

A Model for Work Integrated Learning: Optimizing Student Learning Outcomes

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Introduction

Work integrated learning comes in many shapes and sizes. It has always formed a significant component of the educational processes in some professionally focused courses such as medicine and education. As properly planned, designed and monitored learning experiences that expose students to professional culture and workplace practice they ensure an easier transition from study to employment as well as developing knowledge, skills and attributes that are difficult to foster with academic studies alone. They bring together theory and practice, thereby enhancing all tertiary studies by allowing students to experience the application of theory in a real situation and by drawing on the learning experience when discussing theory.

This paper presents a model for work integrated learning, where academics and mentors collaborate to provide the learning experiences for students. It was developed by the author and Professor Belle Alderman and implemented over a ten year period at the University of Canberra for students studying in the undergraduate Bachelor of Communication (Information) course. The theoretical underpinning of the model and its application are presented in the work *A Model for Workbased Learning* (Alderman and Milne 2005).

At its core the model features facilitated mentoring and reflective practices based on experiential learning theory. These are designed to facilitate the links between three 'worlds' of learning experienced by the students:

1. The world of student experience which includes the knowledge, skills and attributes that students already possess as well as their own personal perspectives, values and fundamental understandings.
2. The world of tertiary professional education, which includes the academic processes that have shaped, and continue to shape, the student. In this model, this world is represented by the academic.
3. Then finally the world of the work integrated learning experience which provides the physical context for the learning. A significant element in this world is the mentor who collaborates with the academic and the student to design a Plan of Learning and to facilitate the reflective process.

The three worlds are linked by the relationships formed through interactions between academics, students and mentors. These interactions are supported through the process of facilitated mentoring and reflective learning practices which in turn influence and impact on the three worlds. As we thought about the shape and size of the experience we wanted to design our fundamental assumption was that individual learning is developmental, requires opportunities for practice, critical analysis and reflective thinking. Our fundamental challenge in providing the experiential opportunity was to ensure that learning did occur, and to be able to demonstrate that it occurred.

This paper will discuss the theoretical underpinning of the model including experiential learning, mentoring and reflective learning processes. It will then show how these were applied with a case study of the Partners in learning subject at the University of Canberra.

Experiential Learning Theory and its Application

Learning from experience is not a new educational concept, although the development of an applied theory to underpin such learning is more recent. The seminal work of Kolb (1984) laid the foundations for contemporary interpretations and applications of experiential learning theory. Kolb identified a series of propositions that underpin experiential learning and from each proposition he indicated an action which followed.

Learning is best conceived as a process, not in terms of outcomes.

Learning is continually modified by experience.

Learning is a continuous process grounded in experience.

Learning is testing and examining, then integrating new learning into what is known.

The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.

Learning is resolving conflicts between concrete experiences and abstract concepts; observation and action; the known and the unknown.

Learning is an holistic process of adaptation to the world.

Learning is a function of the total human interaction with the world, including thinking, feeling, perceiving and behaving.

Learning involves transactions between the person and the environment.

Learning is an active and self-directed process.

Learning is the process of creating knowledge.

Learning is continuously refining and redefining knowledge.

Kolb's definition of learning usefully sums up the importance of learning through experience: 'learning is a process whereby knowledge is created through the transformation of experience' (Kolb 1984 p.38).

Expanding on this Mezirow indicates the highly individual nature of learning by defining it as: 'the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding, appreciation and action (Mezirow 1990 p.1). They also suggest that our learning is dependant on what our experience means. We are invariably influenced by our personal perspectives, our values, theories and fundamental understandings (Mezirow 1990 p.3). We are also influenced by our schemes, our expectations of cause-effect and if-then relationships. These perspectives and schemes guide our interpretations of experience, and thus the final outcomes of our learning from experience.

Although we cannot divorce ourselves from these personal perspectives and schemes we can subject our experience to reflective thinking and critical analysis thereby altering our seemingly intractable view of the world. Mezirow suggests the most significant learning experiences involve critical self-reflection, 'reassessing the way we have posed problems and reassessing our own orientation to perceiving, knowing, believing, feeling and action (Mezirow 1990 p.13). Such transformational learning 'leads to action that can significantly affect the character of our interpersonal relationships, the organizations in which we work and socialize and the socioeconomic system itself (Mezirow 1990 p.xiii).

Using these ideas to build the program we concluded that:

1. Learning builds on the individual's stage of development therefore students must assess past and present achievements, identify goals and set future directions.
2. Learning is a continuing process of creating knowledge therefore students must continually reflect on what and how they learn, understand how what they learn builds new knowledge and also understand how knowing how they learn affects future knowledge building.

Mentoring

Mentoring itself is not new. History gives many examples of the value of mentoring and these same principles have been the key elements in the continuity of art, craft and commerce from ancient times. The master/apprenticeship relationship of the Middle Ages was eventually transformed into the employer/employee relationship by the industrial society.

The mentoring relationship requires more of a workplace supervisor than simply providing projects for the students to work on or day-to-day supervision of students on the job. It implies taking students into organizations as members of workplace teams, assisting their socialization into the organizations, devising plans that facilitate

customized learning experiences, and giving feedback that will allow students to reflect on their learning and development. It also presupposes a commitment to the students' personal and professional development. In effect, it is recreating the master/apprentice relationship of the Middle Ages. The apprentice (student) is socialized into the profession at the same time as learning the 'skills of the trade', or in this case the 'tenets of the profession'.

The mentoring type adopted was what Murray (1991) called 'facilitated mentoring' and defined as 'a pairing of a more skilled or experienced person with a lesser skilled or experienced one, with the agreed upon goal of having the lesser skilled person grow and develop'. Work integrated learning programs that use a facilitated mentoring model provide:

1. A structure and series of processes designed to create effective mentoring relationships
2. Guide the desired behavior change of those involved and
3. Evaluate the results.

When the student/workplace supervisor is based on a mentoring model enhanced learning outcomes are the result. Engaging the mentor as an active partner in designing the learning experience produces a synergy that is a very powerful ingredient in the process. However, although great attention has been paid to both formal and informal mentoring relationships since the mid-1970s, particularly in the world of business, using expert practitioners to mentor students as part of tertiary professional education has been little explored.

A committed mentor can assist learning in many ways, but most significantly by encouraging students to participate in reflective thinking and critical analysis. At its most effective, the mentoring relationship follows the Socratic method. Having an overall conceptual picture and using the Socratic process of questioning, mentors are able to lead students' thinking processes so the students ultimately are able to engage with the mentors' conceptual worlds.

Good mentors will not judge or instruct; they will facilitate or interpret and empower students to arrive at their own decisions and conclusions. They will allow the students to take risks, but be there for them to provide ongoing support where necessary. 'Support' and 'challenge' have been identified as the two factors which are most critical to the creation of successful relationships when supervisors are helping students to learn (Daloz 1986). While 'support' affirms the students 'challenge' puts pressure on them and emphasizes the gap between what they are capable of at present and what they need to be capable of in the future. The theory suggests that students can perceive different mixtures of support and challenge in their workplace experience.

The best mixture, resulting in students achieving growth in learning, is a high amount of support combined with a high amount of challenge. Where students feel they receive high support but low challenge, they will feel affirmed but not stimulated. Students who feel

low support and low challenge are likely to experience a state of stasis where learning grinds to a standstill and they mark time. The worst combination of all for the students is that of high challenge and low support. Students who feel that their supervision is like this are likely to retreat from the situation and even walk away.

It is also important that mentors maintain a professional balance in their relationship with the students. The mentor/student relationship can be viewed on a spectrum that extends from the highly personal at one end to the highly professional at the other. The best position is somewhere towards the middle but positioned slightly towards the professional side of the spectrum. The best description of the relationship in these terms would be 'professionally friendly'.

Turning Experience into Learning

In order to understand the dynamic aspect of learning from experience, Boud suggests a model that outlines three stages: preparation, experience and reflective processes (Boud 1993). During the preparation phase the following aspects are considered:

1. The learner – what background does the learner bring to the experience?
2. The milieu – what does the experience offer?
3. Learning strategies – what knowledge and skills does the learner bring to the experience?

During the experience learners interact with the organization, staff, events and all that takes place. They learn by observing and participating and by intervening and influencing what is taking place. The final part of the process, the reflective processes, suggests learners return to the experience, recall feelings and reevaluate the experience.

Boud and his colleagues have explored extensively the field of experiential learning and were particularly interested in what turns experience into learning. Their view is that reflection is the key (Boud, Keogh and Walker 1985). Reflection is defined as a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations. Reflection involves three stages in which students must engage for effective learning:

1. Returning to the experience: which involves recalling the events, replaying of the initial experience and recounting the experience.
2. Attending to feelings: which provides the opportunity to consider the effects, both positive and negative, that the feelings may have had on past and future learning experiences.
3. Reevaluating experience: this involves the review and evaluation of experience and associating the experience and knowledge gained with what is already known.

Partners in Learning, a Case Study

In designing the curriculum we placed the subject in the final year of the three-year undergraduate course. At this point students had completed most of the core professional units and were taking to the experience a body of professional knowledge on which the experience could build. It also ensured that workplace mentors accepted the students as emerging professionals and designed their programs on this assumption.

Year	Break	Semester 1	Break	Semester 2
Year 1		Required subjects and electives		Required subjects and electives
Year 2		Required subjects and electives		Required subjects and electives
Year 3	2 week block at placement	Required subjects and electives + 1 full day at placement + Attendance at on-campus seminar	2 week block at placement	Required subjects and electives + 1 full day at placement + Attendance at on-campus seminar

The Preparation Phase

When the model is being implemented for the first time academics must undertake some preliminary activities. Most importantly they must gain the support of their professional community as the mentors will be drawn from this group. Academics also need to develop supporting materials for both students and mentors. Perhaps the most critical success factor of the preparation phase is the development of a shared vision for the experience among students, mentors and academics and this is facilitated through workshops and the creation of a Plan of Learning.

Workshops for Students

The main focus of these workshops is to assist students:

1. articulate the knowledge, skills and attributes that they will be taking to the placement
2. articulate the knowledge, skills and attributes that they want to develop
3. learn strategies for taking control of their own learning and
4. gain a greater understanding of their professional responsibilities while on the program.

They are reminded that in thinking about professional practice there are three types of skills: broad-base or personal skills, work-related or professional skills and job-specific or technical skills. Students usually find it easy to talk about their technical skills and assess how well they apply them. But these have to be considered alongside what they know (professional skills) and how well they can get things done (personal skills) as it is the ability to use all three that is important. By the end of the workshops students will have created a resume, clearly stating their strengths, previous experience and their goals for the placement. This is forwarded to the mentor.

Workshop for the Mentors

An important part in this workshop is helping mentors understand their role in the learning experience of the students. Although they are experienced practitioners they may have difficulty converting ‘what they do’ into a developmental learning experience for someone only partway through their professional education. However mentors usually find this part of the process quite valuable as it forces them to reflect on their own work practices, question them and sometimes even refine them.

A typical mentor training program includes sessions on developing a Plan of Learning, giving feedback and using reflective learning problem solving strategies with the students.

The Plan of Learning

This is one of the critical success factors of the whole program as it embodies the negotiated agreements between students and mentors. After examining the students’ resumes and meeting with them to discuss the work experience mentors develop a draft Plan that they discuss with the students. When both feel that the Plan will provide the optimal learning experience it is submitted to the academic for approval.

The Plans are based on the students’ personal and professional goals; the knowledge skills and attributes that they already possess; and the ones they want to develop – within the constraints of what the organization can offer. They are not formal contracts but developmental guides which can be modified, if necessary, over the period of the work experience.

To develop the Plan mentors must translate their work tasks into incremental learning steps so that by the end of the placement the desired learning outcomes can be achieved. To achieve this mentors should focus on the tasks that collectively represent their job and then answer the following questions:

1. What is the focus of my work area?
2. What aspects of the work do I want the student to learn?
3. What tasks should I provide so the student can learn this?

4. How will I provide feedback to the student?

The approval of the Plan of Learning concludes the preparation phase and the work experience itself can begin.

Documentation

A number of documents should be developed as a supplement to the workshops and to provide a ready-reference source of information. These include:

1. Handbook that should include all of the information that underpins the program such as:
 - Brief rationale
 - Benefits to students, mentors and organizations
 - Responsibilities of students, mentors and academics
 - Details of the requirements of the Plan of Learning
 - Administrative details.
2. Progress Guide to chart students' development.

Plotting the students' development was an important element of the experience phase as it was one part of the process that allowed students to really see how far they had come over the 12 months. The document used listed two groups of possible learning outcomes that were purposefully broad in scope and not intended to be mutually exclusive. The first included generic or desirable attributes that are typical of a wide range of professional careers. The second were more professional outcomes which related directly to the particular course of study.

As the overall aim of this exercise was to show how the students had developed over the year they were assessed three times against each outcome: once after the first two-week block, once at the end of the first semester and finally at the end of the placement. Students were not given a numerical grade but were assessed against each learning outcome, some of which have been included in the following table as an example, and using the criteria at the head of each column. This activity was most effective when the student and mentor did it together as it provided a framework for the giving of feedback. Students were also encouraged to do their own reflective evaluation on their progress ahead of the meeting with their mentors as this also gave them a benchmark against which they could compare their own assessment of their progress. Space was also provided for general comments. However, the recording process was deliberately simplified so the main focus of the activity was the discussion between the mentor and the student and so that progress could be seen at a glance.

Examples taken from the Progress Guide

Generic outcomes & personal development [some examples]	Opportunity to practice Yes (Y) or No (No)	Lacks basic theoretical understanding or application skills	Demonstrates basic theoretical understanding or application skills	Shows emerging knowledge & skills	Performs competently & confidently	Demonstrates exemplary knowledge & skills
Demonstrates problem-solving skills			√			
Exhibits analytical skills				√		
Is flexible					√	
Shows initiative			√			
Displays liaison skills	No, not to date					

3. Subject Guide which is for the students and should include all of the items officially required by the university for such documents, possibly including:

- Learning outcomes
- Reflective learning guidelines
- Details of all workshops
- Assessment requirements

The Experience Phase

Early in the experience phase the academics visit each student and mentor in the workplace. This visit provides a friendly opportunity to see how the work experience and mentoring relationship is progressing and to discuss issues of concern which may have arisen.

During the experience phase students, as a group, also attend two seminars each semester that are facilitated by the academics. During the seminars they engage in a number of reflective learning strategies to enhance their overall learning experience.

Reflective Learning Strategies

A number of strategies have proven to be successful in bringing together the three worlds of learning. Some are designed for students to use on their own in developing their reflective learning skills. Some are designed to use in the work place with the student and mentor working together. A final group is designed for group interaction in seminar sessions where students work with each other and with the academic. A selection of these strategies includes: reflective journals, portfolios and self-assessment.

One of the most powerful and personalized ways students can reflect on their own learning is by keeping a journal. It should be more than a simple recall of events. Students should view it as a record of their personal journey and their reflections on that journey at different times along the way. Students do not always find it easy to keep this type of journal and Woodward (1998) suggests a double-entry format where the left-hand column is used to record experiences, notes, quotations and so on and the right-hand side is used to record reflections on these. Reflective journals can be used for:

- Private records for review and reflection
- Discussion between mentor and student
- Discussion between student and academic
- Sharing during student seminars
- Retrospective personal evaluation of learning experiences

Portfolios are designed to provide tangible concrete evidence that learning has taken place. While we did not assess, even read the students' journals, the portfolio formed a useful part of the final assessment of the subject. In workbased learning portfolios assist students in reflecting on and assessing their personal goals and achievements (Gibbs 1995; Nightingale et al 1997). Most importantly portfolios should demonstrate that students know what and how learning has occurred. Woodward (1998) also suggests that since they are the student's record of what they consider important they offer others a helpful perspective on the student's learning.

According to Boud, self assessment

Requires students to think critically about what they are learning, to identify appropriate standards of performance and to apply them to their own work. Self-assessment encourages students to look to themselves and to other sources to determine what criteria should be used in judging their work rather than being dependent solely on their teachers or other authorities (Boud 1991 p.1).

The ability to undertake self-assessment is a valuable life-long learning skill that can empower the individual and ensure that learning experiences are more meaningful. Because many students find this a difficult thing to do guidance needs to be provided in understanding what self-assessment entails and how it can be done.

Evaluation Phase

The final phase includes the evaluation and assessment of the students' learning experiences. Although a multi-faceted approach was followed to determine the final grade, overall responsibility for deciding the grade is with the academic. This process involved the following steps:

1. Academics contact mentors to gain their view on the student's development over the 12 months. Information would be sought on aspects such as the knowledge, skills and professional attributes the student developed, how well they integrated into the workplace team and how well they achieved the goals they set themselves.
2. Students provide completed documents that included the Progress Guide record of their development across the year, their portfolio with items annotated with details of the learning each item represented, a two-page (maximum) assessment of the learning they believe has taken place and concluding with the grade they believe they should be given for the subject.
3. Students also make short formal presentations to fellow students and all academics involved in the subject focusing again on the learning and development they believe they have gained through the experience.
4. Finally, all academics together consider all of the evidence and award the final grade. It is always interesting to note that more often than not the grade finally awarded to each student was higher than the one they suggested for themselves.

Conclusion

Implemented over a ten year period this model has shown to be highly effective on a number of levels. The change in the students themselves over the course of the 12 months is nothing short of miraculous. A significant number secure jobs with their host organization on graduation and if this does not occur their mentors are usually more than willing to provide them with a reference. Mentors like it because it forces them to think carefully on, and even evaluate, what they do and how they do it. Most see it as a way they can 'give back' to their profession and they gain enormous satisfaction from being personally responsible for the growth and development of an emerging professional. Organizations like it because it provides them with the opportunity to 'test' a potential new employee ahead of offering them a permanent position. Academics generally find it to be one of the most satisfying of their teaching responsibilities.

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