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Educating with Certainty for Future Career Uncertainty?

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ABSTRACT

Proficiency in generic skills becomes an imperative and sustainable approach in education today, to ensure future career certainty. The impact of technological change dictates that the future will belong to the knowledge worker who embraces the concepts of lifelong learning and self-directed learning. Education of today might be obsolete tomorrow as new positions are created and existing jobs become redundant. The continued process of economic globalization challenges education as a means of achieving individual success for future career evolution.

The approach to life long learning involves reconceptualising of programmes as “Living Curricula” rather than a collection of courses. Learning becomes conversations between educators, learners and the community. This requires the integration of the programs with the real world. For this to occur the programs should be genuinely dynamic, resourceful and resilient on the part of both educator and learner. This resourcefulness and resilience ensures adaptability to evolving unidentifiable job requirements in an uncertain future. The living curricula promote student competences and lifelong skills by immersing the student into current real world workplace situations in preparation for change and future career uncertainty.

Interdisciplinary collaboration is essential for educators today. The programs that integrate practice- based, place- based, project-based and problem- based learning are the core of the living curricula. This holistic approach ensures the inculcation of transferable skills and equipping the learner for the on-going global challenges presented in their future careers.

This paper expounds the relevance of the synthesis of knowledge, skills and competencies in the teaching and learning practices currently adopted at Unitec Institute of Technology, New Zealand as a precursor to future career evolution.

Visualising a changing future

The unprecedented rapid changes in technology are a reality and call for the development of dynamic teaching and learning strategies. Visualising the future however predictable always presents an enigmatic problem. No one can be completely prepared for rapid change, yet all can “discern probable shapes of the future by learning to recognise the historic patterns and mechanisms of change” (Fidler, 1997).

Education at the tertiary level is built around Ernest Boyer’s (1996) Scholarship of Engagement and is characterised as a holistic, integrated, interdisciplinary and collaborative interaction between diverse participants, in this case three dimensional, between teacher and learner and community. By employing different methodologies educators can empower students, exposing them to the range of possibilities so “students can develop the capacity for judgement necessary for deciding how best to develop theory to address future contexts” (Dow, 2001). A deeper understanding will help to contextualise learning and to develop in the learner the capacity for judgement necessary for deciding how to address future contexts meaningfully. Life long, self directed learning should become the long term ultimate vision for both educator and learner.

Thus educators should focus on preparing the learner to always expect the unexpected. With unprecedented breakthroughs in technology and global dynamism and mobility, educators are challenged more than ever before with the need to train graduates in lifelong transferable skills so as to be adaptable in fast-changing global environments.

Sustainable lifelong learning - a precursor for the future

The skills for lifelong learning include the ability to adapt to rapid change, to tolerate uncertainty, to be open to new ideas, to reflect on practice and implement and evaluate action. To achieve sustainable lifelong learning skills, today’s graduates need to be critical thinkers, problem solvers, analytical investigators and creative, imaginative scholars if they are to be assured of future success. The interdisciplinary nature of work today means that the learners need to be able to integrate knowledge and skills from a number of disciplines as well as have the interpersonal skills to be an effective team member. Life-long learners are an absolute essential in the uncertain future where new types of problems and new information surfaces exponentially.

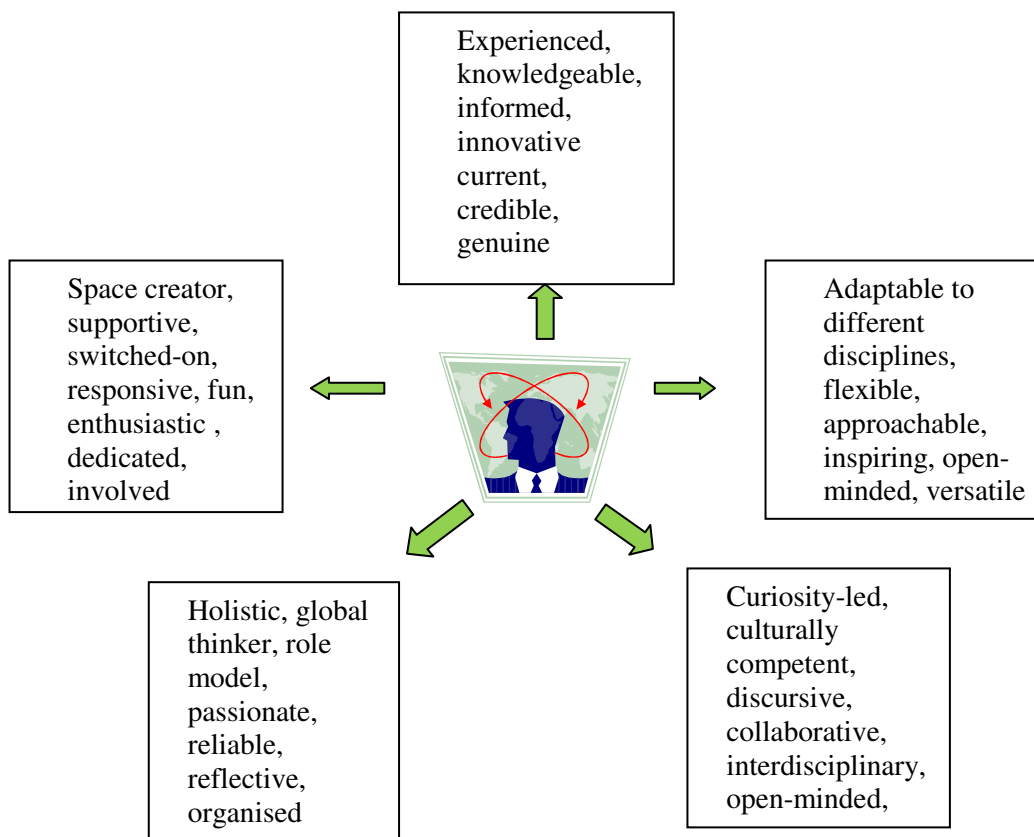
Life long learning requires certain characteristics in both the learner and educator as described in the paragraphs below.

At tertiary level the learner expectations are now transformed from the passive, one way communication to an interactive learning environment. For this learning to become a real, inventive and immersive self directed journey it should involve conversations that embrace the educator, learner, co-learners and community. The learning becomes an informal conversation facilitated by the teacher and the student and enhanced by existing knowledge of the students in the cohort. The student should be open to change, be prepared to participate actively and work collaboratively, be able to think critically, be innovative and creative and show initiative. The student takes ownership of the learning by managing processes within pre-defined broad

parameters. This immerses the student into real, inventive and often non-standard combinations. In this way the student is gainfully employed in highly variable routine and non-routine learning contexts and the outcome will be scholars who become globally reflective thinkers and achievers.

Demands on the teacher also present challenges of resources, assessment, time and technological know how. The continued process of economic globalization challenges and continues to change the teaching and learning strategies. The essential teacher attributes are shown in the diagram below.

Fig 1 Essential teacher characteristics



Real World Experience through the Living Curricula

It would be inappropriate to define the living curricula as it is a continually evolving pedagogical process. The curricula is defined “not as the information content (or syllabus) of the program, but rather as the program learning experience” (Unitec, 2009).

“.....curricula are living because they are not designed then enacted. Experiences and pursuits are driven by curiosity and questions (why does ...? what if ...?) that arise within the learning process and lead to inquiry, and by the learning needs that emerge on a day to day basis. Students thus participate in curriculum design within the program” (Unitec, 2009, p.2).

The living curricula is living and therefore developing and growing with time. The living curricula is a work in progress. The design of the curricula becomes emergent with the shifting paradigms driven by technological and societal transformation. With the living curricula learning becomes a journey of mind, body, and heart. The living curricula entail the day-to-day interactions among teachers, students, and a variety of topics and resources. In this sense, we are watching the real curriculum makers and witnessing curriculum-in-the-making — students with their peers and teachers and the community making their own meaning out of the formal curriculum. Correlation to real life experiences within the student's environment, help the student work toward future uncertainty. Each classroom culture initiates and contributes to the social construction of knowledge through the living curriculum.

The living curricula reconceptualises learning with an integrated approach where transferable skills are generic and applicable across all disciplines thus promoting interdisciplinary collaboration. Learning conversations through the living curricula give learners the flexibility to apply the transferable skills in authentic contexts to achieve life long learning in preparation for unpredictable careers of the future.

The learning that presents students with the opportunities of real life experiences are:

- Practice-based learning
- Place-based learning
- Problem-based learning
- Project-based learning.

These four modes of learning encompass the holistic and generic essence of the living curricula.

Practice-based Learning

Practice-based learning, synonymous with work based learning as explained by Medhat (2007) to mean learning from undertaking paid or unpaid work either through work placements, in-house training and learning through work or professional development, in conjunction with formally accredited education programs. Work based learning also supports the personal and professional development of learners who are already employed, where workplace activities become the focus of the learning. According to Rossin and Hyland (2003), students can achieve skills and employability goals with work-based learning through which their career prospects are enhanced by being able to transfer specific skills and knowledge to other work environments. Other workplace environments can include relevant overseas placement.

The global environment today has no geographical limits. According to Monteiro and Cruickshank (2007) “communication spans geographic borders and develop new systems and networks referred to as transnational social spaces” (p. 206). Immigration and workforce mobility has caused contemporary society to become transnational. This lends a new dimension to practice-based learning where the knowledge worker can seamlessly adapt to any global workplace context. Technology has created opportunities across continents. At Unitec the assessment of prior learning of overseas experience (Europe and East Asia and South America) by accredited practitioners is

an example of the extent to which practice – based learning is applied. Transferable skills now are globally recognised and assessed across educational institutions.

Place-based Learning

Smith (2002) describes place-based learning as an “approach to curriculum that is grounded in students’ own lives, community, and region” (p. 31) that uses a “wide-range of experiences that allow students to connect what they are learning with their own lives” (p. 587). The living curricula have its foundations in the community and through assessment that acknowledges that local interests and social interactions are crucial to life long learning competences. According to Lewicki (2007) place-based learning encourages lifelong skills such as the ability to precisely observe, record, and analyze data, effective collaborative skills, recognize and utilize dynamic systems, be able to cooperate through a shared dilemma and draw conclusions independent of authority. Thus place-based learning gives proficiency and confidence to learners enabling them to be capable workers in changing environments locally or internationally. Unitec Institute of Technology students on the Bachelor of Communication Degree participate through short term employment in community projects and events such as Air New Zealand Fashion Week. This immersion gives authenticity and is a proven example of the effectiveness of place-based learning. This experience adds to the learner’s portfolio for future employability by creating a globally recognized profile.

Project-based Learning

Project-based learning is defined by Donnelly and Fitzmaurice (2005) as an “individual or group activity that goes on over a period of time, resulting in a product, presentation, or performance’ (p.88). With project-based learning students envisage concepts, collect and interpret data, and connect theory to the real world often with the utilisation of technology. This blend of concepts combined with a real-life project engages and encourages students to learn and want to learn and prepares them to be an effective member of 21st century society. Working on a project gives the learner a hands-on approach to multi-tasking and co-ordinating in real learning situations. Interpersonal and professional skills are acquired through a range of situations. Past experience influences present experience, present experience changes past knowledge. New perspectives evolve and the spiralling process of the living curriculum continues the progression through the various stages of the project.

The Unitec Institute of Technology, Faculty of Technology and Built Environment students undertake two options, either an Industry Project or Negotiated Study Project both of which reinforce this kind of learning. Students work with a local industry and their project supervisor and technical advisor to achieve the learning outcomes. An example of this is student involvement in the construction and renovation of Eden Park Stadium for the 2011 Rugby World Cup in conjunction with Fletcher Construction.

Problem- based Learning.

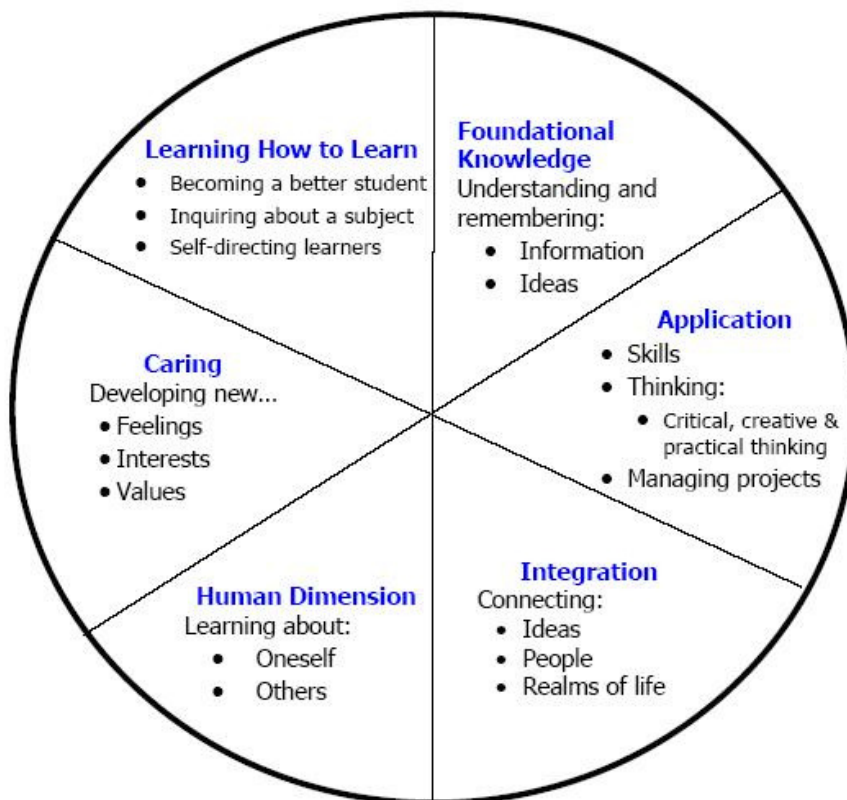
Problem-based learning is a learning approach in which complex problems serve as the context and stimulus for learning. This form of learning according to Major and

Palmer (2001) is based on students working in teams to solve one or more complex and compelling “real world” problems. With carefully selected and designed problems, the learner can acquire lifelong skills of “critical knowledge, problem solving proficiency, self-directed learning strategies, and team participation skills” (Donnelly & Fitzmaurice, 2005, p. 88). In their first year of the Bachelor in Applied Technology program, students embark on a problem- solving path. Each week they are given a problem to solve working in a collaborative group. These problem-solving situations give an insight into real world situations which are presented to teachers and peers for evaluation. The successive sessions become conversations where learning interactions in class create opportunities for “significant learning experiences” (Fink, 2003).

The learning strategies that evolve through these four kinds of learning - practice-based, place-based, project-based and problem-based - are holistic. Learning is certainly student centred, enquiry led, diverse, practice based, both creative and critical, research led and research informed, collaborative and appropriate to the changing demands of the real world. This inculcates in the learner the lifelong skills, expertise and confidence so relevant to address future career challenges.

This type of learning confirms Fink’s Taxonomy of Significant Learning (see Fig 2). Fink’s taxonomy is based on Bloom’s (1956) well known taxonomy of learning domains -cognitive, affective, and psychomotor – familiar to most educators. Fink’s Taxonomy of Significant Learning supplements the cognitive domain.

Fig 2 Fink’s (2003) Taxonomy of Significant Learning (p.30)



“Experience real world learning”

Today educators and learners need to be engaged in the living curricula through conversations that create meaningful experiences in the community and global environments. The vision statement of Unitec Institute of Technology “*Experience real world learning*” aligns with the living curricula by presenting opportunities for lifelong, holistic and collaborative learning. The programs are genuinely dynamic, resourceful and resilient on the part of both educator and learner (Meldrum, 2009). This resourcefulness and resilience aims to ensure adaptability to evolving unidentifiable job requirements in an uncertain future. To conclude “the future is not a result of choices among alternative paths offered by the present, but a place that is created--created first in the mind and will, created next in activity. The future is not some place we are going to, but one we are creating. The paths are not to be found but made, and the activity of making them changes both the maker and the destination” (Schaar, 2003).

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