Beyond the comfort zone: Using informal mentoring to create lifelines for students in disequilibrium

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When university students are exposed to new learning environments and complex challenging concepts they find themselves in a state of disequilibrium, part of a process that generates new knowledge. Encouraging students to go beyond their comfort zone is also a challenge for educators: at what stage does the task become too difficult and totally overwhelming for the student. Establishing effective support structures through informal mentoring is one such vehicle to achieve both the challenge and the support required by university students when learning is demanding. Informal mentoring is a lifeline to enable students to move from a state of disequilibrium to a more comfortable state. This paper reports on the preliminary findings of a study which investigates the enabling informal mentor environment which supported students when they were out of their comfort zone. This study involved a cohort of first year pre-service Bachelor of Education students enrolled in a core Educational Psychology unit and an Information and Communication Technology unit. A naturalistic approach was adopted with the use of various data generation tools such as diaries, observations, a questionnaire and a sociogram. Informal mentoring was a powerful medium to accelerate in depth learning.

Keywords: informal mentoring, educational psychology, ICT

Introduction

The concept of mentoring originates from Greek mythology when Odysseus' son Telemachus was entrusted to his wise advisor, Mentor, to guide him in adulthood during his absence (Reilly, 1992). The application of the original concept, including apprenticeships has been widely applied in areas of education (Clifford & Green, 1996; Colton & Sparks-Langer, 1993; Elliot, 1995; Hawkey, 1997; Street, 2004). Most of these mentor programs have been guided by formal structures in which a mentor and mentee relationship is planned with reference to structure, guidelines for behaviour in both roles and learning outcomes. The utilisation of student knowledge and experience based on their level of study has been common practice such as in first year students are mentored by second year students and third year students are mentored by professionals in the work environment.

Socialisation is one key ingredient of all mentoring programs. Vygotsky's (1962, 1978) sociocultural theory purports that human learning is intrinsically social and interactive. It is the glue which enables the guiding and nurturing processes inherent in learning to operate. So central is the relationship issue that a breakdown not only impacts on the quality of mentoring and therefore learning, but can lead to failure. Social relationships, while limited to membership of a particular group, usually flourish because of freedom to choose who one interacts with. When a formal arrangement is made, that is, one where some deliberate matching has been made based on a list of criteria, then it is inadvertently set up for possible failure. One of the criticisms of mentoring is the resources it takes to find the 'match' in order that mentoring can be successful.

Given that there will be different social and cultural experiences owned by all members of the same cohort then it seems logical that perhaps creating an environment to enable students to fulfill the roles of mentor and mentee may be more beneficial to students' learning. Such an environment leaves these roles to be filled by choice and also simultaneously. That is, a student can be mentor to another student or group of students in one matter/area and at the same time be a mentee in another and different matter or area. Structuring an enabling environment circumvents the shortcomings of formal mentor programs. When socialisation is considered part of learning then a community of practice or a community of learners is supported. Informal mentoring utilises both of these wider approaches to enhance learning. The impact of informal mentoring may be even more significant when students are out of their comfort zone and in a state of disequilibrium (Woolfolk, 2003).

Disequilibrium is synonymous with discomfort in this paper. Students do not like the feelings associated with this state and will act proactively to escape the disabling effects on their learning. Escaping may not always be represented in positive behaviour, such as in procrastination. But in this context, students were also motivated to pass both units and to do this they had to complete assessment tasks to a minimum of a pass level. The theoretical motivation applied in this paper is experienced as: students realise they are not able to firstly meet the assessment requirements as they do not have the knowledge and skills and secondly, they cannot complete the tasks in several 'late nights'. They realise they do not currently have the where with all to earn a passing grade. This creates motivation to learn, acquire skills, knowledge to achieve and move themselves out of disequilibrium and into equilibrium. In this paper, the task which creates the state of disequilibrium and discomfort is the creation of a website. Students have the intelligence to achieve but they require assistance, help, mediation in order to complete the task (website). Thus, informal mentoring was posited as the vehicle which would enable students to achieve a state of equilibrium.

Mentors act as instructional models, as sources of advice, and as sounding boards for concerns or fears. They also challenge students to problem solve. Elliot and Calderhead (1993) go as far as to say that without an adequate balance of support and challenge students are unlikely to learn from the mentoring experience.

This paper reports on the enabling informal mentor environment which supported students when they were out of their comfort zone and in a state of disequilibrium.

Background

One core, first year unit in Educational Psychology required groups of four students to produce a website as an authentic and dynamic assessment task. At the outset students were not expected to be skilled in this area but would have some computer skills and have accessed many websites. They were expected to be in a state of disequilibrium and that this state would motivate them to move into a state of equilibrium. Stated another way, students were expected to feel most uncomfortable as they would be moved beyond their comfort zone and would be motivated to return to a state of comfort.

During this single semester students were required to enroll in three set core units as well as an elective unit, which could be chosen from various disciplines. One of the electives offered to this same cohort of students, as well as other year groups was the Information and Communication Technology (ICT) unit. Historically over the years it has been found that students who enrolled in this unit were usually those who were genuinely interested in this field, or it was seen as on option to improve their skills and knowledge regarding the use of ICT. The enrollment numbers in electives were usually considerably lower than those found in the core units, however a student could be enrolled in both the Educational Psychology unit at the same time as the ICT unit. In both these units the two lecturers would work closely to accommodate the needs of these students. The technology lecturer structured her unit around the need for students to develop skills in web design and the psychology lecturer used the experience to provide first hand knowledge of several learning theories including those on motivation.

It was anticipated that students enrolled in the ICT unit acquired relevant skills and knowledge to mentor their own respective group members or students from other groups who were enrolled in the psychology unit. Although not always the expert or the novice, students had a range of computer skills from those with expertise to those of total novice to engage in jointly constructed activities. Mentoring is also a form of scaffolding so that when a student feels they have achieved a certain level of expertise, they can operate on their own and transfer the new learning to a novel task, or mentor another group or class member independent of the first mentor's guidance. The knowing of when to transfer learning, and when to operate without the established scaffold, is left entirely to the students. Through practice and engagement with a variety of experiences in a supported environment learners become skilled practitioners within their community of learners. This was the framework for the informal mentoring to be undertaken. The lecturers did not identify or categorise students according to those with more or less knowledge and expertise, preferring students to do this in a natural way. However, Educational Psychology students were given a one hour weekly scheduled time in the computer labs in which to develop their websites, apart from their private study time. This meant they were placed in close proximity to one another, which created opportunities for mentoring, as the one in four ICT students mingled with the three in four educational psychology students, who may or may not have had relevant

and sufficient skills to meet the assessment task requirements. The situation and participation is presented in Figure 1.
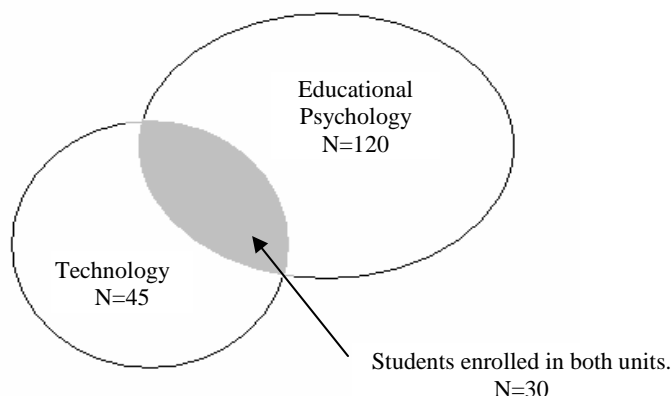
Figure 1: The structure of the units involved in the informal mentoring

Lave and Wenger's (1991) term Legitimate Peripheral participation (LPP) is relevant here because of the notion of access to performance being relative to learning. Indeed if we want students to learn, then we, the lecturers must structure the environment to provide access to practice, as learning is demonstrated through performance. An informal mentoring framework provides an on demand practice context for students in the ICT unit, with less practice opportunities which could be initiated by the psychology students. Thus a community of practice is structured in which informing mentoring can thrive.

The study

Ultimately this research project aimed to investigate informal peer mentoring when it is purposefully integrated across the two units for first year pre-service students. The key research question which guided the study was:

- What is the nature of the mentoring experience when it is built into and across the structure of two parallel units from different disciplines, but not formalised?

Several other contributory questions aided the investigation:

1. At which stages of the unit does the informal mentoring occur?
2. Which modes (face to face; online) are being used to assist the informal mentoring process?
3. How deep is the learning?
4. How interchangeable are the roles of mentor and mentees in the informal mentoring process?

Both units embrace flexible delivery principles through the online course management system of WebCT. The WebCT environment is used for general communication via discussion boards and emails, communication tasks, sharing of resources, and administration details. In the ICT unit students are required to investigate effective web design and apply this information to create a website 'shell' for future integration of technology into teaching. The educational psychology unit culminated in the production of a website to synthesise and explain the various practical components of their assessment tasks to theories of learning. Together the delivery and learning in the units and WebCT provided an easy and accessible approach for online mentoring. Both lecturers were able to monitor the informal mentoring and support students as either mentors or mentees.

Participants

The study involved a total of 120 first year pre-service teachers enrolled in a Bachelor of Education (Early Childhood/Primary/Secondary) Course. All of these students were enrolled in the core Educational Psychology unit and a total of 30 of this cohort enrolled in the elective ICT unit. As identified earlier students who enrolled in the ICT unit ranged from those who were interested in technology to those who were concerned that they did not have the necessary skills required to survive in our technology rich society. Thus, the skills of this group of students ranged considerably. All had basic computer skills as

this particular elective followed a prerequisite unit which covered a range of skills, however only a few of them were familiar with basic web design.

Data generation and analysis

The research method used in this investigation was naturalistic. The use of qualitative methods was critical as the study called for in depth documentation of experiences, feedback, responses and demonstrations to create a rich picture of the informal mentoring enabled by a specific environmental design. Understanding the contributing factors in the functionality of informal mentoring also called for a bottom up and qualitative method.

The investigation was collaborative and was carried out over the first ten weeks of a semester. As an ongoing part of the investigation, students kept a diary, charting the interactions with their peers in the building of the website. Observations by two lectures, a student questionnaire and a sociogram elicited further data. The questionnaire titled, *Student Informal Mentoring Scheme* (SIMS), was administered at the end of the 10 week period. Table 1 provides a summary of the data generation tools and the method of analysis.

Table 1: Summary of data generation and analysis

Guiding Questions	Instrument	Analysis
What is the nature of the mentoring experience when it is built into and across the structure of two parallel units from different disciplines, but not formalised?	Student Diary WebCT Observation	Content Analysis • Mentoring others/Being mentored • Relationship • Initiation • Time Frame • Context
At which stages of the unit does the informal mentoring occur?	Student Diary WebCT	Content Analysis When did the mentoring/being mentored occur?
Which modes (face to face; online) are being used to assist the informal mentoring process?	Student Diary Questionnaire Discussion Board	Content Analysis What forms were most/least common?
How deep is the learning?	Questionnaire	Student's perceptions about replicating the learning. Number of times they: • Demonstrated • Problem solved • Solved errors (own group and others).
How interchangeable are the roles of mentor and mentees in the informal mentoring process?	Diary Questionnaire Sociogram	Sociogram Identify the people you assisted/assisted you in some way with their website: Within your group, class, outside your class…

Data collected throughout the study were analysed using a variety of qualitative methodologies. Patterns in how mentoring relationships emerged and were maintained were examined. Emergent category designation used for the questionnaire was also used for diary analysis. Further analysis of the data identified three broad themes: (1) how and why students identified a mentor, (2) strategies used in the informal mentoring practices, (3) reciprocity and transfer boundaries. These themes will form the basis of future research.

Summary of results

This paper reports on the preliminary findings of this study. The following section provides a brief summary of the results in relation to the key research question and the following four subsidiary questions.

Key research question: The nature of informal mentoring

Informal mentoring while diverse also shared commonalities. The initial concepts of support and challenge played a significant part in the roles of mentors as indicated by students. For example, as students, particularly those with some computer competence, made attempts to create a website they were supported by the mentors. Mentors were eager to have other students achieve as this affirmed they knew their work and therefore felt confident and proud of their teaching impact. As students gained confidence

they were more prepared to debate and argue about procedures and seek reasons for certain decisions in web design. Intended casual conversations often evolved into deep engagement in which mentor and mentee were challenged and supported.

Social support provided a life line to students who were in disequilibrium. The interactions between mentors and mentees further illustrated other outcomes such as the assistance in time management, learning how to collaborate and cooperate effectively within the group, deal with inner group conflict, maintenance of friendships, accommodation of individual differences, and adapting to different learning styles. Students were involved in deep constructivist strategies, as well as just in time learning.

Students noted and appreciated the freedom to choose mentors. This meant they could identify for themselves the 'best' mentor for them and the 'best mentor' in relation to their needs without a fixed relationship as occurs with most mentoring programs. Students were empowered to set up their own unwritten mentor relationship.

Often mentor relationships were established with students whose communication skills indicated an openness and willingness to assist and advise others. Students with closed communication strategies were not sought after to the same extent. Successful mentoring occurred because of connectedness. Students indicated that connectedness was formed by acknowledging another's problem and an ability to foresee not only the problem but strategies to solve it in a way they understood. Knowing other students were also experiencing the same degree of difficulty and challenge enabled them to confide in their mentors. Many students at times felt overwhelmed and shared their feelings with their mentor who empathasised with their limited technical knowledge. Students felt the act of empathising enabled them to cope emotionally when out of their comfort zone.

Question 1: Stages of mentoring

The data revealed that the majority of the interaction between mentors and mentees occurred at three distinct phases of the task over the 10 week period. The first phase occurred in week 3 through to week 4 when students were in the process of designing the actual website as well as experimenting with different web authoring software. The students had access to three software packages: *MS Word*, *FrontPage* and *Dreamweaver*. The second stream of activity occurred during week 7 when many of the groups had collected a great deal of the content for the website and appeared very eager to begin creating their website. The content appeared to be the driving force here. Not surprisingly, there was an abundant of diary entries over the week prior to the submission date. This was the most active phase of the 10 weeks.

Question 2: Mode (face to face/online) of use

The diaries revealed that the Email facility between individuals within a group was widely used throughout the 10 week period predominately for time management, meetings setting tasks, posting work for peer review and not specifically mentoring. However, the bulletin board, which was accessible to everyone, really only became active toward the end of the period. Many of these later messages were ones of sheer panic and desperation seeking help regarding the technical aspects of creating their website. Their chief concern was that the website 'worked' and was navigable. Less mentoring occurred regarding website design.

It was concluded that most of the mentoring occurred face to face within both the designated laboratory time and the student common room areas. However, not all students took up the choice in mentoring or being mentored within the university cohort. Some students preferred to make use of mentoring outside the university.

Question 3: Depth of learning

The structure in which skills taught in the ICT unit, which made students the 'experts' were reinforced through practice and transferred and enriched when they interacted with less experienced and 'novice' peers in the educational psychology unit. It was also apparent that the seeking of mentors related extensively to the context. The structure and physical presence of students in each other's company promoted the seeking of competent others and the complexity of the assessment task almost left them no choice but to gather knowledge from expert peers. In effect the skills acquired in the technology unit were transferred to the educational psychology students with many of them transferring the skills to others.

It was also apparent that the mentors challenged their colleagues by forcing them to think outside of their comfort zone with such questions as:

Don't you think that the cartoon animation is inappropriate? (ICT Student:5, 2003).
How does that graphic contribute to the message you are trying to convey? (ICT Student:24, 2003)

Question 4: Interchangeable roles of mentors and mentees

The data identified in the sociogram revealed that there were many layers of mentoring which crossed various boundaries. For instance the mentors from the ICT unit mentored across many boundaries. They recorded mentoring other students within their ICT class, their immediate group, their friends; other less known colleagues within their laboratory time, other groups outside of their laboratory time, and they also responded to requests for help through the discussion board and email on WebCT. On a number of occasions the ICT mentors were assisted by their colleagues within the ICT cohort thus, making them mentees.

The sociogram and diaries also revealed that as time progressed and the education psychology students became more confident with the design process and the technology itself they also became mentors in the technical issues even though they were not part of the ICT cohort. Thus, these students diversified their role from only mentee at the beginning of the semester to being both mentee and mentor at the conclusion of the semester.

The context demanded peer marking for the final website to be presented to the educational psychology lecturer. This meant that each website was to be 'on show' or available to all groups but was officially assessed by two other groups. It appeared that this assessment demand and showcasing contributed to students seeking mentors in order that their finished product was polished and professional.

Discussion, implications and conclusion

Beyond the investigation of the predetermined research question other themes emerged: factors in mentoring; strategies used in the informal mentoring practices; reciprocity and transfer boundaries. For example, the benefits of informal mentoring in which freedom and choice were important were borne out in this investigation.

Interestingly, another strategy adopted by some groups was the assigning of specific roles. One person was responsible for the design and creation of the website while others were assigned different tasks such as interviewing, video interpretation and quiz construction, which focused purely on the content base of the website.

An investigation was made where less mentoring occurred. It was found that the students who chose not to participate in the more technical aspects design of web sites simply remained in their comfort zone. They seemed to tolerate the extent of each others knowledge or were not willing to disclose their incompetence to others. In their words they said: "I didn't need any help".

The informal mentoring provided the ICT students with the opportunity to become skilled practitioners. Those students motivated by competence readily responded to the challenge of mentoring and transferring their knowledge. Not only did they provide support to mentees they also supported each other in how to transfer their knowledge and skills in ICT. This reinforced the relevance of the ICT unit content and the usefulness of using a variety of web authoring software such as *Frontpage*, *MS Word* and *Dreamweaver*. Participating at such a challenging level provided additional self worth and confidence, factors rarely considered when assessing students. It was concluded that this informal mentoring enabled students to participate and achieve university graduate attributes and more importantly, at such an early stage of their four year degree. The extent of informal mentoring actually surprised many students. The total experience also enabled them to map their movement from disequilibrium to a more comfortable place.

Establishing a constructive relationship was assisted by modeling. Students indicated they modeled or adopted strategies provided by their lecturers. The two lectures had implemented a mediated approach to learning (Albon, 2002; Feuerstein, 1980) as a support strategy to all students in both units. Both lecturers believed the modeling of mediation was evident in the willingness of students to assist each other despite the common goal of achieving in a mark driven context.

As reported in other studies (Clifford & Green, 1996; Elliot & Calderhead, 19993; Hawkey, 1997; Street, 2004) most students not only highlighted the productive mentoring strategies but nominated sharing of

concerns, joys and disappointments, building teamwork and establishing trust as significant other outcomes to the informal mentoring structure. They concluded that their mentors helped them re-establish the comfort zone. It was concluded that a balance of support and challenge had been provided.

In conclusion, students who participated in the informal mentoring, have reported that the informal mentoring experience with such a challenging task was a lifeline. They believed their learning was deeper, richer and stronger as a result. In the words of one student who reflected on the interaction of the complex task and the informal mentoring relationship: "It was challenging, at times frustrating, but darn it, I learnt!" (EdP Student:103, 2003)

References

Albon, R. (2002). Learning through rich assessment and mediation in a university context. *Proceedings Lifelong Learning Conference 2002*. Yepoon, Central Queensland, Australia. http://www.library.cqu.edu.au/conference/papers/Albon.pdf

Clifford, E. F. & Green, V. P. (1996). The mentor-protégé relationship as a factor in preservice teacher education: A review of the literature. *Early Child Development and Care, 125*, 73-83.

Colton, A. B. & Sparks-Langer, G. M. (1993). A conceptual framework to guide the development of teacher reflection and decision-making. *Journal of Teacher Education*, 44, 45-54.

Elliot, B. & Calderhead, J. (1993). Mentoring for teacher development: Possibilities and caveats. In D. McIntyre, H. Hagger & M. Wilkin (Eds), *Mentoring: Perspectives on school-based teacher education* (pp. 166-189). London, UK: Kogan Page.

Feuerstein, R. (1980). What is mediated learning experience? [viewed 14 Feb 2001 at http://www.icelp.org/Pages/WhatIsMLE.htm, not found 4 Oct 2004, try http://www.icelp.org/asp/Basic_Theory.shtm#2]

Hawkey, K. (1997). Roles, responsibilities, and relationships in mentoring: A literature review and agenda for research. *Journal of Teacher Education*, 48, 325-335.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.

Piaget, J. (1952). *The origins of intelligence in children.* New York: Norton.

Reilly, J. (1992). *Mentorship – The essential guide for Sunshine Coast Region*, (1991) Mentor Program 1988-90, Sunshine Coast Education Centre, Queensland.

Street, C. (2004). Examining learning to teach through a social lens: How mentors guide newcomers into a professional community of learners. *Teacher Education Quarterly*, 31(2) 7-25.

Woolfolk, A. (2003). *Educational Psychology*. Pearson Allyn & Bacon.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA:MIT Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

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