The Educational Imperatives for a Work-Integrated Learning Philosophy

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Abstract

Work-Integrated Learning (WIL) in its broadest sense is often described as an attempt by educators to provide a schooling-to-work pathway to support the employability of graduates. It is a construction by educational practitioners and associating employers. The cooperative arrangements, between these groups, have shaped programs of study at many tertiary education institutions for the best part of the last century. However, the approach sanctions a labour force imperative for education which is not consistent with the broader career-based education views expressed in public policy. In this paper we propose that any understanding of a WIL philosophy incorporates a learner environment for individual action learning and institutional active learning as an initiative that addresses six educational imperatives: workforce readiness; a professional development culture (both individual and workforce related); international relevance; life-long learning; knowledge transference; human and social potential. These imperatives we have derived from published mission statements, public policies and institutional governance expressions, e.g. Australian government policies (1975 to 2005), OECD reports (2002, 2003) and the international symposia on career development and public policy held in Australia (2006).

Work Integrated Learning (WIL) is a broad church of approaches across many levels of education worldwide that incorporates knowledge and skills acquisition with real-world experience. Broadly speaking WIL is seen as "…educational activities that integrate theoretical learning with its application in the workplace. These educational activities should provide a meaningful experience of the workplace application that is intentional, organised and recognised by the institution, in order to secure learning outcomes for the student that are both transferable and applied" (Griffith University 2006). This understanding has been widely represented and instituted this way in various tertiary education programs worldwide over many decades (WACE 2006). As part of a review of WIL as a learning model for Swinburne University of Technology, Lilydale we questioned:

- Whether WIL, as reported, was meeting the needs of public policy (in Australia in particular); and
- The relationship that active and action learning has with WIL as both learning theory and learning methodology.

In order to address these questions we related two studies, firstly, a grounded study of WIL literature (reported in Calway, 2006 and summarised later in this paper); and secondly, a study of public policy in Australia over the past three decades combined with OECD reports from 2002 and 2003. This is combined with a review of the reports from the International Symposium for Career Development and Public Policy held in Australia 2006 (CICA 2006).

We propose that the analysis of these studies relative to each other provides an understanding of a WIL philosophy as:

- Using active and action learning methodologies: **Action learning* is an overt contrivance by the learner and is strongly embedded in the learner's culture and learning desires - a continuous process of purposed learning and reflection, centred about the need to find the solution to a real problem. Learning is initiated and driven by the learner (Knowles, 1975; Revans, 1991). Our analysis shows that this is not how WIL is reported in literature; and **Active learning* is concerned with learning from doing, and/or taking action. It can involve reflection and/or include student course materials, constructed activities, case studies, group projects, etc. This sees WIL as an integration of work and learning contrived not by the learner but by other parties (educators, employers etc.). (Meyers & Jones, 1993).
- And incorporating six educational imperatives as a social construction (enculturation): **Work* (labour force) *ready* graduates – a vocational and skills/competency focus in the proliferation of degrees with specialized major studies. (e.g. Kemp 1998; Nelson, 2002); **Professional Development Culture* – (e.g. McMahon, 2004), ; *Life-long learning – (e.g. Kemp, 1998; Nelson, 2002); **Knowledge transfer and exchange* occurs through linkage and exchange - the interaction, collaboration, and exchange of ideas (e.g. CHSRF 2006; Nelson, 2002); **Human and Social potential* - (e.g. IAIA, 2003; Nelson, 2002); and **Internationalisation* – (e.g. Cunningham et al, 1998; Hagel & Brown, 2005) and "Global Village" (McLuhan, 1962).

Background

We have drawn extensively from the World Association for Cooperative Education (WACE)[1] as the peak organisation worldwide and the promoter of work-integrated learning (WACE 2006) as a deep learning model. Much of the literature, reviewed and which is summarised in part in this paper, expresses the perceived benefits of WIL as a form of learning. However; we instead concentrated on the educational and public policy understanding relative to the usage of WIL. It is not the purpose of this paper to detail the perceived benefits.

One educational form of WIL, Cooperative Education, has broad recognition worldwide among employers, students and tertiary institutions and is represented in a significant part of literature reporting WIL. It incorporates hands-on work experience in a real-world setting, and assumes a level of explicit knowledge/skill on the part of the student and the exchange of tacit knowledge/skill from the employer to the student. However, Martin (1997) found that many academics had no understanding of the way students learn in the workplace. Nevertheless, cooperative education students in many circumstances are able to achieve deep learning despite a lack of academic support (Weisz & Smith 2005).

Deep learning by students is dependent on the learning opportunities provided by the employer, the ability and commitment of individual students to achieve learning from the work experience and the commitment of the education authority to support the learning process (Ricks, 1996; Van Gyn, 1994). Deep learning is more likely to occur when workplace supervisors understand the learning objectives of cooperative education and provide meaningful work experiences which offer the students appropriate challenges and when students know how to reflect on their experiences (Crebert, 1995; Van Gyn, 1996). Moore (1999) advocates additional work to advance the understanding of the relationship between work and learning and the relationship to adult and professional learning processes, a point with which we concur.

Work-Integrated Learning

Calway (2006) studied approximately 900 articles reporting work and cooperative learning projects, from prominent journals and publications that were collected as abstracts (note - abstracts report a holistic synopsis of the content of an article by definition) and content analysed along multiple dimensions. The groupings of experiential education were consolidated into the eight models discussed below and summarized in Table 1 (Appendix A), as originally found in Calway (2006). Calway's study initially identified possible variations of terminology used to describe work-integrated and cooperative learning. These terms were then independently defined using a wide variety of sources including – Google, EBSCOhost, WACE website, University websites (various), online dictionaries. A table of model options and relative criteria is contained as Appendix B.

The key stakeholders were also identified. They were determined as being, the student, the educational institution and the employer/industry. It is important to note that society and government were not covered in literature once more pointing to a focus of education on labour force issues:

- The expectations and benefits for each of the key stakeholders under each of the models were also identified. For example, under the work-integrated learning model the expectations of the student as a key stakeholder were identified as enhanced employability, marketable job skills, exposure to current practices and clarification of career goals;
- For the same work-integrated learning model, the expectations for the employer are; high level competence, project completion, worker at a lower cost, training a possible future employee, access to current university practice and the benefit of current knowledge; and
- The expectations for the educational institution as a key stakeholder in the work integrated learning model are work force ready students, reputation development, graduate employability, and industry partnerships.

Eight Models of Experiential Learning

Model One was named the *Pre-course* experience model. Pre-course experience was not included in a group with the other terminology used in the area as it may be a prerequisite for course entry rather than a work based experience during the term of a course. It assumes a certain level of competence upon acceptance into a course rather than work and learning integration during the course:

O_1: Pre-course Experience

- Experience may be necessary for acceptance into course
- Of unspecified length, generally determined by the specific course
- Not necessarily offered course credit for completion however, it is necessary to ensure all students have some practical experience.
- Implies a certain level of understanding
- Employers want previous work experience

Model Two was named *Project-based* and contained the Practicum, independent studies and work-based project models. This model is project based with students completing a research project related to their chosen career, generally at a work site, which offers an opportunity to apply theory learned to the project undertaken:

O_2: Project Based Experience

- Models give students the opportunity to apply theory to practice on a specific project
- Length is generally short to medium term however length is not explicitly stated.
- Must undertake a course specific project
- As these projects are undertaken as part of a course, credit is given.
- These models are not necessarily industry focused but offer students an opportunity to apply theory to practice on a project.
- Commonly used for the natural sciences, leadership, PE, the environment and Business / IT
- These models are typically applying what is learned in the *classroom* to a real life setting, there is no return whereby the student can then apply what is learned on site to the classroom as a common experience

Model Three, *Vocational,* contains the vocational education, technical preparation and apprenticeship models. The models are vocational in focus. Most of the skills are developed on the job with a small amount of theory being learned through course material. These models are trade focused for example: plumber, carpenter:

O^3: Vocational Education

- Used for traditionally nonacademic studies, to prepare students for work in a specific field
- The aim of this model is to equip students with the skills to take a trade position in the workforce
- Most learning occurs *on the job* with less focus on the academic Model Two was named Project-based and elements of the course.
- Undertaking the experience element of the course is compulsory as these models are based on *learning by doing* and backing up the skills with theory.
- Learning also occurs by observation of others who are more skilled in the field.
- These models are commonly used for trades such as plumbers, carpenters, electricians etc.
- *Learning the trade*
- Compulsory element of classroom studies (tightly vocationally linked)

Model Four was identified as *Contextual Learning* and contained the models of experiential education, contextual learning, praxis and service learning. This group brings real life experiences into the classroom setting. Learning from doing in a very structured way, this ensures that the student is playing an active learning role in their own education. These models ensure that the curricula is not studied in isolation but that ideas, skills and insights learned in a classroom are tested and experienced in real life. In this instance *context* is interpreted to mean real life:

O_4: Contextual Learning

- These models seem to be more a *teaching style* for the pedagogies rather then a specific learning style for the students
- These models aim to bring common experiences to the classroom for students to draw on which gives them the opportunity to apply what they have learned to a real world example/experience.
- Learning by doing, students are able to apply knowledge to a ‘situation’ rather then necessarily being placed in a work situation
- These are integrated into course content and are on-going

- It seems to be an attempt to interest students in learning by applying rather then making them work force ready or particularly career oriented.
- These models tend to have a reflective component.
- Students do not require a certain level of competence for these models as they are worked into course content.
- Contextualized learning through the use of case studies etc
- No work experience component

Model Five, named *Work Experience*, contained the models: work experience and job shadowing. These models give students a sample of what it feels like in the workplace. They do not necessarily have to have any relevance to course material as the students are generally *observers* simply attempting to gaining an understanding of what a job entails. These are generally undertaken during the middle years of high school as students attempt to plan for their future careers, the placement is generally shortterm:

O_5: Work Experience

- Focused generally at high school students to give them a *taste* of the work force.
- Not necessarily career specific for future courses
- Duration is generally 1-2 weeks
- May be paid at a fraction of wages (eg $5 per day) to provide *work cover* etc.
- Most high schools have a compulsory work experience component
- Work place offers a 'mentor' for the student
- There are no specific requirements for students to undertake these experiences
- Menial tasks
- No training required
- *Job shadowing* an experienced worker

Model Six was named *Supervised Experience* and contained the models externship, field studies, internship, cognitive apprenticeship, professional practice and *preceptorships*. Supervised experience in a focused field of study. These models are generally *built* into the course rather than a student making an active choice to participate in industry learning, for example a medical internship. These are skill based, in a professional field:

O_6: Supervised Experience

- The aim of supervised experience is to give students the opportunity to apply the skills and knowledge that they have acquired during the term of their course
- The length of supervised experience varies
- These are generally compulsory to course completion for graduation.
- These models are not industry focused but job or career specific
- These are not generally paid positions
- The level of student knowledge required for these positions are high as they are usually undertaken at the end of a course or degree so that a certain level of competency is guaranteed.
- The supervision at this level is extensive in the workplace however, as studies have been completed, there is little supervision from an academic institution
- Classroom/workplace integration is minimal as most of the theoretical learning has already been completed.

Model Seven was named *Work-Based Learning* and contained the models: work based learning; cooperative education; organisational learning; industry based learning; sandwich courses; and practice oriented education. These are a form of education that integrates periods of academic study with periods of work experience related to the student's studies. Academic credit is offered for generally 6 to 12 month placements. These models are generally optional and are therefore the result of student's initiative and commitment to study. Students learn first and then enter the work place to apply knowledge:

O_7: Work-Based Learning

- These models aim to integrate what is learned in the classroom with what is learned in the workplace and to draw on these work experiences when back in the classroom and when entering the workforce. These models produce students proactive in their learning.
- These models are viewed as opportunities for students.
- The models are not compulsory positions but are undertaken on the initiative of the student.
- The industry experience is discipline specific.
- These models are structured and organised very specifically to allow for the most beneficial experience for the student.
- These are usually paid positions
- Academic credit is awarded for these courses
- These models are industry focused to give the student experience in their chosen field.
- These models aim to explicitly enhance the educational experience of the student
- Time of experience ranges generally from 6 to 12 months.
- Uses specific terminology -- *integration of knowledge* – rather than just applying theory to practice
- Work force ready – *taught to do*

Model Eight was named *Joint Industry/University Course*s and contains cooperative programs and joint industry/university courses. These models are a partnership between industry and university where industry can move into the classroom to ensure that students have the necessary skills to be employable by the industry:

O_8: Joint Industry/University Courses

- The aim of these models is to enhance the partnership between the university and the industry and to ensure that a university curriculum is current from an industry perspective.
- The workplace component is integrated into the overall curriculum instead of being a separate year.
- Workplace practices are used to enhance learning
- Credit is awarded for these courses as they are generally already built into the curriculum.
- These are compulsory for students undertaking the course (See Table 1 in Appendix A).

Skilling for the Workforce

At all times, the partners in Cooperative Education have been seen as industry, students and the education institution. However, a wider relationship exists that includes the Government and, more widely, the community and extends over time as a career paradigm. Successive Australian governments have expressed a social imperative for *work ready* and *lifelong learners* as part of the

labour policy. This emphasis is not limited to Australia only, as similar imperatives can be seen in legislation of developed and developing economies worldwide. The Australian policy of the past two decades is representative of what can be seen in other nations. For an analysis of learning and work transition policies in Canada and Germany see Heinz and Taylor (2005).

The Third International Symposium on Career Development & Public Policy, Shaping the future: *Connecting career development and workforce development*, illustrates the significance of labour policy on learning. The conference received papers on policy frameworks from 17 countries under the themes: *Human capital; Labour supply; Employability skills; Career development services for workforce development; Older workers and the information base for public policy making.* Countries were invited to submit papers on policy frameworks which addressed two or more of the themes of the symposium (Table 2). The Symposium is an illustration of the significance of labour policy on learning.

Table 2. Papers Themes Analysis
(CICA, 2006)

Theme	**Number of Papers**
Human Capital	8
Labour Supply	7
Career development services for workforce development	10
Old workers	4
The information base for public policy making	5

Skilling for the workforce is the common thread of these policy frameworks. There is an emphasis on training which is based on active learning - learning from doing – to support academic programs. The concept of individual professional development, particularly learning which is initiated and driven by the learner does not feature prominently. Learning is often prescribed narrowly through an emphasis on defined competencies and their assessment.

The Australian Government published an address titled, 'Strategic Developments in Higher Education' prepared by the then Minister for Education Dr David Kemp (1998). In that address Dr Kemp outlined the basis for undergraduate education as a life-long learning foundation. He said – "It is critical that undergraduate education is fully effective as a foundation for *life-long learning." (our emphasis)*.

A later Minister for Education, Dr Brendan Nelson (2002), re-stated the purpose of higher education as: Higher education fulfils significant functions in our society. It values *learning throughout life.* . It promotes the pursuit, *preservation and transmission of knowledge*. It extols the value of research, both

'curiosity-driven' and 'use-inspired'. It enables *personal intellectual autonomy and development*. It provides skills formation and educational qualifications to prepare individuals for the *workforce*. It helps position *Australia internationally. (our emphasis)*.

Further Dr Nelson (2002) argued in relation to career and social imperatives that: The Government sees the purpose of higher education as much greater than preparing students for jobs. It regards higher education as contributing to the fulfilment of *human and societal potential, the advancement of knowledge and social and economic progress. (our emphasis).*
The main purposes of Australian higher education are to:

- *inspire and enable individuals to develop their capabilities* to the highest potential;
- *enable individuals to learn throughout their lives* (for personal growth and fulfilment, for effective participation in the workforce and for constructive contributions to society);
- *advance knowledge and understanding*; and
- aid the application of knowledge and understanding to the benefit of the economy and society. (our emphasis)

These policy statements suggest that Australian society, industries and institutions of education prescribe what is expected of quality higher education as a *social norm* and consequently influence the educational philosophy on which teaching and learning is built. How these policies are to be achieved was not considered.

Education consumers (e.g. industry, society) specify through labour force requirements and the translation of these requirements into competency focused knowledge and skills. These specifications have a significant influence on both educational policies and the outcomes in the form of degrees, graded subject results, graduate attributes and *real-world experience* for students and teaching staff.

James (2001) points out that the study of work and learning paradigms has shifted radically in countries where students contribute financially for their education. A major contributing factor in learning and teaching culture is that many students are employed part or full-time while studying. There is little evidence that this employment is widely drawn upon in the learning experience of students or teachers.

Considering WIL as Active and Action Learning

The data, represented in Table 1 (Appendix A), identifies the learner as the recipient of education (active learning) not the director of their own realworld generated learning experience (action learning) a point that requires more development.

We argue that WIL as a philosophy should encompass a learner as freely moving between an *active learning* and an *action learning* education paradigm, particularly when a student may have prior work experience. WIL promoters must seek to join the contrived labour force focused environment of *realworld* learning, which contains all the structural elements necessary to promote student participation and assessment, to that of learner contrived action learning paradigms in order to achieve human and social potential.

WIL can provide an environment in which learning is centred on the student. WIL could also enact action learning which would focus upon the professional/personal career of the learner. The moment

that action learning moves to an institutional framework it is likely to result in a work-ready paradigm at the expense of individual professional development.

Our analysis of WIL currently shows it is an active learning process. It is influenced by a labour force focused environment that encourages learners/students to participate to provide an entry level to the labour force. The structural elements incorporated within WIL to promote student participation and assessment, support the learning process through an environment contrived by education institutions and employers. This contrived process is a significant feature of active learning e.g. Meyers and Jones (1993).

Conclusions

WIL is a philosophy, first and foremost, which can be experienced through a number of education methodologies and theories. Much of the literature is focused through real-world experiences of learning implementations and through a diversity of learning theories including; active, experiential, services, vocational, situated, etc. WIL does not seek to promote any single theory or model. WIL, rather than being a specific theory, can and does make use of and explain a number of the theories.

Given our arguments what would an ensuing WIL philosophy state in terms of *purpose* and *praxis* when a more holistic approach is considered?

We assert that WIL is currently intentional, organised, real-world and accredited, having an active educational structure that accounts for:

- The nature of the student;
- Roles of the teacher/supervisor;
- Curricula emphasis;
- Teaching methodologies; and
- Social function of education and institutions.

In developing a philosophy for WIL, we state that:

Work-Integrated Learning should be the general term given to learning that occurs through undertaking a component of industry/professional practical experience while studying whether studying for an accredited program of tertiary level studies or not. WIL should be expressed through the imperatives of: work readiness; lifelong learning; human and social potential; internationalized thinking; knowledge transference and a professional development focus; and Work-Integrated Learning should engage active and/or action learning methodologies, and focus upon a broader individual and corporate professional development approach.

Significant implementations of WIL are at undergraduate level and are accredited programs of coursework based studies. Many learners, alternatively, do not need accredited offerings which lead to a full academic award. Whether studying for an accredited level program or not WIL can, using the above discussion, provide a deeper level of learning. Knowledge transfer is more likely to occur when learning of content is delivered in context and learners are able to apply their learning.

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APPENDIX A.

Table 1 - Work-Integrated Learning Models: Expectations for Stakeholders, (from Calway, 2006)

APPENDIX B.

Model Options and Criteria Analysis (Calway, (2006)