide insights into the varied composition of each unit that give rise to specific and unique levels of student diversity in each unit.

Figure 4 – Structure Matrix

	Function		
	1	2	3
Mature	.894*	.081	-.097
Aspirations ^a	.040*	-.008	-.028

Work	.117	.819*	-.357
StudentTYPE	.323	-.646*	-.177
Approach ^a	.114	-.206*	.081
Faculty ^a	.137	-.195*	-.073
Effort ^a	.072	.165*	.086
LearningSTYLE	.235	.142	.899*
Gender ^a	.081	.033	.120*
Male Female	.081	.033	.120*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

Whilst essentially all of the variance of the model is explained by the first two discriminant functions (see Figure 5 below), the Wilks' Lambda values indicate that all four variables are useful within the model. The association between the discriminant scores and the units are strongly correlated, as evidenced by the level of the Eigenvalues. The incorporated chi-square statistic tests the extent that the means of the functions used are equal across the units investigated. The small significance value indicates that the discriminant function does better than chance at separating the units.

Figure 5 – Eigenvalues and Wilks' Lambda

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.606 ^a	54.7	54.7	.614
2	.490 ^a	44.3	99.0	.574
3	.012 ^a	1.0	100.0	.107

a. First 3 canonical discriminant functions were used in the analysis.

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 3	.413	264.381	12	.000
2 through 3	.663	122.753	6	.000
3	.989	3.423	2	.181

Thus, the educator is able to construct a diversity profile for each class and to compare how different classes compare. Essentially, the *elephant in the room* is revealed and its character identified. Importantly, the students can be informed of the nature of the diversity in the room and this recognition forms an important part of their preparation for the reflection exercises.

STUDENT REFLECTION

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 journals aim to provide students with the opportunity to pause and

reflect on how they as individuals *feel* about their contribution and outcomes achieved across the various learning activities 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 altered their approach and attitudes during the semester. This is a vital process that allows the students to take stock of their behaviors and consider what personal changes are required to improve or maintain their individual outcomes.

Recently, the *hic et nunc* framework has been complemented by the addition of another reflective exercise. The Group Sense Making exercise aims to allow a deeper appreciation of not only personal feelings, but also appreciation of the feelings of other students in the class. The process is completed through four phases. A Situation Statement is developed by the educator and distributed to the student body for consideration. The Situation Statement is designed to elicit deep reflection from each student in phase 1. The four phases are as follows.

Phase 1

The student identifies and records their personal feelings related to the 'situation statement'. It is quite likely they may experience more than one feeling. Conflicting feelings and/or those feelings that change over time should be noted. It is important that they don't only note the assumed or described feelings, but also their actual feelings.

Phase 2

The students (as a group) attempt to make sense of the context in the situation statement, now using the perspectives of all involved group members. They use the identified feelings to develop a sense of meaning vis-à-vis the collective feelings reported by the group members. This analysis may incorporate an exploration of personal beliefs, dispositions, experiences and attitudes. They typically conclude by speculating as to the meaning others attributed to the situation based on the collective feelings reported.

Phase 3

Each individual student now attempts to validate their analysis of the situation by asking for feedback from other (external) participants, peers etc. In other words, the meaning attributed to the situation is confirmed with reference to the ideas and perspectives of others and/or through personal reflection of their own personal experiences.

Phase 4

Each student indicates how reflection of the situation has influenced their approach and/or perspective to this specific issue. Any possible shift in values, beliefs and/or attitudes is also noted. The following comments are representative comments of students currently using both forms of reflective practice.

I would say that the reflection exercises allowed me to see from a 3rd person perspective my beliefs and attitudes. In relation to personal learning, this allowed me to easily criticize my learning patterns, and realize what needs to be fixed. In relation to group behavior, it allowed me to see what others might think of my behavior (Anonymous Student No. 1).

The reflection journals helped me consolidate what my strengths and areas for improvement were in reference to the course. The group situation statements were beneficial. They helped us to work in groups and effectively convey our feelings and ideas whilst enabling our entrepreneurial capacity (Anonymous Student No. 2).

After those experiential learning exercises I gain great insight into myself from the group sense making process. I have found it to be insightful, clarifying and helpful for me personally. I imagine that it will not only be me who benefits from this reflection exercise, but the lecturer will also gain a greater understanding of my personal learning outcomes than if I didn't complete the reflection (Anonymous Student No. 3).

From my experience the group sense making helped me to broaden my view of the subject. For example, after reading the other members of my group's phase one I had other perspectives I had not

thought of but still either agreed with or could understand where they were coming from. Also, if what I had written in my phase one was echoed by other members of my group, then I felt more confident that I was on the right track. I think the reflections also give the educator valuable insight into how the student is feeling and how they perceive their learning to be progressing (Anonymous Student No. 4).

The use of reflective learning has allowed for a heightened personal learning experience. It requires a more deep level of thought on self which makes the student more aware of how they are going and to look both more critically at the work completed as well as the positive achievement that has been had not in terms of marks but in a more personal way (Anonymous Student No. 5).

The above comments highlight the genuine benefits generated from the process to both student and educator. Rather than merely allowing the student to reflect, the provision of group sense making allows multiple perspectives to be shared by students and the educator. The diversity within the student cohort is used to increase the individual student’s learning outcomes. Given the learner-centered nature of the *hic et nunc* framework, such insight is invaluable to the facilitator and provides access to the nature of the varied coactions occurring in the learning environment.

COACTION THEORY

In 1949 Edward Haskell published his landmark *A Clarification of Social Science* in which he further developed his theory of coaction. Developed over the previous seven years, his coaction theory sought to separate diversely powerful individuals into the *weak* and the *strong*. Essentially, Haskell observed that weak and strong “classes can only have nine, and only nine, qualitatively different [coaction] relations toward each other” (1949, p. 46). In Figure 6 below, an adaptation of Haskell’s clarification scheme is illustrated.

Figure 6 – An Adaptation of Haskell’s Coaction Theory

- 0 = Indicates neutral interaction outcomes
- + = Indicates positive interaction outcomes
- = Indicates negative interaction outcomes

		STUDENT		
		-	0	+
LECTURER	+	- + Predation	0 + Allotrophy	+ + Symbiosis
	0	- 0 Amensalism	0 0 Neutrality	+ 0 Commensalism
	-	-- Synnecrosis	0 - Allolimy	+ - Parasitism

In Figure 6 above, a range of possible outcomes for both the lecturer and/or student are possible. Given an acceptance that we can indeed determine the nature of diversity within our student cohorts, we now can develop a greater appreciation of the nature of outcomes for both the lecturer and/or student. The only type of interaction between lecturer and student that is mutually beneficial is symbiosis (i.e. + +). Another closely related form of interaction is commensalism (i.e. + 0) whereby the student gains from

the interaction and the lecturer is unaffected by the experience. On this basis, the interaction between lecturer and student must at a very minimum lead to a gain for the student and no loss to the educator, any of the other seven interaction outcomes would be sub-optimal. This discussion now turns to the integration of the author's preliminary views of possible approaches to enterprise education as contrasted to the level of experience of the educator. In figure 7 below, the interaction outcomes of several approaches are offered for the purpose of creating a *provocative* discussion.

In keeping with the past works of Gibb (e.g. 2002), this paper adopts the view that enterprise education should seek to advance student learning outcomes by the means of educating *through* and *for* (and/or *in*) enterprise, rather than merely *about* enterprise. This discussion also assumes the context of a programme of enterprise study, rather than an introductory (or single) unit about enterprise. The suggested coaction outcomes noted in Figure 7 do not represent an exhaustive analysis of outcomes associated with the proposed possible approaches to enterprise education.

Figure 7 – Possible Approaches vs. Suggested Interaction Outcomes

		APPROACH		
		Through (or in)	For (or in)	about
E X P E R I E N C E	much	++ Mentor	++ Facilitator	-- Hero
	little	++ Role Model	++ Co-Reflector	-0 Master of Ceremonies
	none	-- Harbour Master	-0 Ring Master	-- Text Book Jockey

A limitation of the proposed of *taxonomy of entrepreneurship education coactions* is it's development around only two organizing factors, the *approach of the individual* and the *experience of the individual*. Feedback from the first round of the Delphi approach highlighted other factors (e.g. internal limitations placed upon the educator, the commercial vs. academic experience of the educator, the motivations and development of the student etc) that would need to eventually be incorporated into a more complete model. That said, there was solid initial support for the framework from enterprise educators who provided comment upon the prelininary taxonomy. Of most interest was the frequequent comment that it encouraged self-reflection of individual practice. Let us first consider the nature of the taxonomy starting with consideration of the organizing factors.

First, the approach: *Through* enterprise = experiential forms of education through which an attempt is made to bring to reality the business idea of an individual/group (i.e. a focus on commercialization). *For* enterprise = experiential forms of education within which individual students develop enterprise skills/attitudes using repeated forms of reflective practice (i.e. a focus on personal development). *About* enterprise = forms of education in which the focus in on the communication of theoretical principles and/or an understanding of the achievements of other persons (i.e. a focus on learning principles).

Second, the educator's experience: *Much* experience = the educator has vast experience engaging in new enterprise (i.e. any new form of enterprise vis-à-vis their social surrounds) using their own resources. *Little* experience = the educator has past experience engaging in new enterprise (i.e. any new form of enterprise vis-à-vis their social surrounds) using someone else's resources. *No* experience = the educator has not engaged in any forms of new enterprise (i.e. any new form of enterprise vis-à-vis their social surrounds). The nine types of enterprise educators and their *suggested* coaction outcomes are now discussed below. For the purposes of developing a taxonomy the prompts debate and lively discussion, extreme positions are illustrated and no consideration is given (at this stage) to the quite likely relationships between the types.

The Textbook Jockey

The educator tends to be guided by a set of desirable (and common) learning outcomes that have been developed for mass consumption by students in many different (unrelated) locations. The student is exposed to a lecturer-centred approach in which structured topics are delivered in accordance with the chapter structure of the text adopted. The aspiration of the students' are essentially left undiscovered. Therefore, neither the student nor the educator gain (in any meaningful way) from the interaction (i.e. --) and indeed suffer an opportunity cost (i.e. opportunity lost to learn and/or educate).

The Ring Master

The educator sees the value of personal development but lacks an appreciation of the psychological issues associated with entrepreneurship; he or she acts vicariously through the latent potential of his or her students. He or she does not have a sufficient capacity to understand the reality of the students' journey. Therefore, the student has lost the opportunity reflect upon and develop enterprise skills / attributes and the educator is none the wiser for the experience (i.e. - 0).

The Harbor Master

The educator wishes to create opportunities for students to follow their dreams but has not the ability to mentor the process. The students are cast to the wolves without protection or guidance once they travel beyond the knowledge/skill of the educator. Therefore, the students are potentially harmed by the experience and the educator is also potentially harmed (by reputation) by the feedback of the students (i.e. --)

The Master of Ceremonies

The educator tries to assist students learning from text-based sources and by introducing an array of entrepreneurs to the students to interact with. Whilst the students may draw inspiration from the entrepreneurs they meet, they not developing enterprising skills / attributes. Likewise, the educator's performance is neither harmed nor enhanced (i.e. - 0).

The Co-Reflector

The educator is side by side on a personal development journey, they understand the excitement, fear and other feeling associated with preparing oneself to manage risk. Sense is made through communication that is learner-centred. There are multiple opportunities for reflective behaviours. In this instance it is quite likely that both the educator and the student gain from the nature of this interaction (i.e. ++).

The Role Model

The educator allows students to share the journey of new enterprise together, guiding the way and assisting access to vital resources. There are tangible outcomes being pursued by all and learning is occurring through a shared journey. There are multiple opportunities for reflective behaviours. Again, it is quite likely that both the student and the educator gain from their interaction (i.e. ++).

The Hero

The educator wastes his or her vast knowledge by focusing on their own past achievements and trying to use them as a mechanism for student learning. The process is lecturer-centred with the aspirations of the student not progressed. Neither the student or educator gain from this interaction (i.e. --).

The Facilitator

The educator creates learning opportunities for the student to engage in that enable knowledge to be contextualized (e.g. student placements). The individual needs of each student are aligned to specific

learning environs and there are multiple opportunities for reflective behaviours. Clearly, there is a strong likelihood that both the student and educator will benefit from the interaction (i.e. ++).

The Mentor

The educator works along side the individual student (or group of students) using his or her experience to assist the student to commercialize their business idea. Again, there is a strong likelihood that both the student and educator will benefit from the interaction (i.e. ++).

Hidden within the taxonomy are suggested development pathways. For example, an educator may move from Textbook Jockey to Co-Reflector, to Facilitator, and eventually towards a Mentor as they develop more personal experience and confidence. The following section introduces the ideas of Alfred Whitehead to enable the various issues discussed throughout the paper thus far to be united.

UNITING IDEAS

For Whitehead (1929, p.93), the development of students with a zest for life and an ability to apply their acquired wisdom to all future tasks with intellectual imagination was the basic role of any university. The role of the university is to preserve "the connection between knowledge and the zest of life". The ultimate aim of education should be the development of an urge within our students towards new creative adventure. Merely learning about things (i.e. inert ideas) must be avoided at all cost. What is required is a focus on a few large ideas. Ideas, that when taken together form principles from which one may eventually generalize. For Whitehead, the issue is how knowledge is used, and specifically the time and place within which it is contextualised. He states that:

The mind is never passive; it is a perpetual activity, delicate, receptive, responsive to stimulus. You cannot postpone its life until after you have sharpened it. Whatever interest attaches to your subject-matter must be evoked *here and now*; whatever powers you are strengthening in the pupil, must be exercised *here and now*; whatever possibilities of mental life your teaching should impart, must be exhibited *here and now*. That is the golden rule of education, and a very difficult one to follow (1929, p.6, my emphasis).

Therefore, the role of the educator is to elicit energy and excitement by resonance of his or her personality. If we are to accept that the educator will confront a diverse range of students, this suggests there will be multiple coactions occurring with any learning situation. However, the challenge is to ensure a process of (self) discovery to ensure that the "general ideas give an understanding to that stream of events which pour through his [or her] life" (Whitehead, 1929, p.2). Thus far, several ideas have been presented for the reader's consideration. It is the contention of this paper that a learning and teaching framework (as illustrated by the *hic et nunc* framework) that allows students to learn in a highly reflective manner in *their* here and now is a fundamental requirement for effective enterprise learning. Further, that any such approach be capable of identifying, accommodating and leveraging student diversity as fundamental property of the learning environment. That individual/group reflection is used in such a way as to 1) allow students to modify their thoughts/behaviour across time, and 2) enable the educator to fully appreciate the diverse range of coactions occurring within the learning environment. Adopting the ideas of Whitehead (1929) draws the educator into a journey biased in favour of the student. Yet, in only four of the educator types in Figure 7, are positive gains assumed. This possibly suggests the need for enterprise educators to consider the manner in which they might create a developmental pathway (or movement) toward these types. The remainder of this paper will conclude by addressing the challenges of such movement.

DISCUSSION AND CONCLUSION

Recently, the dialogic nature of entrepreneurship (Bruyat and Julien, 2001) was considered, and it's the contention of this paper that this *dialogic principle* provides an interesting avenue of sense-making vis-à-vis the above discussion. Incorporating Bruyat and Julien's reasoning with coaction logic, leads us to accept that the two entities under consideration (i.e. the educator and the student) form a system that cannot be separated if we are to understand the system. Thus, the original premise upon which this paper was founded, that the performance of student, educator and/or institution can only be accounted for by accepting the nature of the dialogic relationship between the student ↔ educator and the educator ↔ institution.

Through balancing the ideas contained within coaction theory and the analysis of student diversity (detailed within this paper), several issues emerge. The first relates to the capacity of the educator to

plot a way forward to improve their own outcomes along with those of their students. Given that we are unlikely to be able to fully satisfy the individual learning needs contained within any particular cohort (due to ever-present diversity), there may be a need to adopt several different strategies. For example, knowledge of one's own capacities and the nature of the learning activities could influence the screening in (and out) of students most suited to a particular enterprise program. Alternatively, the degree of student choice (vis-à-vis their participation in learning activities) could be increased to enable different students to engage in the required learning activities in manner most suited to their disposition.

Another issue is how we determine the nature of *educator experience*. Recently, Hegarty and Jones (2008) argued against the traditional *enterprise = business* philosophy (as the assumed outcome) in the provision of enterprise education in higher education. Advocating alternative student outcomes (e.g. the development of the enterprising mind and/or the reasonable adventurer), their argument also potentially changes the nature of how we categorize an enterprise educator's *experience*. If we step back from the romantic notion of the business landscape, to occupy a broader entrepreneurial landscape, many other facets of life can be accounted for as enterprising experience. For example, has the educator developed an innovative program within a conservative (or traditional) educational environment? Has the educator demonstrated a capacity for challenging the status quo, or risk management in broader society? Once the business context is removed from the central domain of enterprise education, to but one of several contextual domains, we can potentially release more enterprising experience into the classroom.

Importantly, the issue of failure (in its many forms) can be injected into the educational process with the educator able to share retrospectively past events that have not produced intended outcomes. Thus, it is easier to enable win/win outcomes to occur when we change the rules of the game. Enterprise is not first and foremost about business, it is about a mindset, that may (or may not) produce a business outcome. From this perspective, the educator can introduce a variety of learning equations into the students' pathway acting as a mentor, role model, co-reflector, or facilitator. Now it is the reflective capacity of the student and educator, operating in *their* here and now that determines learning outcomes. Gone is the pressure to follow a prescribed process towards business success. Success become a concept that can be defined at the level of the individual vis-à-vis the nature of coaction with various entities (e.g. fellow classmates or the lecturer/s they encounter).

In summary, this paper has argued the case for identifying, measuring and leveraging student diversity to increase the individual (and therefore collective) learning outcomes of students studying enterprise. The *hic et nunc* learning and teaching framework has been offered for consideration as a process that celebrates student diversity using both self and group reflection. The contention being that it is through the *modification of thought* that students can truly navigate the challenging landscape that is enterprise education. That in order to facilitate any such modification, the educator must ensure that positive coactions are possible between the student and educator. Therefore, in a sense, the educator must adopt the role of stage manager in constructing the learning environment. The performance the entails may require our presence, but is also quite likely to proceed with us in the wings, on hand to lend support as required.

Finally, having acknowledged the limitation of using only two organizing factors (i.e. the approach and experience of the educator), the next step is to develop a more complex *taxonomy of entrepreneurship education coactions*. A taxonomy that incorporates other factors such as the limitations placed upon the educator, broader forms of educator experience, the motivations and development of the student. Until then, the issue of student diversity is offered for broader consideration.

NOTES

¹ Pianka's index is simply X/N , where X is the number of sub-populations common to two towns and N is the total number of sub-populations occurring in either; thus community similarity equals 1 when two towns are identical, and 0 when they share no sub-populations.

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