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Examining how an Online Mentoring Model may support new Supplemental Instruction Leaders

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Examining how an Online Mentoring Model may support new Supplemental Instruction Leaders

A thesis submitted in fulfilment of the requirements of the award of the degree

Doctor of Philosophy

at the

University of Wollongong

by

Phillip John Dawson

BCompSci (Hons)

Faculty of Education

2010
I, Phillip Dawson, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Education, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Phillip Dawson

11th August 2010.
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This thesis is dedicated to Supplemental Instruction (SI) and Peer Assisted Study Sessions (PASS) leaders and supervisors. You help students so much and it is a pleasure to work with you.
Abstract

This study investigated online mentoring as a method of supporting inexperienced, geographically-dispersed Supplemental Instruction Leaders (SILs). Supplemental Instruction (SI) is an academic support program that employs successful senior students as SILs to facilitate regular peer learning sessions. Over 250,000 tertiary students attend SI each year worldwide (Arendale, 2002). Students who attend SI are more likely to succeed in their studies, achieve higher grades, and be retained at their institutions (Martin & Arendale, 1993). The Australian higher education sector has a need for initiatives like SI that support the success of non-traditional students (Bradley, Noonan, Nugent, & Scales, 2008); however such programs can be difficult to implement in multi-campus institutions (Winchester & Sterk, 2006). In this study, online mentoring was examined as a method of addressing some of the difficulties in supporting inexperienced SILs who are geographically isolated.

There is minimal research literature about the use of mentoring or community to support SILs, and none addressing the problem of supporting geographically-dispersed SILs. Online mentoring and community models have been used successfully in other contexts to support novices that are geographically isolated from potential mentors and their peers. SILs are different from mentees in most mentoring literature; traditional mentees are either career employees or students being mentored for their academic success. In this study, SILs are being supported for a part-time, fixed-term role that few intend to continue as a career.

The following research questions were investigated:

Research Question 1: What models are appropriate for mentoring geographically-dispersed Supplemental Instruction Leaders?

Research Question 2: In what ways does participation in an online SIL support program impact on mentors, mentees and community members?
The study consisted of two phases, each addressing the corresponding research question. In Phase 1, an exploratory qualitative study was conducted into the development of an online mentoring model for geographically-dispersed SILs. A new theoretical framework was developed from Social Learning Theory (Bandura, 1977) and Social Exchange Theory (Emerson, 1976; Homans, 1958) to inform the design of the model. This framework assisted in understanding how mentoring happens, and why mentors and mentees might participate in it.

In Phase 2 the model was investigated twice using a qualitative, multiple-case study methodology. There were 30 participants from six campuses of five Australasian universities in the first study, and 67 participants from 27 campuses of 25 academic institutions from three continents in the second study. Data were analysed using a deductive approach based on the theoretical framework. Key findings of this research were:

- A model for the mentoring of geographically-dispersed SILs.
- An understanding of the impacts of the model on participating SILs. Role modelling was found to be the component of mentoring most used for SIL development; this is interesting given Ensher, Heun and Blanchard’s (2003) proposition that “role modelling may be the function of mentoring that is least efficiently done in a virtual setting” (p. 273).
- A set of design variables for the development and expression of mentoring models. These variables address an identified need in the literature for clarity in academic communications about mentoring.
- A new theoretical framework for understanding mentoring. This framework provides a more comprehensive understanding of mentoring than either of its components.

This research has significance for online mentoring and higher education in general, and more specifically, the support of geographically-dispersed, part-time staff, such as SILs and university tutors or teaching assistants.
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Chapter 1: Introduction

The Australian federal government has set a target of having 40% of 25-34 year-olds possessing a bachelor-level qualification or higher in 2025 (Commonwealth of Australia, 2009). To achieve this, universities have been charged with increasing success and participation rates, particularly relating to under-represented groups such as non-traditional students and Australia’s rural and regional population (Bradley, et al., 2008). Initiatives to support student retention and completion that can be operated across distance will assist in achieving this goal. This thesis details a research investigation focused on how to support Supplemental Instruction, an initiative designed to promote student retention and success, at geographically-dispersed sites.

The Australian higher education system consists of 39 universities and approximately 150 other providers (Bradley, et al., 2008). A majority of Australian universities have multiple campuses or education access centres (Winchester & Sterk, 2006). These additional locations extend the reach and capacity of the institution, but carry with them problems of inefficiency (Bradley, et al., 2008) and difficulties in the provision of support services (Scott, Grebennikov, & Johnston, 2007; Winchester & Sterk, 2006). Multi-campus institutions also face higher operating costs due to travel (Kavanagh & Taysom, 1999), economies of scale, and duplication, but receive lower government funding per student than predominantly single-campus institutions (Scott, et al., 2007). Many multi-campus institutions operate in regional areas (Bradley, et al., 2008). Regional campuses provide access to higher education to communities that otherwise may have little access to this level of study.

To achieve the goal of having a higher proportion of the Australian population holding bachelor degrees, Bradley, et al. (2008) suggest that student success and completion rates need to increase. In addressing the complementary problem of student attrition, many institutions have implemented interventions designed to improve retention. Academic skills interventions are one approach
that can be successful at improving student academic performance and retention (Robbins, Oh, Le, & Button, 2009). These programs focus on supporting students to develop skills such as note-taking and summarising. One common academic skills intervention is Supplemental Instruction (SI), which was developed to address student retention at the University of Missouri–Kansas City (UMKC) in the 1970s.

Supplemental Instruction is a type of academic support program providing regularly-scheduled sessions attached to subjects with historically-high failure rates or high perception of difficulty. Developed at the University of Missouri–Kansas City (UMKC) in 1973, SI has been implemented at tertiary institutions in over thirty countries and is attended by 250,000 students annually (Arendale, 2002). In Australia, SI is commonly known as Peer Assisted Study Sessions (PASS) and is supported by the Australian National Centre for PASS operating at the University of Wollongong (UOW). UOW PASS has prepared staff at over 30 institutions in Australia, New Zealand and Asia to operate PASS.

SI is attached to specific ‘high-risk’ subjects, which are typically compulsory units of study that have high failure rates or a high perception of difficulty. The program integrates ‘how-to-learn’ with ‘what-to-learn’ in a series of peer-facilitated sessions that are voluntarily attended by students enrolled in these subjects. Research has demonstrated that those who do choose to attend receive higher final course grades and are more likely to persist in their studies than those students who do not attend (Martin & Arendale, 1993; US Department of Education, 1992). This comparison holds even after adjusting for prior academic achievement and ethnicity (Martin & Arendale, 1993). In addition to its benefits as an academic skills intervention, SI is often used as a First Year Experience (FYE) program as it assists in the development of social connections and learning communities (Tinto, 1998).

Typically SI Leaders (SILs) are academically successful students with good interpersonal skills. They are recruited by the SI Supervisor to run peer facilitated sessions. The SIL is not a tutor; their role is not to introduce new
content or ‘re-teach’ lecture material. Instead, the leader is responsible for facilitating discussion around course content and preparing activities such as group work or mock exams for their students. The students who attend SI sessions are responsible for teaching each other the course content and working together to solve problems. SILs act as ‘model students’ by attending lectures, taking notes, reading the materials assigned to the students and demonstrating effective study skills.

SILs typically receive a two-day training course prior to commencing their role. The training begins with a discussion about the issues first-year university students face, and also covers discipline-specific study skills, collaborative learning strategies and group management skills. Much of the training is delivered through role-plays in which every trainee takes a turn at playing the SIL while the other trainees act as students. At some stage in the training, experienced SILs from the same disciplines as the trainee SILs are available for question and answer time. By the end the training, each new SIL has a plan for their first session of the semester, which has been reviewed by the SI supervisor.

The original developers of SI prescribe that the SI supervisor should be present in every session that a new SIL facilitates for their first few weeks in the role. While this focus on quality assurance may have been achievable when institutions were first implementing SI on a limited basis, the growth of the program has made this level of supervision difficult particularly for those without dedicated full-time SI staff. To remedy this, the developers at UMKC suggest promoting some experienced SILs to be ‘Assistant SI Supervisors’. This provides flexible, inexpensive staff that have a good knowledge of the program and are able to assist with administrative and quality assurance duties.

While some institutions hire assistant supervisors as an extra layer of support for their SILs, others have experimented with mentoring. For example, traditional mentoring approaches have been implemented in which the mentors have been faculty members who have worked with the SILs on their preparation
and formally evaluated their sessions (Wolfe, 1991). Step-ahead mentoring approaches have been initiated at some institutions where more experienced SILs act as mentors and hold group mentoring sessions and also perform quality assurance duties (Murray, 1999, 2006). Whether institutions adopt a mentoring model and/or the employment of assistant supervisors, the primary aims are the support of SILs and quality assurance of the program. Mentoring schemes can focus more on role modelling and socialisation than traditional supervision approaches and have been shown in non-SI contexts to impact positively on job and career satisfaction (Ensher, Thomas, & Murphy, 2001).

**Problem**

Many Australian universities offer courses at multiple locations, and the provision of support services to students at those locations can be difficult. A recent review of quality audits from the Australian Universities Quality Agency showed that of 29 university audit reports, 21 had more than one campus (Winchester & Sterk, 2006). This has led to problems of “fragmentation, duplication, inconsistency and inequitability over a range of areas of activity” (p.1). One area of activity that Winchester and Sterk mention is the provision and support of academic assistance services.

As Supplemental Instruction programs expand to serve more subjects, delivered at multiple campuses, more SILs are required. They are often inexperienced in SI and geographically dispersed, making traditional SI supervision, face-to-face mentoring and informal SIL community-building difficult and costly. Inadequate support for SILs places the quality of the SI sessions at risk, and it can lower SIL retention rates.

While attempts to support SILs have been implemented in face-to-face modes, this delivery model does not address the support and quality assurance issues for inexperienced SILs when the SI program is implemented within subjects that are delivered across multiple university campuses. This is the case at the University of Wollongong as well as in numerous other Australian and overseas institutions.
At the University of Wollongong, the PASS program has faced the challenge of supporting its rapid expansion from supporting students from one faculty at the start of 2002 to supporting students in all nine faculties in 2007. Supporting SILs from a more diverse range of subjects, and at more than one campus, proved increasingly difficult.

The University of Wollongong has attempted to offer SI at satellite campuses and education centres, but the retention of SILs at these locations was less and the quality was lower than on main campus. Performing quality assurance activities was more expensive and time-consuming for remote campuses, and observation records indicated lower quality of sessions than on main campus. These difficulties led to a situation in 2007 when UOW PASS did not support students at satellite campuses at all, despite the fact that UOW students enrolled at these locations were taking many of the same subjects that had SI support on main campus.

Students at satellite campuses receive much of their education through various forms of educational technology (Caladine, 2001). Attempting to offer SI to satellite campus students through these technologies from main campus would not provide them with a role model SIL who can demonstrate successful strategies for studying under their conditions. However the use of these technologies may provide support for SILs at satellite campuses, these technologies may also help isolated SILs connect with a broader community of their peers than would be possible face-to-face.

**Purpose**

The purpose of this study is two-fold:

(1) to develop a model for mentoring new Supplemental Instruction Leaders that is facilitated by online technologies; and

(2) to examine how the model contributes to the development of SILs when it is implemented in multiple settings.
Mentoring can provide benefits such as information, role modelling and psychosocial support (Ensher, et al., 2001; Kram, 1983; Single & Single, 2005). Face-to-face mentoring approaches have been successfully applied to SI (Murray, 1999, 2006; Wolfe, 1991), however SILs in this study are geographically dispersed. An online mentoring model may provide a new cost-effective and manageable support, incorporating a community, such as a learning community (Swan & Shea, 2005) or community of practice (Wenger, 1998). The model may provide isolated SILs with access to a variety of supportive relationships.

**Research Questions**

While ‘online mentoring’ has been defined and discussed in the literature, a particular design suitable for SILs has not yet been explored, nor has an appropriate theoretical framework. This provides the motivation for the first question addressed by this research:

*Research Question 1: What models are appropriate for mentoring geographically-dispersed Supplemental Instruction Leaders?*

In addressing this question a model of mentoring is developed that also incorporates a community. To understand that model further and its influence on SILs, a second research question is addressed:

*Research Question 2: In what ways does participation in an online SIL support program impact on mentors, mentees and community members?*

In this research question the impact that the model has refers to any changes in the SILs that have occurred through their participation. This may be in relation to their SIL role or any other reported changes such as personal, study or career-related change.

**Significance**

SI is offered to 250,000 students around the world each year in over 30 countries (Arendale, 2002). Research into the support of SILs that is
transferrable to other institutions potentially has global significance in terms of helping to provide equitable access to SI at geographically-isolated satellite campuses.

This research may also assist in improving the quality of SI sessions for participants, and enhancing the experience of SILs. From a theoretical perspective, this research should help in formalizing some of the mentoring practices already being used with SILs as well as developing an understanding of how they function.

For multi-campus institutions, research that helps support SILs at geographically-isolated campuses has significance in terms of equitable access to support services. Support programs with high staff supervision requirements can be more difficult and costly to provide at satellite campuses, which can lead to students not being offered the same variety and level of support as those at main campuses. An understanding of how to support SILs at a distance would help inform the provision of teaching, learning and social support offerings at distributed educational institutions, and may lead to more equitable support offerings.

The quality of each SI session is limited by the ability of its leader to conform to the SI model. It is this model that has been verified as improving academic performance in terms of lowering failure rates and raising final grades of participants. Fidelity of implementation of the model has been shown to impact on the benefit students receive from SI (Arendale, 2001). If an online mentoring scheme for SILs helps them understand and faithfully enact the SI model, it will have significance in terms of quality assurance of SI programs.

SI is usually adopted by an institution because of its benefits to the student participants, but there are secondary benefits to the SILs (Stout & McDaniel, 2006). There are thousands of SILs worldwide, and understanding how to effectively mentor them will have impact beyond their involvement with SI. Mentoring relationships offer mentors and mentees significant benefits that
contribute to their general professional development (Garvey & Alred, 2000) and psychosocially towards their personal development (Ensher, et al., 2001).

SILs are atypical when compared with mentees in most mentoring studies, which most often focus on students being mentored for academic success or full-time employees or professionals being mentored for career success with a view to shaping future leaders. SILs are usually employed for 5-7 hours per week, with few planning to make a career out of SI. There is usually no prospect for promotion or wage increase. SILs are typically focused on their studies and on obtaining postgraduate employment. This research may also hold significance for other mentoring situations involving short-term, part-time employees.

**Structure**

The remaining seven chapters of this thesis are structured as follows: Chapter 2 presents a Literature Review, which examines research in the fields of Higher Education, Supplemental Instruction, Mentoring and Online Mentoring; Chapter 3 reports on preliminary research and an exploratory qualitative study that informed the development of the Online Mentoring Model; Chapter 4 discusses the development and review of the model; Chapter 5 describes the methodology of the multi-case study of the implementation of the model; Chapter 6 presents the results of Study 1 (i.e., the first implementation of the model); Chapter 7 details the results of Study 2 (i.e., the second implementation of the model); and finally, Chapter 8 discusses the findings and presents conclusions and recommendations.

The chapters represent the two phases of this research: Phase 1, in which a detailed model for mentoring geographically-dispersed SILs was investigated, developed and reviewed; and Phase 2, in which the model was studied in multiple settings. This is summarised in Figure 1-1.
As Figure 1-1 shows, Phase 1 is documented in Chapters 3 and 4, and Phase 2 is documented in Chapters 5 to 7.
Chapter 2: Literature Review

This research study spans multiple fields, covered by this chapter. Firstly, higher education literature is discussed, with a focus on geographic distribution of campuses, student retention and academic skills interventions. The literature in the field of Supplemental Instruction is then considered, followed by the mentoring literature. Finally, online mentoring is discussed.

Higher Education

Supplemental Instruction is implemented within a Higher Education context (Martin & Arendale, 1993). One characteristic of this context that is relevant to this study is the geographic dispersal of students at multiple sites (Bradley, et al., 2008; Winchester & Sterk, 2006). In order to provide courses across these sites, a variety of educational technologies are used, including videoconferencing. Supplemental Instruction seeks to provide peer-to-peer learning interactions to students, which can be lacking in a videoconference environment (Knipe & Lee, 2002; Saw, et al., 2008; Worthy, Arul, & Brickell, 2008). Another intended outcome of Supplemental Instruction is to increase student retention in higher education (Martin & Arendale, 1993; Tinto, 1994).

Student Learning at Multi-Campus Universities

Most Australian universities teach courses at multiple campuses or education access centres, a feature of higher education that Winchester and Sterk (2006) investigated through a review of Australian Universities Quality Association (AUQA) audits. They note that there has not been a prior study of Australian multi-campus universities. Finding issues of “fragmentation, duplication, inconsistency and inequitability over a range of areas of activity” (p. 164), Winchester and Sterk developed a series of multi-campus university models based on their review: ‘lost in space’, ‘planets in alignment’, ‘satellite’ and ‘birth of a new star’. No methodology is presented for the formation of these models beyond what is contained in the audit reports. Each model is presented with
example institutions and quotes from the audit reports. The ‘lost in space’ model is characterised by duplication and poor communication between sites. ‘Planets in alignment’ was a well-functioning model, with effective lines of communication and distributed leadership. The ‘satellite’ model is characterised by “one smaller, perhaps remote, constituent part that is marginalised, largely forgotten, perhaps exploited” (p. 168). Finally, the ‘birth of a new star’ model includes a high-performing campus that expands at a greater rate than the others. While Winchester and Sterk’s discussion is useful in understanding the institutional implications of multiple campuses, it does not discuss implications for students and learning. It does however identify the diversity in distributed campus environments, something a model to support students and SILs needs to take into consideration.

The notion of institutions being either single-campus or multi-campus by virtue of their number of campuses is challenged by Scott, Grebennikov and Johnston (2007), who suggest the concept of ‘multi-campusness’. They argue that some institutions predominantly operate from a single campus with small outreach centres that have a comparatively small student load and are thus not true ‘multi-campus’ universities. According to Scott, et al., multi-campusness is determined by the percentage of students that are not located at the main campus, with only 10 of Australia’s universities qualifying as ‘true’ multi-campus institutions. Their study investigated the relationship between mutli-campusness and student profile, funding, expenditure, and learning and teaching outcomes. In their analysis they considered the six universities most eligible for recognition as multi-campus institutions (<=50% enrolment on main campus) and the six least eligible (>=98% enrolment on main campus). Multi-campus institutions were found to have higher operating costs and lower income per student due in part to a student profile that contains a higher concentration of education and health-enrolled students and a lower concentration of natural and physical science-enrolled students. Despite this, no statistically-significant difference was found in teaching performance measures evaluated by the federal government. Although the findings of Scott, et al. are of interest to this research, the
restricted definition of ‘multi-campus’ reduces the validity of generalising their work. The many institutions that operate ‘satellite’ campuses or access centres (Winchester & Sterk, 2006) while having a majority of students at a single campus are intentionally excluded from the Scott et al. study or classed as single-campus institutions. Despite differing definitions, both Scott, et al., and Winchester and Sterk found that there are differences between single and multi-campus institutions.

In an attempt to understand the experience of learning and teaching in a multi-campus institution, Kavanagh and Taysom (1999) surveyed students and staff at the University of Queensland. The 40 students who responded to their survey indicated that they lost significant time travelling between campuses and that the cost of travel impacted negatively on them financially. Staff responses were similar with respect to time, and some of the 23 staff that responded also raised health and safety issues relating to travel. Both students and staff reported that teaching and learning were affected negatively as a consequence of classes being delivered across multiple campuses. Possibly due to the age of Kavanagh and Taysom’s (1999) study, or its institutional context, there is no mention of the possibility of using technology to address some of the negative outcomes for students. More recent research indicates that the student experience in a multi-campus higher education environment is often mediated by technology, and this is examined below.

Videoconference technology is often used to deliver lectures across diverse locations in an effort to address some of the concerns that Kavanagh and Taysom mention (Freeman, 1998; Knipe & Lee, 2002; Saw, et al., 2008; Worthy, et al., 2008). Freeman (1998) investigated the use of videoconferencing for teaching a large undergraduate business finance unit at the University of Technology Sydney. There were 250 students in the lecture at one campus and 80 at the other, with the teaching staff alternating between campuses so that both audiences would experience some face-to-face and some videoconferenced lectures. Through interviews, focus groups, surveys and diaries, data were gathered about the student experience of the subject. Overall
student satisfaction was lower than the previous year, when videoconferencing was not used. Further surveys revealed that 14% of students found videoconferenced lectures ‘useless’. In focus groups, 88% of students indicated that equity of access to the teaching staff was an important benefit of videoconference technology. On evaluating other positives and negatives of videoconference teaching, Freeman questions its cost-effectiveness as a solution to multi-campus teaching, noting that videoconferencing carried an additional cost of $53 per minute. Given the age of the study and the changes in bandwidth cost since it was conducted, this cost figure is dated. The authors’ confusion around standard bandwidth measurements also casts doubt on the accuracy of their cost calculations, as they appear to use kilobits per second and kilobytes per second interchangeably.

Freeman (1998) found that compared with the previous approach of duplication (delivering face-to-face lectures at both sites), videoconferencing was not a great improvement in many aspects:

students and staff felt the lecturing, learning activities and interactions were not improved. They were also slower. Other disadvantages were the time lost through technical difficulties and the greater likelihood for distractions at the remote campus. Students at the remote campus felt disadvantaged despite various preventative strategies.

(Freeman, 1998, p. 209)

Later studies echo Freeman’s finding of disadvantage to students at remote videoconference sites. Knipe and Lee’s (2002) study of videoconference teaching in a UK multi-campus university setting found that less time was spent on learning when compared with face-to-face lectures, and students felt isolated. Technical difficulties and unsuitable teaching strategies also had negative impacts on student learning. The study conducted by Worthy, et al. (2008) in an Australian multi-campus regional university setting produced similar findings regarding student learning and isolation. They also found that “peer to peer” interaction was uncommon due to “alienation and inhibitions” (p.
A related study by Saw, et al. (2008) in a Malaysian multi-campus higher education context also reported less peer-to-peer interaction in videoconferenced settings, although they attributed this to the individualistic nature of their course. Given the lack of peer-to-peer interaction in videoconference classes, support programs like SI that are centred on peer learning may be particularly suited to this context.

Learning Management Systems (LMS) are another educational technology that is often a part of course delivery in a multi-campus environment. Kilpatrick and Bound (2003) reviewed the literature on regional Australian students and online learning. Online learning was reported to require a set of academic skills different from those needed for face-to-face learning. Motivation, as well as cognitive and metacognitive skills, were of more importance in online settings. Interventions like SI that support the development of these skills may be particularly useful for students in regional environments.

**Academic Skills Interventions and Student Retention**

There is a significant body of research around academic skills interventions, which are designed to develop skills like those Kilpatrick and Bound (2003) discussed. Hattie, Biggs and Purdie (1996) conducted a meta-analysis of academic skills interventions and considered 1,415 articles, with 51 meeting their inclusion criteria. Among the numerous findings of their study, the greatest effect size was found for metacognitive interventions directly teaching mnemonic devices, an approach often used in SI. Those interventions were very successful in increasing student achievement. When acquisition of cognitive and metacognitive skills and affective development were considered in conjunction with academic performance, the interventions with the greatest combined effect were those that were situated and contextualised within the target content area. Generic ‘study skills’ packages presented out of context were found to be of only marginal effectiveness with college students. This may support the SI approach of presenting content and academic skills in an integrated manner.
One commonly-used theoretical conception of student retention in higher education is Tinto’s (1994) model that emphasises the role of socialisation and integration with campus life. Tinto supports the use of interventions such as Supplemental Instruction, which he finds supportive of socialisation and integration. Bean and Eaton (2000, 2001) propose a shift from Tinto’s dominant sociologically informed model, arguing instead for a psychologically-informed approach. Bean and Eaton describe retention as a series of psychological processes on an individual level. In their model, students are retained if they possess or develop certain psychological characteristics. Bean and Eaton (2001) suggest that institutions should evaluate retention initiatives against four psychological growth criteria. Firstly, interventions should improve student attitudes towards social and academic involvement. They should also develop academic skills and social skills for academic settings. Interventions should improve student academic and social self-efficacy. Finally, interventions should increase students’ sense of control in academic and social settings.

The study of student retention in higher education is dependent on the context and characteristics of individual students. Bean and Metzner (1985) cautioned against viewing students as a homogeneous group when considering retention. They argue that non-traditional students enrolled at different types of campuses need retention initiatives tailored to their needs.

The literature reviewed indicates desirable characteristics for an intervention to support student retention and success in a multi-campus university setting. Socialisation should be a component of the intervention, as this is supported by theoretical work (Bean & Eaton, 2001; Tinto, 1994), and potentially less common in a videoconference setting (Freeman, 1998; Knipe & Lee, 2002; Worthy, et al., 2008). Academic skills development should be a component of an intervention, however the skills should be situated in a disciplinary context rather than presented generically (Hattie, et al., 1996). Self-management is particularly necessary in online environments for regional learners (Kilpatrick & Bound, 2003) so these strategies should also be taught. One intervention that
combines all of these approaches is Supplemental Instruction, which is discussed in the next section of this review.

**Supplemental Instruction**

Supplemental Instruction builds upon a broad base of peer learning theory (Martin & Arendale, 1993), most notably the work of Vygotsky (1978) and Bandura (1977). Peer learning is a broad field and may include many types of learning activities united by the concept that students learn through interaction with each other (Oxford, 1997). Martin and Arendale (1993) place SI into the particular category of collaborative peer group learning. Tinto (1998) discusses SI as an initiative that can help first-year university students connect socially and lead to the establishment of learning communities, which he regards as important for student retention. SI sessions integrate content and skills for a specific university subject, and thus take the more effective situated approach rather than being a generic academic skills workshop (Hattie, et al., 1996).

In SI sessions, students learn with the assistance of their peers and the leader. Using Vygotsky’s (1978) theory this can be conceptualised as a transition through the student’s Zone of Proximal Development (ZPD). Vygotsky theorised that learners can achieve some outcomes on their own, but for many outcomes to be achieved they require the assistance of more capable others. The ZPD is the difference between these outcomes. Within the SI context these ‘more capable others’ are the group members and the SIL. Learning in SI occurs as students collaborate on activities within their individual ZPD. With the group’s assistance, students are able to do things they could not do on their own. This helps them to learn by moving the activity or knowledge from their ZPD into what they are capable of on their own.

As successful students, SILs act as role models to their students both in their sessions and in their other duties. This modelling includes, for example, planning their study timetable, taking notes in lectures, or describing their metacognitive approach to solving a particular problem. Bandura’s (1977) Social Learning Theory can help in understanding this type of learning as it
conceptualises the modelling of behaviours. For SI, Bandura’s theory describes how students best learn modelled behaviour, which is through observing, coding, enacting symbolically and then enacting overtly the behaviour. Bandura proposes that students are more likely to adopt these behaviours if the model is similar to them, holds admired status, and if the behaviour modelled is perceived as of value to the student. Within SI, the models are typically other students or the SIL. Bandura’s theory complements Vygotsky’s; both are concerned with students learning with the assistance of others. Bandura’s theory is based on experimental studies (for example, Bandura, Ross, & Ross, 1963) and the work of earlier theorists. In later works he extended and revised his theories about role modelling, producing his Social Cognitive Theory (1986). Bandura’s earlier (1977) work is used in this study as it informed the development of Supplemental Instruction (Hurley, Jacobs, & Gilbert, 2006), and it included a focus on role modelling.

Modern literature that builds upon Vygotsky and Bandura’s work has a variety of classifications for the type of peer learning pedagogy that SI employs. While Oxford (1997) discusses collaborative learning, cooperative learning and interaction as the three important categories of peer learning, Topping (2005) identifies peer tutoring and cooperative learning. Of Oxford’s categories, SI fits best into collaborative learning, which can be described as being learner-centred, with the role of the teacher being to provide assistance and guidance rather than a rigid structure. Topping’s cooperative learning focuses on “structuring positive interdependence” (p. 632, citing Slavin, 1990) and is distinguished from peer tutoring which has a focus on curriculum content and clear procedures for the tutor role and interaction. Martin and Arendale (1993) describe SI as “collaborative peer group learning” (p. 5), but do not provide a rigid definition for this. Some features of collaborative learning that Martin and Arendale describe are: facilitated interactions between learners; rehearsal of content and associated skills; a safe and non-threatening environment; and shared goals.
Although SI shares some features with other academic support interventions, it has a philosophical difference in terms of the way it targets students. This is described by Martin and Arendale (1993), who differentiate SI from traditional North American tutorial practices. They relate tutoring to a medical model, which relies on “diagnosis” of the student’s academic problems based on “prior history and diagnostic testing”, “self-referral in response to perceived symptoms” or “referral by another professional in response to observed symptoms” (pp. 1-2). Martin and Arendale (1993) identify many weaknesses with this model, including the stigma attached to such remedial tutoring, and students’ reluctance to refer themselves. Citing Somers’ (1988) review on the causes of marginal performance by developmental students, Martin and Arendale claim “whether through denial, pride, or ignorance, students who need help the most are least likely to request it” (Martin & Arendale, 1993, p. 2). An alternative model, SI, is described that mainstreams academic assistance and is differentiated from the medical model through voluntary participation and its availability to all students rather than only those with a ‘diagnosed’ problem.

There is a large body of research on Supplemental Instruction, much of which is indexed by the University of Missouri–Kansas City (UMKC) in an online annotated bibliography (SI Staff from UMKC, 2007). This literature review does not attempt to cover all of that research, but instead focuses on two sub-fields of SI: evaluations and mentoring studies. SI literature includes many evaluations of its effectiveness in terms of student success (for example, McCarthy, Smuts, & Cossier, 1997). This review investigates some of these studies to understand the value of SI as this is important for the significance of this study. Initiatives to improve the quality of SI programs are also documented, including attempts at mentoring SILs in US (Wolfe, 1991) and Australian (Murray, 1999, 2006) SI contexts. These studies are relevant to this thesis as they may inform the design of a mentoring model.
Effectiveness of Supplemental Instruction

Understanding the effectiveness of SI for participating students helps to explain the importance of SI as an academic support activity – and in turn the importance of supporting SI Leaders. Martin and Arendale (1992) discuss the effectiveness of SI at lowering failure and withdrawal rates and improving final grades of students who attend. They refer to a certification by the United States Department of Education of SI as an ‘Exemplary Education Program’. Three specific claims were verified by the US Department of Education:

1. *Students participating in SI within the targeted high risk courses earn higher mean final course grades than students who do not participate in SI. This is still true when analysis controls for ethnicity and prior academic achievement.*

2. *Despite ethnicity and prior academic achievement, students participating in SI within targeted high risk courses succeed at a higher rate (withdraw at a lower rate and receive a lower percentage of [fail] final course grades) than those who do not participate in SI.*

3. *Students participating in SI persist at the institution (re-enroll and graduate) at higher rates than students who do not participate in SI.*


Evidence for these claims is provided from multiple quantitative evaluations of SI programs that are detailed in Martin and Arendale’s (1992) work. For Claims 1 and 2, National SI data for the USA were analysed from 49 institutions, representing 1,447 individual subjects and an undisclosed number of students. Data from three studies (n=1,689, 349, 1,628) into student persistence and SI at the University of Missouri – Kansas City were used for Claim 3. These claims were audited by the US Department of Education.

McCarthy, Smuts and Cosser (1997) present a critique of previous attempts to assess the effectiveness of SI. They argue that previous research that treats the independent variable of SI attendance as binary (i.e., students either attended...
or did not attend) is simplistic; they suggest that SI attendance is better represented by a discrete variable for the number of sessions attended. They are also critical of studies that attempt to control for self-selection by using student results from high school entry scores and claim that it is not appropriate to assume that such results are highly correlated with student success in tertiary study. Results from their own case study of SI at the University of Witwatersrand, South Africa, do however concur with the findings of other research in that they find SI to be effective in raising academic performance of students of both high and low ability (McCarthy, et al., 1997).

Despite the concerns of McCarthy, et al., there is limited research that controls for motivation rather than prior academic achievement, and treats SI attendance as a discrete rather than a binary variable. Some studies into the effectiveness of SI (for example, Bowles & Jones, 2003; Congos, 2001; Hensen & Shelley, 2003; Hodges, Dochen, & Joy, 2001) do not cite the work of McCarthy, et al., and appear to be unaware of the issues they raise. Even Bowles, McCoy and Bates (2008), who do cite the work of McCarthy et al., albeit incorrectly referenced, view motivation as a function of prior academic achievement, and treat students as either having attended SI or not having attended it.

A further complication in evaluating the effectiveness of SI is in the choice of dependent variable. Student academic performance is one common choice, however Ashwin (2003) argues that it does not necessarily correlate with student learning. Ashwin’s mixed methods study into the learning that occurred in peer learning sessions concurred with previous research that students who attend this sort of program are more likely to succeed in their studies. The quantitative component of Ashwin’s study revealed that students who attended adopted less ‘meaning oriented’ approaches to their studies. The qualitative component of their study indicated that attending students developed an “increased awareness of the assessment demands of the course and that these students had become more strategically orientated in their approach to studying” (p. 159). Ashwin argues that although students who attended peer
learning sessions were more likely to succeed in their studies they had a lower quality of learning.

McCarthy, et al. and Ashwin raise concerns about the quality of evaluation of studies of SI. Three studies from a US context are examined below that address particular methodological issues they raise. Two of these studies have larger sample sizes (Hensen & Shelley, 2003; Kochenour, et al., 1997) and the other explicitly controls for motivation using means other than prior academic achievement (Hodges, et al., 2001).

Kochenour, et al. (1997) indicated a concern with the research used to support SI, finding from a critical review of the literature that “much is anecdotal, is based on small or nonrepresentative samples, or does not adequately consider student ability as a possible explanation for the apparent “effect” of SI” (p. 578). They conducted an analysis of covariance study with a comparatively large sample population (n=11,000) to determine the relationship between SI attendance, prior academic achievement and success in the SI-attached subject. Their analysis found a strong positive relationship between SI attendance and student final grades that could not be explained by other predictors of academic success. On a continuous grading scale of 0-4, with 4 representing an ‘A’ grade, the average grade for students with a low level of SI attendance (defined as one or two attendances) was 0.277 points higher than non-attending students. Average or greater attendees (those who attended three or more times) achieved an average of 0.603 grade points higher.

Hensen and Shelley (2003) also conducted an analysis of covariance study with a population of 7,339 entry-level science and mathematics students. Those students who attended SI had lower average university entry scores, but they achieved higher final grades in their SI subject. Hensen and Shelley compare their findings with national data from UMKC and find them to be similar.

The SI model states that attendance is voluntary (Martin & Arendale, 1993), however Hodges, et al. (2001) found that SI was still effective when made mandatory. The participants in their study were the 432 students in an
introductory American history course that was split into four enrolment groupings (sections). Students enrolled in three of these sections were provided with voluntary SI, whereas students enrolled in the other section were mandated to attend. There were three groups of participants: mandatory SI, voluntary SI and non-SI. This study considers SI attendance as a binary variable, so any student from the three sections with voluntary SI who attended at least one session was in the voluntary group. Baker and Siryk’s (1984, as cited in Hodges, et al., 2001) Academic Motivation Scale was used to control for motivation. This tool is a pre- and post-motivation survey administered at the start and end of the semester. Hodges, et al. found that the students who voluntarily attended SI had significantly higher motivation scores than students who did not attend SI. Students in the mandatory SI group had the highest mean final grade and the highest percentage of ‘A’, ‘B’ or ‘C’ grades when compared with the voluntary or non-SI groups. The authors acknowledge that the students in the mandatory SI group may have attended SI more often than the voluntary SI students.

These recent studies reviewed here support the US Department of Education’s (1992) Claims 1 (SI students receive higher grades) and 2 (SI students have lower failure rates) in their validation of SI. The US Department of Education’s third validated claim relates to retention of students. Bowles, et al. (2008) conducted a study on the retention of 3,905 students using an earlier model by Bowles and Jones (2003). Selection bias was controlled for using measures of prior academic achievement. SI attendance was found to increase the probability of timely (within four years) graduation by 10.75%, a finding that is similar to those reported by Arendale (1997) and supports the third claim validated by the US Department of Education.

Congos (2001) argues that, based on existing research into the effectiveness of SI at increasing student retention, universities that implement SI benefit financially. In a hypothetical private US institution with an SI program that supports 100 students, SI is found to provide annual retained revenues of $525,000. Unfortunately Congos’ research is based on extrapolations of UMKC
retention data from Arendale (1997), which did not control for self-selection. Congos uses these data to claim that 10% of students who attend SI are retained when they otherwise would not be. The usefulness of Congos’ findings is questionable as they are based on flawed assumptions, however it does introduce a financial argument for SI.

The studies reviewed here demonstrate the effectiveness of the SI model in terms of student success and retention, which explains the importance of SI as an academic support intervention, and in turn the importance of supporting SI Leaders. The next section discusses the provision of mentoring support to SILs to assist them to implement the model.

**Mentoring SI Leaders**

Limited research has been conducted regarding the use of SILs in supervision or mentoring roles. The role of ‘Assistant SI Supervisor’ is briefly discussed in the SI Supervisor Manual (SI Staff from UMKC, 2005), and Murray (1999, 2006) cites the use of experienced SILs as mentors to inexperienced SILs as a benefit to the sustainability of his SI program. Wolfe (1991) describes using academics from other disciplines as mentors to SILs.

The SI Supervisor Manual (SI Staff from UMKC, 2005) describes the ‘Assistant SI Supervisor’ role as a subset of the SI Supervisor role. It is not described in a mentoring capacity; instead it is a way of catering for the increased administrative and supervisory workload that results from an expanding SI program. Murray (1999) regards the SIL role as very challenging, and views the use of assistant supervisors as a way of providing help and feedback regularly. Murray (2006) later refers to these assistant supervisors as mentors, and his descriptions of the role of mentor and assistant supervisor do not conflict with the SI Supervisor Manual’s descriptions. In both studies Murray makes no attempt to place this role within a mentoring framework. Murray also provides no indication of providing mentors with any additional training beyond their SIL training. Murray’s work is important to this thesis as it represents the only existing research on the mentoring of SILs at an Australian university.
Faculty members have taken on the role of mentors for SILs, such as Wolfe’s (1991) use of faculty members from a different discipline to the target subject as mentors. Wolfe’s intervention was designed to benefit both the faculty members and the SILs. Each faculty mentor participated as a student in all class activities of their target subject, and provided feedback to their SIL mentee and to the subject’s lecturer. Faculty members reported that they gained from the feedback they gave to each other, as well as from the experience of being a student again. Their mentoring of the SILs consisted of cooperatively planning the sessions, providing feedback and formal evaluation of a session halfway through the semester. Faculty mentors were trained in study skills and group learning, but the author makes no mention of training them in mentoring, nor is the role of faculty mentor linked with a theoretical model of mentoring.

Existing studies on mentoring of SILs are insufficient in addressing the problem at the core of this research: providing support to geographically-dispersed SILs. No-one of Murray (1999, 2006), Wolfe (1991), or the SI Supervisor Manual (SI Staff from UMKC, 2005) discusses the problem of providing support to SILs separated by distance. They also imply an overlap with the role of the supervisor; in some cases (for example, Arendale & McLaren, 1999) treating the terms *mentor* and *supervisor* as synonyms. Literature about mentoring SILs is also theoretically weak, with none of the articles reviewed considering mentoring within a theoretical framework. A further understanding of mentoring, based on the mentoring research literature, may assist in dealing with these deficiencies.

**Mentoring**

Research in mentoring is largely clustered within the disciplines of business and education (Ehrich, Hansford, & Tennent, 2001). Diverse theoretical frameworks are used to explain mentoring, including contributions from psychology (Bandura, 1977) as well as economics and sociology (Emerson, 1976; Homans, 1958). Benefits for mentees include learning, information and psychosocial
support (Single & Single, 2005), as well as role modelling and career support (Ensher, Heun, & Blanchard, 2003).

**Definition**

Before discussing mentoring in detail, a definition is necessary. Jacobi (1991), in her review of the mentoring literature that focuses on undergraduate student academic success, discussed the many differences between definitions of mentoring. Jacobi cited Wrightsman’s (1981) concern that

> there is a false sense of consensus, because at a superficial level everyone ‘knows’ what mentoring is. But closer examination indicates wide variation in operational definitions, leading to conclusions that are limited to the use of particular procedures … The result is that the concept is devalued, because everyone is using it loosely, without precision, and it may become a short-term fad


Jacobi also drew upon Merriam’s (1983) study of mentoring in personal development, academic and business settings to further reinforce the need for a definition. Merriam stated that “Clearly, how mentoring is defined determines the extent of mentoring found” (p. 165). This is an important statement for this research as it provides rationale for choosing a definition of mentoring.

From Jacobi’s review, a definition is arrived at that all studies included adhere to:

1. Mentoring relationships are helping relationships usually focused on achievement. The primary dynamic of the mentoring relationship is the assistance and support provided to the protégé by the mentor … further the mentor does not necessarily carry the formal authority of a supervisor or teacher.
2. Mentoring includes any or all of three broad components: (a) emotional and psychological support, (b) direct assistance with career and professional development, and (c) role modelling.

3. Mentoring relationships are reciprocal relationships … to differentiate the mentoring relationship from that of a client-based relationship, it might be added here that the benefits are other than fee for service.

4. Mentoring relationships are personal.

5. Relative to their protégés, mentors show greater experience, influence, and achievement within a particular organization or environment.

(Jacobi, 1991, p. 513)

Although Jacobi intended the above definition of mentoring to be a “lowest common denominator” (p. 512) definition, it excludes the possibility of peer mentoring by requiring mentors to “show greater experience, influence, and achievement”. For the universal definition Jacobi was intending, point 5 of the definition needs to be removed. A definition helps understand the components and outcomes of mentoring but to understand the processes behind mentoring this literature review turns to the theoretical literature.

**Theoretical frameworks**

Some mentoring literature draws upon theory to understand and inform the process in a conceptual way, however Ehrich et al. (2001) report that the use of or discussion of theory in mentoring research is uncommon. Their literature survey of 310 mentoring research papers, investigated the link between theory and practice. Only 35% of the 151 business-related mentoring articles in that set used a theory, framework or model of mentoring. For education-related papers the use of theory was even lower, with only 15% mentioning a theory, framework or model. The authors classify the theories that are mentioned in each discipline to find common theories. From their analysis of the literature, Ehrich, et al. identify some practical challenges for mentoring programs to address. These include support from management, clear communication of the
“aims, roles, rules and expectations” (p. 13) of the program to all involved, training of mentors, matching of mentors to mentees and monitoring and evaluation mechanisms.

One theory mentioned by Ehrich et al. (2001) is Social Exchange Theory, which draws upon behavioural psychology and economics to propose that people enter into voluntary relationships based on a rational cost-benefit analysis (Emerson, 1976; Homans, 1958). The theory relies upon the following propositions:

1. The Success Proposition. “For all actions taken by persons, the more often a particular action of a person is rewarded, the more likely the person is to perform that action” (under similar stimulus conditions)

2. The Stimulus Proposition. “If in the past the occurrence of a particular stimulus, or set of stimuli, has been the occasion on which a person’s action has been rewarded, then the more similar the present stimuli are to the past ones, the more likely the person is to perform the action, or some similar action, now”

3. The Deprivation-Satiation Proposition. “The more often in the recent past a person has received a particular reward, the less valuable any further unit of that reward becomes for him”

4. The Value Proposition. “The more valuable to a person is the result of his action, the more likely he is to perform the action”

5. The Rationality Proposition. “In choosing between alternative actions, a person will choose that one for which, as perceived by him at the time, the value, V, of the result, multiplied by the probability, p, of getting the result is the greater”

Adapted from Emerson (1976, pp. 339-340)

These propositions can be used to explain many of the processes behind mentoring interactions, such as why mentors and mentees choose to or not to participate in the relationship. Proposition 1, the Success Proposition, serves to
explain how positive feedback from mentors can lead to mentees adopting behaviours, and it can also serve to explain why mentors may choose to stay in the relationship. Proposition 3, the Deprivation-Satiation Proposition, can be used to understand mentor burn-out, a problem that occurs when a mentor over-commits to the mentoring program: the more the mentor receives the same reward, which may be appreciation from mentees or the coordinator of the mentoring program, the less valuable further units of that reward are.

Proposition 5, the Rationality Proposition, has been criticised for assuming ‘rationality’ among people (Emerson, 1976), which is to suggest that all actions are made based on a calculated, self-interested decision. Generous actions may appear to contradict proposition 5, however Emerson argues that even these actions are self-interested with an anticipation of a reward. Proposition 5 can therefore serve to help understand why people may choose to stay involved with a mentoring scheme. A mentoring model using Social Exchange Theory as part of its theoretical framework should attempt to ensure that it provides the outcomes that its participants value, and that they perceive a high probability of receiving such outcomes.

Ensher et al. (2001) used Social Exchange Theory to explain the nature of the mentoring relationship as one entered into based on a rational cost-benefit analysis. Their study described the differences between three types of mentors: traditional mentors, step-ahead mentors and peer mentors. They then performed analysis on 142 informal mentoring relationships using Scandura and Katerberg's (1988) 18-item Mentor Functions Questionnaire which measures three types of mentoring support: vocational support, role modelling and social support. Further questions were added to determine reciprocity, satisfaction with mentor, perceived career success and job satisfaction. They found that role modelling, reciprocity and vocational support predicted mentee satisfaction with their mentors. Mentee job satisfaction and perceived career success were found to be predicted by vocational support from the mentor. Traditional mentors, those much more experienced and senior in an organisation than their mentee, were found to offer significantly more vocational and role modelling support than
peer mentors, who are at the same level of experience and seniority, and step-ahead mentors, who are one level above the mentee in the organisational hierarchy. The Social Exchange Theory perspective of Ensher et al. motivated them to concentrate on costs and benefits; this helped them understand motivation and satisfaction with the mentoring relationship. Their study is important as it provides an example of the use of Social Exchange Theory to understand mentoring.

Another theoretical framework used for mentoring is Bandura’s (1977) Social Learning Theory, which helps to explain mentoring through concentrating on the learning of modelled behaviours. Applying Bandura’s terminology to mentoring, the mentor is the *model* and the mentee is the *observer*. Bandura claims that the highest level of observational learning happens when the observer organises and rehearses the behaviour symbolically then enacts it overtly. Organising the behaviour into other forms such as images, words or labels results in better retention of the behaviour instead of just passively observing. In Bandura’s framework the observer is more likely to adopt the modelled behaviour if they are similar to the model, if the model holds admired status and the behaviour results in outcomes valued by the observer. This theory has importance to the matching of mentors to mentees, and how the mentoring should be conducted.

Mentoring literature indicates that the mentor-mentee match is of importance to the success of a mentoring scheme (Ehrich, et al., 2001; Hale, 2000), and Social Learning Theory can inform the matching process. One characteristic of a desirable mentoring match is similarity between mentor and mentee. Within the context of a mentoring scheme for SILs this similarity could come from a variety of attributes. A mentor who is a SIL would hold similarity due to their role; further similarity could come from the academic discipline they support in their sessions or their own academic major. Additional similarity could come from demographic details like age or gender. Similar values, interests, or cultural backgrounds may also contribute to the success of observational learning.
Social Learning Theory recommends that models (mentors) hold status that is admired by their observer (mentee) for optimal learning. A mentor for SILs may hold admired status simply through being experienced as a SIL. Further admired status could come from seniority within an SI organisation, such as the mentor being given quality assurance responsibilities. Mentees may also admire other attributes of their mentor, such as academic achievement or mastery of a particular body of content that is relevant to their SI sessions. Endorsement by academic staff, SI staff or a mentoring program coordinator could also contribute to the mentor’s status, and ultimately their effectiveness as a role model for a particular SIL.

Social Learning Theory also provides guidance for the activities within mentoring relationships. Its focus on observational learning of modelled behaviours relates directly to the role modelling support commonly attributed to mentoring (Kram, 1985). As the target group of mentees is SILs who are not co-located with more senior SILs to act as informal role models, a framework that focuses on role modelling is particularly appropriate to this study.

Studies that focus on mentoring and that draw upon Social Learning Theory include Packard’s (2003) study of ‘web-based’ mentoring. Packard uses Bandura’s theory to inform the design of a mentoring model that emphasizes role modelling, citing Scandura and Williams’ (2001) assertion that role modelling is an important, distinct component of mentoring, separate from other components such as psychosocial support. Bandura’s theory is also applied in the related fields of coaching (Peel, 2005) and training (Pescuric & Byham, 1996).

Many other theoretical bases for mentoring exist (Ehrich, et al., 2001), and mentoring literature draws on theoretical literature from a variety of disciplines. The discipline of management has contributed Contingency Theory (Fiedler, 1964), which argues against prescriptive models as they ignore the nuances of each specific situation. Frameworks from education and psychology, such as Vygotskian theory, are used to explain mentoring (for example, Caffery, 2007;
Benefits of mentoring

Research into mentoring relationships identifies specific benefits for mentors and mentees, which have been classified here into four broad categories:

- Career support
- Psychosocial support
- Role modelling
- Learning and information support

There is significant overlap between the benefits reported for mentors and mentees in the literature due to reciprocity in the relationships, although this is less prevalent in career support. Mentors can provide mentees with career support through exposure and advocacy within the organisation (Kram, 1983). In addition to helping mentees achieve more rapid career advancement (Burke, McKeen, & McKenna, 1994; Schulz, 1995; Whitely, Dougherty, & Dereher, 1991), mentors can also help them evaluate how realistic and achievable their goals are within their current organisation (Schulz, 1995). The benefits of career support to mentors manifest in the success of the mentee; as the mentee succeeds the mentor expands their influence within the organisation. Kram (1983) labelled this ‘empowerment’ and found it to be the most important benefit for mentors:

[The mentor] experiences the capacity to support and to nurture and, in doing so, can note the extent to which s/he has influence in the organizational world. Not only is the [mentor] able to open doors, but s/he also is able to transmit values and skills that enhance the [mentee’s] capacities. These activities give rise to personal satisfaction and provide
Kram’s findings of empowerment for mentors come from an organisation with intertwined managerial and mentoring relationships. Eleven of the 18 mentoring relationships in Kram’s exploratory qualitative study were also managerial reporting relationships. Managers will often establish a mentoring relationship with staff who report to them, but the power relationship is unequal. While the manager may feel that they have empowered staff who report to them, the staff may not feel the same. Even though an intertwined mentoring and reporting relationship may be beneficial, it becomes difficult to identify which part of the relationship contributed to the perceived benefit. This consideration is important to the context of this thesis, as some existing mentoring schemes for SILs also combine elements of supervisory and mentoring relationships.

Psychological and social support, commonly conjoined into the term psychosocial support (Burke, et al., 1994; Kram, 1983; Schulz, 1995), is a category of benefits attributed to mentoring for mentor and mentee. Kram mentions friendship, acceptance and counselling as psychosocial benefits of mentoring, while Burke, et al. mention emotional support and confidentiality. Schulz focuses on psychosocial development through the mentoring relationship for mentor and mentee, finding that mentoring assists movement through ‘life stages’. According to Ragins and Scandura (1999), mentors can experience satisfaction and fulfilment from their relationship and these can be classed as psychosocial benefits. According to Kram’s study, in which mentors and mentees were multiple levels apart in their organisational hierarchy, some mentors appreciate the ‘energy’ and enthusiasm that mentees can bring into their lives.

Role modelling can be classed as a component of psychosocial support (Kram, 1983) or as a discrete class of benefits (Ensher, et al., 2003; Scandura & Katerberg, 1988). Regardless of classification, role modelling is a type of benefit
that can increase mentee satisfaction with a mentoring relationship (Ensher, et al., 2001) through demonstration of behaviours related to the mentee’s role by the mentor. Markus and Nurius (1986) describe one benefit of having a role model as that person being a ‘possible self’ of the mentee: a future identity that the mentee may be able to achieve. Within the context of this study, a possible self for a mentee may be a veteran SIL who has well-attended sessions.

Another intended outcome of role modelling is that mentees learn specific behaviours that may be applicable to their own work. For mentoring SILs, the specific behaviours necessary for high quality sessions will need investigation in the development of a mentoring model.

Learning and information support are closely related to role modelling support; the behaviours that are modelled in mentoring could be thought of as job-specific learning. Schulz (1995) finds “collaborative and experiential learning” (p. 57) from mentoring to be one of the most important components of adult development in her review of the literature. Finding learning to be reciprocal and experienced by mentors and mentees, Schulz describes the phenomenon of experienced school teachers learning new “ideas, theories and ways to teach” (p. 58) from new graduates as evidence of this reciprocity. Mentoring also encourages job-specific “self-examination and introspection” (p. 59). For SILs, acting as mentors may provide an opportunity for reflection and maintaining the currency of their SIL skills and knowledge.

In addition to learning skills and strategies for their job, mentoring can also assist mentees in learning information. The nature of this information is dependent on the context of the mentoring relationship. For a new employee, mentoring can increase the amount of company-specific information they learn compared with their peers who rely on co-workers for this information (Ostroff & Koslowski, 1993, in Schulz, 1995). In a university setting, students with academic staff as mentors have access to more information about course selection, academic goals, and navigating the institutional bureaucracy (Schulz, 1995). As potential mentee SILs are new employees in a university setting, job-
specific information and an increased ability to navigate the institutional bureaucracy may be beneficial to them.

Mentors and mentees are not the only beneficiaries of mentoring; organisations and society also benefit. Schulz (1995) conducted a review of the empirical literature with respect to the benefits that mentoring provides, and categorized the benefits as: benefits to the mentor; benefits to the mentee; benefits to organisations; and benefits to society. For organisations, mentoring “improves recruitment efforts, hastens the induction process, improves staffing plans, increases organisational communication, increases productivity and cost effectiveness, and enhances the delivery of products and services” (p. 62). Society was found to benefit from an increase in socialization; an increase in utilization of talents of otherwise underrepresented groups; and, in an aging population, a smoother transition between generations. Schulz’s review provides a summary of the benefits of mentoring, and shows that there are benefits for more parties than just mentors and mentees.

The benefits received from mentoring relationships may be influenced by characteristics of the mentor and mentee. Burke, McKeen and McKenna (1994) sought to understand the connection between personal/relationship characteristics and benefits received from mentoring. The 94 respondents to their survey were managerial employees in technology companies. They were asked to consider another employee whom they had positively influenced. It is noted that the term mentor was not used in their survey. Like Kram’s (1983) study, some relationships were also supervisory, but in this study ‘Direct line of supervision’ was treated as a variable in the analysis, with half of the mentors indicating a supervisory relationship. Burke, et al. found that similarity between mentor and mentee was correlated with benefits for the mentee. Their work highlights methodological challenges for dealing with existing informal mentoring relationships. Burke et al. acknowledge that collecting data about the benefits of mentoring from only the mentor is not ideal, and that data from mentor and mentee would help. They also cite concerns of a lack of a common definition of mentoring that are similar to those of Wrightsman (1981). Their
study assists in the understanding of some of the benefits of mentoring relationships.

Ragins and Scandura (1999) examined mentoring relationships in terms of expected cost-benefit. They developed a tool, the ‘Expected Costs and Benefits to Being a Mentor Instrument’ that asked potential mentors to rate their agreement with statements against a seven-point Likert scale. Their data were from 275 managers and executives. Through analysis with information about participant mentoring experiences, they found that potential mentors who had no experience with mentoring as mentor or mentee expected more costs and fewer benefits than those who had mentoring experiences, and those who had experienced mentoring reported that mentors get “a sense of satisfaction and fulfillment from mentoring relationships” (p. 504). Experience as both a mentor and mentee was correlated with an even more positive cost-benefit than experience with only one of these roles. Ragins and Scandura indirectly apply the terminology of Social Exchange Theory used by other researchers. For example they refer to the ‘costs’ of mentoring as described by other researchers as the ‘dark side’ (Long, 1997), ‘shadow side’ (Murphy, 1996) or ‘drawbacks’ (Single & Muller, 2001). Ragins and Scandura’s work is relevant to this thesis as it provides an understanding of some of the costs and benefits of mentoring from the perspective of the mentor.

**Concerns with mentoring**

Although some literature discusses only the benefits of mentoring, there is a growing body of research about the negative consequences of some mentoring relationships. Concerns with mentoring are typically focused on:

- Mentoring programs
- Relationships
- Mentors or mentees

Many problems with mentoring programs were found by Long (1997) in her review of the mentoring literature with respect to the negative consequences of
mentoring. She found a lack of awareness of these potential problems with mentoring. Particular problems with mentoring programs that were each identified from multiple empirical studies were:

- Poor planning of the mentoring process
- Unsuccessful matching
- Few available mentors – especially women
- Overuse of the available mentors
- Lack of access to mentoring for women and minority groups
- High visibility of the program
- Career advancement
- Insufficient, or termination of, resources

(Adapted from Long, 1997, pp. 120-121)

Long’s review provides a necessary understanding of the problems with mentoring, which is important in the design of a mentoring model. In addition to problems with mentoring programs, Long’s review identifies problems that can exist within mentoring relationships:

- Mentoring is time-consuming for all involved
- Lack of understanding of the mentoring process
- May create work tensions
- Reproduction of the mentor’s work style
- Poor relationships between mentor/mentee

(Adapted from Long, 1997, pp. 120-121)

The final concern, poor relationships between mentor and mentee, is further explored by Scandura (1998) in a literature survey on dysfunctional mentoring relationships. Adapting Duck’s categorization of dysfunctional close personal relationships Duck (1994), Scandura identifies four dysfunctional mentoring relationship types: Negative Relations; Sabotage; Difficulty; and Spoiling. The first, Negative Relations, is characterized by a power imbalance that may include bullying or exploitation. The second, Sabotage, leads to revenge or
ignoring the mentee. The third, Difficulty, comes from good intentions and psychosocial problems; while free of malice, it is characterized by disagreements and ultimatums. The fourth dysfunctional mentoring relationship is Spoiling, which occurs when a positive relationship is harmed by a perceived or actual betrayal. Scandura investigates why dysfunctional mentoring relationships continue, and theorises that they become mutually reinforcing: rather than end the relationship and suffer from withdrawal, it is easier to just continue.

Specific characteristics or behaviours of mentors or mentees can impact negatively on mentoring. Scandura noted that a power imbalance in the relationship can be abused by the mentor, leading to bullying or exploitation. While Scandura focused on the mentoring relationship, Eby and McManus (2004) concentrated on the role of the mentee in dysfunctional mentoring relationships. Citing Feldman’s concept of the ‘toxic protégé’ (Feldman, 1999) they gathered data from the mentor’s perspective. Of the 204 executives who participated in their study by filling out a survey, 161 had acted as a mentor, and 112 had experienced a mentoring relationship that was not beneficial to them. Eby and McManus’ results reinforce those of Scandura (1998) in theorizing about the negative types of relationships, as each type is present in the data of both. They identify characteristics or actions of mentees to make a relationship unbeneﬁcial, including: malevolent or benign deception; submissiveness; low performance; and an unwillingness to learn. Research in dysfunctional or negative mentoring relationships assists the development of a mentoring model by suggesting problems to avoid.

**Online Mentoring**

Online mentoring is a sub-field of mentoring and computer-mediated communication, combining elements of each. Some online mentoring studies are motivated by the desire to connect mentees who are not able to meet with a mentor face-to-face, or when there is an uneven number of mentors and mentees available.
Packard (2003) describes a ‘catch-22’ situation for female scientists mentoring female science students: there are not enough mentors for the number of female students enrolled; this situation will get worse as more females study science. Packard argues that access to a larger pool of mentors than those who are co-located with the mentee is required, and that online mentoring can enable this. This situation is similar to the problem faced by rapidly-expanding, geographically-dispersed SI programs, in which not having enough experienced SIL’s co-located with trainee and commencing SIL’s makes mentoring difficult.

Ensher, et al. (2003) describe access to potential mentors as one of the opportunities provided by online mentoring, which is a fusion of mentoring and computer-mediated communication. They balance this against some of the challenges that the online format poses. Miscommunication due to the difficulty of expressing humour or emotions can lead to misunderstandings that would not occur in a face-to-face situation; computer-mediated communication requires not only increased technical skills, but also increased communication skills in the media it supports. Ensuring the privacy of the mentor and mentee’s communication is another challenge introduced by the electronic format, although this is balanced against the opportunities offered to researchers from having a complete record of mentoring interactions.

**Computer-mediated communication**

Online mentoring is mentoring that is mediated by technology. Romiszowski and Mason (1996) provide a working definition of Computer Mediated Communication (CMC): “communication between different parties separated in space and/or time, mediated by interconnected computers” (p. 493). They discuss characteristics of CMC that make it different from other media, particularly its interactive nature and the potential for multi-way communications. CMC is described as either synchronous, which means that both parties are capable of communicating together at the same time, or asynchronous, in which communication occurs with some sort of time delay. A
definition of CMC and an understanding of its characteristics are helpful for
designing an online mentoring model.

Bordia (1997) conducted a synthesis of 18 experimental CMC studies. All
studies analysed involved random assignment of participants, and the CMC
used was primarily textual. Analysis of the studies intended to find the
similarities between them. As most of the studies involved only student
participants, Bordia claims that the results may not be externally valid, although
in the case of this research the applicability may be high as SILs are also
students. Bordia found some negative aspects common to the CMC groups, in
that there was a higher incidence of uninhibited behaviour and less choice shift
or attitudinal change than in face-to-face groups. In a mentoring context,
uninhibited behaviour such as insulting one’s mentor or excessive use of
inappropriate language may contribute negatively to the mentoring process. The
prospect of less choice shift or attitudinal change may impact negatively on the
effectiveness of feedback and role modelling from the mentor. Bordia found that
there was greater ‘equality of participation’ in CMC users than in face-to-face
group participants, as well as less normative social pressure. These benefits of
CMC relate directly to online mentoring, as equality of participation may
contribute to a perception of reciprocity in the relationship, and the lack of
normative pressure may decrease the perception of attempting to create
‘clones’ of the mentor (Packard, 2003).

Johnson (2006) conducted a review of CMC literature from educational settings
to identify the differences in learning between synchronous and asynchronous
technologies. A claim is made that despite a comprehensive search of the
literature, a “single true experiment” (p. 49) utilising random assignment to
synchronous or asynchronous technologies was not found. Most literature was
found to use case study methods and lacked objective measures of student
achievement. Johnson argues that this lack of evidence limits the discussion on
synchronous and asynchronous CMC. Despite this weakness in the research
literature, Johnson identifies advantages of asynchronous CMC from the
existing studies that are relevant to this research:
Asynchronous discussion facilitates student learning and higher level thinking skills perhaps due to the cognitive processing required in writing, time to reflect upon posted messages and consider written responses, and the public and permanent nature of online postings. Structured and mandated asynchronous discussion is associated with better cognitive outcomes than non-structured and optional discussion.

(Johnson, 2006, p. 51)

Johnson’s findings could be applied to the information or learning components of mentoring. The structuring of asynchronous online discussions has been further investigated by Schellens, Van Keer, De Wever and Valcke (2007), who found a need for consideration of task complexity and participant roles. Their study suggests that assigning participants to particular roles can increase the extent of knowledge construction for higher education students. This may support Johnson’s findings of an association between structure and better cognitive outcomes.

While Johnson found a lack of experimental studies, a review of the literature by Hrastinski and Keller (2007) found a lack of studies that contribute to theoretical knowledge. Their review spanned four journals that publish articles about education and CMC. Most of the articles in their review reported empirical research on text-based asynchronous CMC. The users of CMC in the studies Hrastinski and Keller reviewed were predominantly learners using it to communicate with other learners (85% of the studies). The authors found that CMC interactions between teachers were only rarely researched, with these studies representing only 8% of the articles reviewed. Citing Garrison and Anderson (2003, in Hrastinski & Keller, 2007) they argue that this type of interaction is “the basis of learning in an educational organisation” (Hrastinski & Keller, 2007, p. 73). A research study investigating interactions between SILs using CMC may contribute to this under-researched area, and may also contribute to the generation of theory.
Technology choice for mentoring

Online mentoring requires technology to mediate the interactions, and there are many choices to be made around which tools to use. In a study by Single and Muller (2001), Email was chosen as the communication medium for mentoring interactions as it allows for “construction of thoughtfully written messages without the pressure of immediately responding, as in oral communication” (p. 109). Their online mentoring program had 1,250 mentees in 1999–2000. This choice of technology may be appropriate for some parts of the mentoring role but for role modelling it may be particularly poor, as it does not provide a mechanism for the mentee to observe the mentor at work. Ensher, et al. (2003) propose that “role modelling may be the function of mentoring that is least efficiently done in a virtual setting” (p. 273). The increased use and availability of technologies such as video conferencing is proposed by Ensher, et al. as a possible enabler of more effective role modelling.

Some mentoring models use specifically-designed technologies, such as those developed by O’Neil, Weiler and Sha (2005). Based on a literature review, they formulated a list of five challenges online mentoring initiatives face that they attempt to resolve with software: building and describing a mentor pool; matching mentors and mentees; providing opportunities for just-in-time learning; limiting administrative overhead; and preventing mentor overload. The system that they developed facilitates mentoring matches, but all communication is either through email or a commercial collaboration tool called Knowledge Forum. Privacy is an issue with Knowledge Forum, as all communication is public to all members, even if they are not part of the mentoring match.

Mentoring studies in higher education settings sometimes use the same technologies that are used for course delivery; for example, the study of mentoring in an online pharmacy doctoral program (Alsharif, et al., 2006) or that of a peer mentoring initiative in online-only courses (Davies, 2004). This approach has the advantage that participants are already familiar with the tools available.
Ensher, et al. (2003) propose a typology of CMC roles in mentoring. Some mentoring initiatives are solely conducted through CMC, and these are classified as CMC-only. Mentoring relationships that are mostly conducted through CMC but may have some face-to-face contact, such as an initial meeting, are CMC-primary. Those mentoring relationships that use CMC as a support to primarily face-to-face contact are CMC-supplemental. Given the concerns identified by Wrightsman (1981) and Jacobi (1991) about the need for a definition of mentoring, the role of technology needs to be equally clearly defined in research communications about online mentoring.

Online communities

Some mentoring schemes also implement a group online mentoring space or community as part of their model. Single and Single (2005) describe “group e-mentoring” (p. 316) as a supplement to dyadic online mentoring. Based on their review of the literature, they find that group e-mentoring

> provides additional opportunities for mentoring, exchanging information, peer mentoring, and group support. This feature provides a safety net when the e-mentoring pairs are floundering, disperses information to the program participants, and allows the mentors to engage in peer mentoring. There will be a core number of people who will participate in the group e-mentoring, a number who will lurk (read the postings to the e-lists but not respond), and a number who will choose not to participate.

(p. 316)

Group e-mentoring is a kind of online community, and differs from dyadic mentoring in terms of the number of people involved and the number of relationships. For this sort of community to be successful, Single and Single (2005) identify five features: it is topic-based; it reaches a critical mass of participants; it is facilitated; there are simultaneous discussion threads; and it is safe and supportive. This research is important to this study as it discusses incorporating a community within a mentoring model, rather than having the
community be the main focus as in learning community (Swan & Shea, 2005) or community of practice (Fox, Law, & Yuen, 2007; Wenger, 1998) models.

Gutke & Albion (2008) implemented an online mentoring model that also included a community; earlier qualitative and quantitative work by Albion and Weaver (2006) proposed that facilitators of online learning discussions should

- initiate and show enthusiasm for the discussion through their own contributions
- promote the value of discussions by drawing attention to contributions that promote learning
- generate questions to initiate discussion and debate
- moderate discussions or assign student moderators to structure discussion
- provide feedback, encouragement, guidance and support
- maintain direction – keeping discussions on track by periodic summaries and refocusing.

(p. 2456)

These findings elaborate on the guidance of Single and Single (2005) on the need for facilitation in group e-mentoring.

**Summary**

SI has been placed in a higher education context as an intervention designed to increase student success and retention. It has been described, particularly with respect to its effectiveness. The mentoring of SILs in face-to-face settings has been discussed. However, the research in this area is theoretically weak and does not address the problem of mentoring geographically-dispersed SILs.

Mentoring has been defined and framed within multiple theoretical perspectives. The benefits and problems of mentoring have been discussed. Online mentoring has been introduced, which provides access to a greater pool of potential mentors through the use of CMC. Choices regarding the role of
technology in mentoring, the specific technologies that are chosen, and the number of people in mentoring relationships have been discussed.

This study addresses a practical need: providing support to SILs who are geographically dispersed. In addition, it also addresses multiple gaps in the research literature: the absence of theoretically-based studies on mentoring SILs; the lack of literature around mentoring of fixed-term, part-time, non-career employees; and the lack of studies in these two areas that consider online mentoring as a method to address geographic dispersal.

The next chapter builds on this chapter by discussing the research that informed the online mentoring model used in this study.
Chapter 3: Research that informed the Development of the Online Mentoring Model

Introduction

This chapter documents an exploratory, qualitative study that informed the development of an online mentoring model for Supplemental Instruction Leaders (SILs) and in doing so contributes to addressing Research Question 1, “What models are appropriate for mentoring geographically-dispersed Supplemental Instruction Leaders?” The term model is used to represent a theoretical design for mentoring that can be operationalised as an implementation. This chapter is divided into two sections, representing two of the four steps in the model’s development:

Step 1. Development of a conceptual model. Design variables were identified based on the literature and context of the study and an initial conceptual model was developed.

Step 2. Research to inform the development of the detailed model. Supplemental Instruction Leaders (SILs), supervisors, and online mentoring practitioners were interviewed about the model. Data from these interviews were analysed and informed the development of a more detailed model.

In Chapter 4 the research conducted to develop and review the detailed model is described under Steps 3 and 4:

Step 3. Development of the detailed model. A model is specified in terms of the design variables identified in Step 1 using the data gathered in Step 2.
Step 4. Review of the model. SILs and Educational Technology Specialists were interviewed about the detailed model. Data from these interviews were analysed and informed revisions of the model.

**Step 1: Development of a conceptual model**

The goal of this step was to use the literature to inform the design of the model that addressed the purpose of this study. The process involved in the successful completion of Step 1 is described under the following headings:

- The definition of mentoring chosen
- The theoretical framework for mentoring adopted
- The meaning of the term ‘model’ used in this study
- Mentoring model design variables

**The Definition of mentoring chosen**

A “lowest common denominator” (Jacobi, 1991, p. 512) definition of mentoring is used in the development of the model to avoid omitting any component of mentoring that may be excluded by a narrower definition. Jacobi arrived at this definition through a study of the literature, which aimed to produce a broad all-encompassing definition of mentoring. Jacobi defines mentoring as:

1. **Mentoring relationships are helping relationships usually focused on achievement.** The primary dynamic of the mentoring relationship is the assistance and support provided to the protégé by the mentor … further the mentor does not necessarily carry the formal authority of a supervisor or teacher.

2. **Mentoring includes any or all of three broad components:** (a) emotional and psychological support, (b) direct assistance with career and professional development, and (c) role modelling.

3. **Mentoring relationships are reciprocal relationships** … to differentiate the mentoring relationship from that of a client-based relationship, it might be added here that the benefits are other than fee for service.
4. Mentoring relationships are personal.

5. Relative to their protégés, mentors show greater experience, influence, and achievement within a particular organisation or environment.

(Jacobi, 1991, p. 513)

**The theoretical framework for mentoring adopted**

This model draws upon Social Learning Theory (Bandura, 1977) to explain the mentoring process and Social Exchange Theory (Homans, 1958) to explain why mentors and mentees participate in the relationship. Each of these frameworks is used to explain mentoring from both an educational and a business context (Ehrich, et al., 2001).

Social Learning Theory and Social Exchange Theory are complementary when combined into a framework to describe mentoring. While Bandura’s is focused on role modelling and learning of behaviours, Social Exchange Theory focuses on the rational decisions made by mentor and mentee in beginning, maintaining and terminating the relationship. Figure 3-1 shows how these theories combine to produce one model for understanding online mentoring.
Figure 3-1. A Combined Social Exchange Theory and Social Learning Theory Framework for Understanding Mentoring
In Figure 3-1, Social Learning Theory contributes an understanding of how behaviours are learned. As discussed in Chapter 2, for optimal learning of modelled behaviours, Social Learning Theory suggests that the following conditions should be met:

1. The observer should organise and rehearse the behaviour symbolically before enacting it overtly
2. The behaviour should result in outcomes valued by the observer
3. The observer and model should be similar
4. The model should have admired status

Conditions 1 and 2 are parts of the modelling process. They inform a response to the Figure 3-1 question “How are behaviours learned?” by suggesting an optimal role-modelling process. There is some debate in the literature about role modelling in online mentoring, for example, the Ensher, et al. (2003) suggestion that role modelling may be the most difficult component of mentoring to take online. Although overt modelling may not be possible online, other types of modelling stimuli can be provided. Bandura’s research has included multiple studies and reviews on modelling that are mediated by technology; examples include his experimental study of aggressive behaviours learned from human and cartoon television models (Bandura, et al., 1963). In his more recent theoretical review of modelling in mass communication, (Bandura, 2001) writes:

*Modelling affects the adoption of new social practices and behaviour patterns in several ways. It instructs people about new ways of thinking and behaving by informative demonstration or description.* (p. 285)

Here Bandura has written about modelling stimuli in the form of “informative demonstration” and “description” in mass media. When discussing role modelling, this research is referring to a broad meaning of the term that includes descriptions of behaviours by models, rather than restricting the term to only include overt face-to-face modelling.
Conditions three and four help to respond to the Figure 3-1 question “Who are appropriate mentors?” by suggesting that they are similar to the mentee and hold some sort of admired status. In this model’s context, similarity of mentor and mentee may come from them both being SILs, or sharing an academic major. Admired status may come from experience as a SIL or formal recognition as a mentor.

Figure 3-1 also asks the questions “Why participate in mentoring?” and “Why adopt modelled behaviours?” both of which are addressed by Social Exchange Theory. In making the decision to participate in mentoring or adopt a modelled behaviour, mentors or mentees would base their decisions around a rational cost-benefit analysis. Costs may include the time taken to participate, and benefits could include the outcomes of a newly-learned behaviour.

**The meaning of the term ‘model’ used in this study**

A model is an abstract and concisely written document, whereas an implementation is a practical and detailed document. Thus a mentoring model does not document details, instead it is a more general specification. For example, many mentoring models include training, as do many documentations of mentoring interventions. A mentoring model’s description of training might specify the objectives of the training, the content to be covered and the approach to be taken, whereas a documentation of an implementation of a model would include the training materials and go into more detail about the operationalisation of the training; for example, strategies, time allocations and resources may be specified.

A discussion about mentoring requires that the term be defined and the characteristics of a particular mentoring program be communicated. Some work has been done to develop terminology to communicate components of a model of mentoring. For example, Ensher, et al. (2001) used the terms “step-ahead”, “peer” and “traditional” (p. 420) to describe the comparative levels of experience of mentor and mentee. They also used other terms like “group” and “dyadic” (p. 420) mentoring to symbolize the number of people involved in a mentoring
relationship. It needs to be acknowledged that the definition of mentoring adopted and the context of a mentoring program influence choices made about the design of the various sections of the mentoring model. During this research the term ‘design variable’ is used to refer to the choices that influence the design of the mentoring model.

**Mentoring model design variables**

A survey of the literature identified 20 mentoring model design variables. Each of them is discussed below using a consistent format. Each variable is named, defined, and justified with reference to the literature.

1. **Objectives:** _a projected state of affairs that the model plans to achieve_

   Mentoring models have different objectives; specifying them justifies other choices and provides evaluation criteria.

   (Ehrich, et al., 2001)

2. **Roles:** _what the mentors and mentees will do; their function; who they are; and which other people are involved_

   Mentoring models suggest different roles for the participants. It is necessary to know all the types of people involved in mentoring and the responsibilities of each.

   (Ehrich, et al., 2001; Hawkey, 1997)

3. **Relationships:** _the number of mentors and mentees involved in a relationship; what will happen between them_

   Mentoring is based around relationships, but the nature of these relationships varies between models. These relationships can be one-to-one (one mentor and one mentee); one-to-many (one mentor and many mentees); many-to-one
(many mentors and one mentee); or many-to-many (many mentors and many mentees). To appropriate a term from the fields of data relationship modelling and mathematical set theory, this can be referred to as cardinality. Another consideration in a mentoring model is the relative strength of relationship ties. Relationship tie strength considers frequency of communication, how reciprocal the relationship is, and the level of emotional affect in the relationship.


4. Time: the amount and regularity of time required

Specifying the time requirements helps clarify expectations for participants. Some models mandate set times, whereas other models are more flexible to the participants’ needs. Time influences the choice of synchronous or asynchronous technologies.

(Boyle & Boice, 1998; Feldman, 1999)

5. Selection: how mentors and mentees are chosen

Many mentoring models have criteria used to choose mentors; some extend this to mentees as well. Potential criteria include experience in an organisation or personal characteristics.

(Hale, 2000)

6. Matching: the method by which mentors and mentees are assigned to relationships

There is great variation in how matching is performed; examples include criteria-based matching and participant choice.

(Bandura, 1977; Ehrich, et al., 2001; Hale, 2000; O’Neill, et al., 2005)
7. Activities: actions that mentors and mentees can perform during their relationship

Different models involve mentors and mentees in different activities; specifying these clarifies mentoring to participants. Some potential activities include discussing work samples, troubleshooting political problems, and informal conversation.

(Raabe & Beehr, 2003; Rickard, 2004)

8. Tools: technological or other artefacts available to assist mentors and mentees

Mentoring models require varying tools; a high level specification of tools required informs the choice of actual physical tools. Online mentoring requires some sort of CMC tool. Some other examples of tools are questionnaires or observation forms that are filled out by mentors or mentees.

(O'Neill, et al., 2005)

9. Role of technology: whether technology will be the only mode of communication, the main mode of communication, a supplement to other modes of communication, or not used for communication at all

Technology can play many roles in mentoring. Specifying the role of technology clarifies the meaning of ‘online’ mentoring.

(Ensher, et al., 2003)
10. **Training**: *how necessary understandings and skills for mentoring will be developed in participants*

Some mentoring models include training about mentoring or the tools used to perform mentoring. This training is sometimes provided to mentors only and other times to mentors and mentees. Training could be ongoing throughout the model or in an intensive workshop at the start.

(Ehrich, et al., 2001; Single & Single, 2005)

11. **Marketing**: *how mentoring will be promoted to potential mentors and mentees and how they will be informed about it*

Marketing can take many forms; a model needs to specify how participants will be marketed-to on both an initial and an ongoing basis.

(Rickard, 2004)

12. **Resources**: *materials that will be provided to participants to assist them with mentoring*

Models provide different amounts and types of resources. Clarifying this makes resourcing and budgeting for the model simpler, and informs participants of the assistance that will be provided to them. Some examples of resources include reference materials or manuals, or a specified meeting place for mentoring.

(Single & Single, 2005)

13. **Expectations**: *what participants will be required, or deemed likely, to do*

Specific expectations on participants vary between models. Examples include expecting participants to report on their interactions, or make contact on a weekly basis.

(Ehrich, et al., 2001)
14. **Rewards**: *what participants will receive to compensate for their efforts*

Some models pay participants; some provide other sorts of reward. Rewards can be extrinsic, such as payment, or intrinsic, such as satisfaction from having helped a mentee. Specifying rewards is necessary to describe a model.

(Burke, et al., 1994; Kram, 1983; Ragins & Scandura, 1999; Schulz, 1995)

15. **Policy**: *a set of rules and guidelines on issues such as privacy or the use of technology*

Mentoring models vary in terms of policy. Some models don’t specify any policy whereas others have lengthy policy documents.

(Ehrich, et al., 2001; Ensher, et al., 2003)

16. **Interaction with context**: *how mentoring will impact on participants’ contexts, and how their contexts will impact on mentoring*

Mentoring models vary in how they interact with their participants’ contexts. This variable may include specifying the model’s interaction with supervision structures or how it relates to the host organisation’s administration.

(O’Neill, et al., 2005)

17. **Monitoring**: *what oversight will be performed, what actions will be taken under what circumstances, and by whom*

Some models don’t monitor participants at all, whereas others closely monitor all communications. Specifying the monitoring that will occur formalizes it to participants and the model’s coordinator.

(Ehrich, et al., 2001)
18. **Boundaries**: *a way of distinguishing between what sort of help is provided through mentoring and what is acceptable*

Some mentoring models encourage mentor and mentee to become close friends; some others encourage distance. Boundaries also assist in differentiating mentoring from other supports such as supervision.

(Raabe & Beehr, 2003; Simon & Eby, 2003)

19. **Termination**: *how relationships are ended*

Mentoring models terminate relationships in a variety of ways, with some including a “no-fault exit clause” and others having some sort of intervention by the program’s coordinators. Sometimes mentoring relationships don’t have a clear termination, whereas in other models there are procedures in place to end relationships.

(Ensher, et al., 2001; Scandura, 1998)

20. **Evaluation**: *the processes put in place for assessing the model and individual mentoring relationships*

Evaluation is important for improvement of the model, however procedures differ between models. Examples of evaluation processes include measuring participant job-based self-efficacy before and after a mentoring intervention, or surveying participants about their experiences. Some models employ research methods for evaluation.

(Single & Single, 2005)
Step 2: Research to develop the detailed model

This step of the study aims to address the design variables identified in Step 1 through consultation with SILs, SI supervisors and online mentoring practitioners. The outcomes of this step were:

- The support needs of SILs were better understood
- A detailed model of mentoring SILs was developed that addresses many of the variables identified in Step 1

Methodology

This step employed qualitative semi-structured interviews with three groups of participants: SILs, SI supervisors and online mentoring practitioners. The first two groups are actively involved with SI as practitioners, participants and researchers. As the intended users of the online mentoring model being developed, SILs are key informants to the design process. SI supervisors were interviewed, as they have an understanding of both SI and the requirements of SILs. They also are likely to influence organisational support of any program to be used by their Leaders. Interviews were analysed using a categorical aggregation approach (Creswell, 1998) to identify support needs and themes relevant to the design variables. Recruitment and participants are described separately below for each group, after which the interview schedules and analysis strategy are explained.
Recruitment and Participants

SILs

The recruitment strategy for SIL interviewees was formulated to provide a broad sample of academic disciplines (sciences or humanities), experience as a SIL (less than one year or greater than one year), and gender (male or female). All SILs to be approached knew the researcher and were to be interviewed face-to-face. They were given the option of an interviewer that was external to their SI program and the research team. The participant selection matrix shown in Table 3-1 was used to select SILs to approach about participating in interviews:

Table 3-1. Participant Selection Matrix for SILs

<table>
<thead>
<tr>
<th></th>
<th>Science/Maths/Computing</th>
<th>Arts/Law/Creative Arts/Commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience &lt; 1 year</td>
<td>1 male (recruited)</td>
<td>1 male (recruited)</td>
</tr>
<tr>
<td></td>
<td>1 female (recruited)</td>
<td>1 female (recruited)</td>
</tr>
<tr>
<td>Experience &gt; 1 year</td>
<td>1 male (recruited)</td>
<td>1 male (recruited)</td>
</tr>
<tr>
<td></td>
<td>1 female (recruited)</td>
<td>1 female (not recruited)</td>
</tr>
</tbody>
</table>

In total there were seven participants, as detailed in Table 3-1. A female experienced Arts/Law/Creative Arts/Commerce SIL was not recruited, although two were approached. One SIL also identified as a supervisor and is also counted in the next group of participants, SI Supervisors.

SI Supervisors

There were five SI supervisor participants and all knew the researcher. Recruitment was based on a strategy that provided a range of supervisor backgrounds such as years of experience as a supervisor (less than one year or greater than one year), employment as academic or general staff, and
placement within a faculty or a separate teaching and learning unit. A participant selection matrix is not provided here as it would provide identifying information about them. Interviews were conducted face-to-face or via email with optional telephone follow-up where that was not possible.

Online Mentoring Practitioners

Online mentoring practitioners who were known to the researcher’s supervisors or were authors of research studies in the field were also approached to participate in this research. They were interviewed either face-to-face or via email with optional telephone follow-up where that was not possible. There were three online mentoring practitioner participants.

Interview Schedules

Separate interview schedules were developed for each group of participants. These interview schedules are presented in Appendix 1 of this thesis. Initially questions devised by the researcher were revised based on feedback from colleagues at a faculty colloquium. The revised questions formed the draft interview schedules, trialled with one participant who had experience as a SIL and supervisor. Feedback from this participant was incorporated into the final interview schedules. The interview schedules were semi-structured, with most questions designed to provide prompts for discussion around issues rather than elicit particular responses. However some questions, such as those about the time potential mentors and mentees would be willing to commit to online mentoring, were meant to obtain specific information from interviewees.

Interview schedules, recruitment strategies and recruitment packages gained approval from the university’s Human Research Ethics Committee before potential participants were contacted. Documentation of ethics approval for this phase of the research is in Appendix 2. Four of the SI supervisors and two of the online mentoring practitioners were interviewed face-to-face, with the remainder interviewed by email. All SILs were interviewed face-to-face.
Analysis strategy

All face-to-face interview participants consented to audio recording. Transcribed audio recordings were sent to the interviewees for verification. Interviewees were invited to make any clarifications or additions to the transcriptions, and some did. After these changes were made, SIL and supervisor verified interview transcriptions were analysed using a categorical aggregation approach as the goal was to identify emerging issue-relevant meanings (Creswell, 1998). A direct interpretation (Creswell, 1998) approach was used to identify meaning from individual data points from interviews with online mentoring practitioners. These meanings were compared between participants. Direct interpretation was chosen as the participant responses were based on their own specific mentoring models and experience. Also considering each individual response provides a context for comparison.

Results

Data are reported according to the topic under discussion and the themes raised by interviewees. As SILs and supervisors were asked similar questions their responses are jointly reported to highlight points of similarity and difference. Online mentoring practitioner responses are then discussed.

For each topic the findings are organised under the main heading of topic discussed, then facilitating question(s) are presented, followed by SIL and supervisor responses. Each topic also ends with a brief summary.

SILs’ and supervisors’ ideas about the role of the SIL

To understand how SILs and supervisors viewed the role of the SIL, the following facilitating question was asked of them:

- “What do you see is the role of a PASS/SI Leader?”

SI supervisors described the role in terms of the duties and activities that they thought the Leader should do. The themes that emerged from discussions with supervisors were closely related to the role of the SIL as described in the UMKC
SI Supervisor manual. SILs provided a diverse range of responses to this question, with a focus on their duties, the desired outcomes of their role, and the meaning of their role in their life.

SI supervisors described the role of the Leader as preparing and facilitating SI sessions as well as being “a member of the SI team”. In preparing for the sessions, supervisors described their Leaders’ role as predicting where the students will encounter academic difficulties, and producing activities for the sessions that will help overcome these difficulties.

Some supervisors emphasised their view that SI exists primarily to improve students’ grades and understanding of subject content, and that other incidental benefits are appreciated but not an integral part of the role of the Leader. Some other supervisors focused more on these incidental benefits when discussing the Leader’s role. To them the development of “a sense of community” through a “positive, engaging atmosphere” in the sessions was a core responsibility of the SIL. All supervisors expressed that they hold their SILs in high regard, and for many supervisors contact with their SILs can be motivating, refreshing and inspiring.

The only supervisor interviewee who had also been an SI attendee and SIL described the SIL’s role as “helping people to learn, not so much teaching them but, more, giving them the skills to take away so that they ... can construct [an SI] environment in later times”. This supervisor placed emphasis on helping students acquire transferable academic skills and on the environment that is necessary to do this effectively, describing people in the sessions as his “mates”, and making an effort to differentiate himself from a tutor. Many other SILs also expressed their interpretation of their role by relating it to the role of a university tutor. This may have been influenced by an activity conducted during their pre-service training where they were asked to identify the similarities and differences between the roles of tutors, lecturers and SILs.
One SIL who has been heavily involved with tutoring, and has concurrently been the sole SIL and sole tutor on a subject, viewed the SIL’s role as a facilitator of a different kind of discussion about subject content, saying that:

“It’s a nice intellectual/pedagogical exercise, a little lab where for a few hours per week you can test different ways of getting things across to students outside the normal tutorial activities”.

Another SIL who had run sessions on one economics statistics subject for five consecutive semesters, viewed his role in terms of one of his other roles outside university, saying that “I lead a lot of Bible study groups, usually 8-10 [people] max … I joke sometimes with my mates that [SI] is just a secular Bible study where we study stats instead of the Bible”. This Leader said that the skills and techniques required for the two roles are very similar.

SILs often mentioned student development and transition support when talking about their role. One SIL interviewee described her role as “like life coaching, but for uni”, and went on to explain that the SIL helps students develop themselves to achieve at university, particularly in terms of becoming critical, independent thinkers, as well as assisting them with developing good study habits. Another Leader said that part of her role is to help students to become confident enough to ask for help not only in the session but also outside of the SI environment.

**Summary**

SILs and supervisors described the SIL’s role as including the following components:

- Academic support
- Social support and community building
- Skilling students for their current and future studies
Most difficult skills and challenging situations for SILs

To develop an understanding of the skills SILs find most difficult and the situations they find most challenging, the following questions were asked of SILs and supervisors:

• “What has been the most difficult skill or responsibility for you in your role?”

• “Tell me about the most challenging situation you have found yourself in as a PASS/SI Leader?”

• “From your experiences, what skills do PASS/SI Leaders have the most trouble with?”

SILs were asked what the most difficult skill or responsibility has been for them in their role as a SIL, and SI supervisors were asked the same question relating to the SILs they supervise. In addition to this, SILs were asked about the most challenging situation they have encountered as a Leader. All skills and difficulties raised by supervisors were also mentioned by SILs, however, the SILs also mentioned many more.

One recurring SIL difficulty mentioned by supervisors was management of group dynamics. One supervisor said that “measured surrender of control to the group” is the single most difficult part of being a SIL; they need to know when to intervene in the group process and when not to. The supervisor emphasized this as both extremely important and extremely difficult. Another supervisor mentioned that involving every student as a productive group member is the most difficult part of the Leader’s role. When discussing the management of group dynamics as a difficult skill, SILs focused on involving every student as being the most difficult aspect.

Preparation for SI sessions was commonly mentioned by both Leaders and supervisors as a difficult skill to master. Leaders and supervisors identified that preparing the right amount of exercises and activities to cover is difficult, particularly for new SILs. The common solution for beginning Leaders is to
“over-prepare” and come to the sessions with more material than the Leader expects to cover. One supervisor mentioned that this is not an effective solution as it can cause disappointment for the attending students who expect to cover all the material set by the Leader when determining the agenda at the beginning of the session. Over-preparing is also time-consuming and can interfere with study commitments, which can be frustrating for SILs, who are described by their supervisors as being very conscientious, high-achieving students. Leaders who accurately judge student completion times for their activities still find preparation challenging and one very experienced Leader stated that he finds it difficult to prepare something different and original for each week of the semester. Personal time management was also identified as a related difficulty by SILs, particularly when they are revisiting and re-learning lecture content they haven’t dealt with in years, or when the content has changed.

Re-teaching occurs when the SIL tries to lecture or provide direct instruction based on their own knowledge of the subject matter. Re-teaching was mentioned by SILs and supervisors as being difficult for SILs to avoid. One SI supervisor described the challenge as “how to be seen as a competent person when students really just want you to give them the answer”. Two SILs, both with one semester of experience, mentioned this as a challenge for them. Another supervisor described the problem more as one of student expectation management, and that the Leader needs to set up an environment in which students don’t expect to be able to come to SI and just be provided with answers; instead they should expect to be actively involved in collaborative learning. A related challenge raised by one SIL is how to direct the students away from an incorrect understanding of the topic under discussion without overtly telling them that they are wrong.

SILs and supervisors mentioned session size as a challenging issue for Leaders. Small sessions, which were described as being those with fewer than five students, were considered a challenge by supervisors primarily because they can make it difficult for the Leader to effectively establish a peer-learning environment. Also with fewer students in the room there are fewer students who
may have “the answers”, and more pressure on the Leader to reteach. One SIL said that it can be difficult to motivate herself and the students when numbers are small. Large SI sessions, those of more than 30 students, were also mentioned by Leaders as challenging, as they can make “classroom management” difficult, as well as making students reluctant to talk.

Some Leaders mentioned having difficulties with international students in their SI sessions. These difficulties were related to cultural and language differences, with one Leader describing a situation in which nobody in a session could correctly pronounce a particular student’s name, creating tension. Another Leader described her efforts to ensure that she talks slowly and clearly enough to be understood by international students in her sessions while avoiding sounding patronizing, as well as her efforts to get other students in her sessions to talk in a similar way.

Development of self-confidence was mentioned by two SILs as being personally challenging but required to be a successful SIL. One SIL, with one semester of experience, said that her lack of confidence in her ability as a SIL had impacted negatively on her sessions, and that this was identified by her supervisor as an area for improvement. The other Leader to mention self-confidence as a challenge was very experienced as a SIL but still found it “nerve-wracking” at the start of each session.

Overly-dominant “know it all” students were mentioned by SILs as difficult to deal with in their sessions. These students can leave other students feeling intimidated and not wanting to get involved or challenge the overly-dominant student. One leader described a particularly challenging situation in which an intoxicated student dominated the session. The leader said that the student was intoxicated enough to have both a very reduced understanding of the subject matter and a very increased confidence in his understanding of the subject matter.

SILs and supervisors mentioned that SILs and students need to have confidence in the SI model. One SIL described a situation in which he had
difficulty with a student who was openly challenging the SI model’s ability to help her learn the subject matter. The student claimed that by explaining her understanding of the content to another student and having it challenged by the group she had become confused and less knowledgeable. Another SIL described her own lack of confidence that the SI model would work on her subject when she commenced, as she hadn’t seen it applied there before. One of the supervisors identified a lack of confidence in the SI model as being an indicator that someone may not be suited to being a leader, and that if this was an issue during training then they probably wouldn’t be offered employment.

Other themes mentioned by SILs included believing that students in the group are actually gaining something from the session, making the session enjoyable, and retaining students. These themes were mentioned by the SI supervisor who was also a SIL and participant, and they were said to be linked. He said that he tells SILs that to retain students they need to be getting something out of attending, and that it has to be enjoyable, with the implication being that if students do keep attending then they must be enjoying themselves and gaining something from the session.

**Summary**

SILs and supervisors said that the following were the most difficult skills or the most challenging situations for SILs:

- Managing group dynamics and involving every student
- Preparing for sessions
- Avoiding ‘re-teaching’ subject matter
- Dealing with different session sizes
- Specific student types or characteristics, including dominant students or international students
- Self-confidence and confidence in the SI model
Skills development for SILs

To understand how SILs develop the skills they described as difficult, SILs and supervisors were asked the following questions:

- “How do they develop these skills?”
- “How have you developed [these skills]?”

While discussing the most difficult skills and challenging situations facing SILs, they were asked about how they developed their skills, and how they developed strategies to deal with the challenging situations they mentioned. SI supervisors were asked how their leaders develop the skills they mentioned as difficult. Supervisors most commonly mentioned the feedback they provide, with training, meetings with other SILs and a SIL manual also being mentioned often by most supervisor interviewees. SILs most commonly mentioned discussion with their peers, self-analysis and experience or “trial and error”.

When talking about their role in the skills development of SILs, most talked about providing feedback based on the performance of the leader in a formal observation of a session. One supervisor regarded this sort of feedback as the single most important method of skills development, saying that without it leaders “fumble through and might learn some of the things by the time they are finished, but it is by trial and error”. His view was that feedback accelerates skill acquisition dramatically when compared with relying solely on experiential learning. Two SILs identified “trial and error” as a way they developed their skills. The same supervisor also mentioned self-assessment as being an important part of the debriefing after a formal observation.

One supervisor thought the formal observations may be considered “intimidating” to the SIL, particularly in the first few weeks of the semester. This supervisor encouraged leaders to perform peer reviews of each other’s sessions both to prepare for the formal supervisor observation and as a way to improve the sessions. The supervisor who had also been a SIL and participant did not mention personally finding the reviews intimidating, but did describe his
approach when conducting the reviews as very tentative and non-authoritarian. He said that he presented his feedback as suggestions rather than criticism, and prefaced them by telling the leader that they are things he has learned that worked for him rather than rules or corrections. His observations of a leader would continue until he was happy with what the leader was doing.

SI supervisors considered issues of both pre-service and in-service training when they discussed skills development. Pre-service typically lasted for two days, and two supervisors mentioned having changed the delivery method of the training to be a facilitated session in which SI skills are modelled by the supervisor, while keeping the content of the training the same as the UMKC training suggestions. Some supervisors mentioned in-service training and one supervisor described professional development workshops that focused on specific topics, such as “assertive communication”, “intercultural communication” or “how to conduct peer reviews of SI sessions”. Other supervisors described semi-formal meetings with other SILs, facilitated by either the supervisor or a SIL, as an in-service training opportunity. The frequency of these meetings varied between weekly and a few times a semester.

Payment for participating in in-service training and meetings was raised as an issue by one supervisor, who held the view that leaders must be paid for compulsory in-service training. Contrasting with this, one supervisor said that their leaders were paid only for the SI sessions they facilitate and nothing else. Both supervisors said their leaders were required to participate in weekly meetings and prepare for their sessions.

Some supervisors mentioned a SIL manual, which was typically developed in-house or adapted from existing materials such as the UOW or UMKC manuals. One supervisor said that SILs are referred to the manual when they have problems as it contains a lot of resources and tips that work, but that they don’t use it frequently. No SIL that was interviewed mentioned a SIL manual, except the SIL who was also a supervisor.
SILs commonly said that they discussed difficult situations or skills with their peers, who were sometimes fellow leaders on the same subject, and other times leaders met during pre-service training or around campus. Leaders said that they would discuss things like difficult students or their preparation strategies for the coming week. These discussions were described as casual and informal by the leaders, and would often occur as leaders walked from class to class or when they were in the SI office. One SIL said that this was difficult to do if you were the only SIL on a subject, particularly as they were supporting an academic discipline that had previously not been supported by SI. They felt that such a situation posed some unique challenges that would best be addressed by someone from the same disciplinary background.

Self-analysis and reflection was commonly used by SILs for skills development. This was typically described as looking at what worked in the session and what didn’t and trying to do more of what worked. Self-analysis was used by SILs who reported being the only leader on their subject as well as those who were working with other leaders on the same subject. The technique was used by both new and experienced leaders. One leader described eliciting student feedback on her sessions as a way to help her own self-analysis.

Most SILs mentioned talking with their supervisors as a method of skills development. They said that these talks would sometimes occur after formal quality assurance checks; at other times the SIL would talk with the supervisor about difficult problems they were having when they were dealing with administrative duties in the SI office. One leader described this second type of discussion as “constant analysis of what is going on at a casual, low level”; as the only SIL on a subject this was a very useful support for him.

One less-commonly-mentioned method of developing skills was discussion with subject lecturers. This was mentioned by leaders who were on subjects that didn’t have a history of SI support at their university, and was mostly about developing preparation skills. Another SIL who was reassigned to a different discipline described reviewing previous SI material for the subject he was
newly-attached to, with the goal of trying to understand how to structure the session and how to ask questions about the content. This SIL also talked about using online resources, such as “MIT Open Courseware”, as source material to help him develop his preparation skills.

Summary

When discussing how SILs developed skills, the SILs and supervisors mentioned the following methods or sources of development:

- Feedback from formal observations, which was appreciated but thought to be intimidating by some interviewees
- Trial and error, which was regarded as less preferable than feedback
- Training, both pre-service and in-service
- A manual was mentioned by supervisors, although some suspected that it was not used often
- Discussion with supervisors or academics
- Self-analysis and discussion with other SILs
- Online resources

Supports available to SILs

To understand the support mechanisms that currently exist, SILs and supervisors were asked one of the following facilitating questions:

- “What support do you receive in your role as a PASS/SI Leader?”
- “What supports do your PASS/SI Leaders have access to?”

When asked about the supports available to their SILs, most supervisors said that SILs receive a lot of support. When discussing specific supports available to their leaders the most common responses mentioned assessments by more senior SILs, assessments by supervisors, social get-togethers and “open-door” or “drop-in” support from supervisors or office staff. SIL responses almost
unanimously mentioned “open-door” or “drop-in” support. Other common supports mentioned were informal meetings with other SILs, support from family and friends and administrative support. Three SIL respondents said that they thought there was a lot of support.

Always available, “open-door” or “drop-in” support was mentioned by a large majority of SILs as a support they appreciated, and was mentioned by two supervisors as a support available to their leaders. The researcher who was conducting the interviews has in the past provided this sort of support to some of the interviewees, including most of those who mentioned this theme. One supervisor described this support as mostly being about reassurance and maintaining contact. Frequency of use of this support was typically one or two times per week, and typically occurred when leaders were preparing for their sessions or performing their necessary administrative duties. One leader who has been the only SIL on the subjects he led for most semesters said “… as irritating as it is, having to hand in the attendance sheets every week is a useful support. It doesn’t even need to be thought of as support, more a constant connection with the [SI] office”. This leader said that he values “constant contact with somebody”, and that he appreciated the opportunity to talk. One SIL said that although she didn’t use the contact with people in the office as “support”, it was supportive to know that it was there. The presence in the office of administrative staff who were experienced SILs gave the support a “student touch” that was appreciated by one SIL. Only supervisors who had SI as the majority of their role mentioned providing “open-door” support. One supervisor for whom SI was not their main focus was the only supervisor to mention some sort of scheduled one-to-one support.

Formal assessments by supervisors were mentioned by both SILs and SI supervisors when discussing support. Assessments or “peer review” by other leaders, who were sometimes called “mentors” or “supervisors” was also commonly mentioned. Formal training for leaders on conducting assessments of their fellow leaders’ sessions was mentioned by one supervisor. Reported regularity of SIL assessment by supervisor or experienced SIL varied greatly.
Two supervisors said that SILs should have someone supervising every session, every week for their first semester, whereas some other supervisors saw intensive support in the first few weeks of semester as being most important.

Some SILs and supervisors said that formal assessment of sessions, particularly in the early weeks of semester, can be daunting for the leader and change the group dynamics. One leader suggested that the debriefing process after sessions should be less formal, and thought that the use of a formal assessment tool was not helpful. This leader said that he would prefer informal mentoring, including session evaluation, to be provided by a more experienced leader. Another leader described receiving formal mentoring, which included assessment of sessions, from an experienced ex-leader on the subject to which she was attached. She described her mentor as “just lovely” and very skilled at giving feedback. This leader said she rarely received negative feedback from her mentor, but was confident that if her mentor had a concern she would raise it with her.

Most leaders mentioned receiving informal support from their fellow leaders. For some leaders this would take place accidentally while walking to class on campus, or in the SI office. One leader described having a weekly dinner meeting with a fellow leader for the duration of their first semester. Formal, scheduled meetings were also mentioned by both leaders and supervisors. One leader mentioned appreciating formal meetings with all leaders, and talked about delivering a seminar to one meeting about re-teaching. Another leader said that in his first semester, a more senior leader was assigned the task of scheduling a formal meeting with all leaders on his discipline, and that this was initially comforting:

*There was a reassurance when I started that, three weeks time we’ll get all together and have a chat about how its going and I thought, that’s cool, in three weeks time we’ll all be able to get together and I’ll say what*
I’m having problems with and what went well, and then the more experienced leaders are going to give me some help.

Unfortunately that meeting did not happen, which the beginning leader said left him feeling “as though I was left in the dark … there was this promise of senior leaders helping me out and it never really eventuated, I don’t know why but it never really did”. This leader said that there needs to be more leader-to-leader contact, and went on to say that although the fellow leaders are colleagues, it doesn’t feel that way.

Some leaders said that they receive support from family and friends. For one leader this took the form of help with preparation from a relative who is a school teacher, for another it was having family and friends who were encouraging and helpful with pre-session nerves.

Help with administration was mentioned by two SILs as being a component of the support they receive. These leaders mentioned “behind the scenes” support such as timetabling, and having a space with IT resources as things that help them with their job. One of these leaders said that the leader’s role would be too much if they were required to do the behind-the-scenes administrative tasks. One long-term leader who had been the only leader on a subject also felt supported by the recruitment of an additional leader to deal with problems of session overcrowding.

SI supervisors identified social events as part of the support offered to leaders; these events may take the form of a BBQ breakfast before a planning meeting, or an afternoon tea afterwards to celebrate a successful semester. Post-SI support of leaders was also mentioned by two supervisors, which included some sort of ceremony for leaders to acknowledge their contribution, and acting as a referee for leaders applying for jobs.

Some SILs said that they received support from teaching staff on the subjects they were attached to. This was said to vary from semester to semester, as the teaching staff attached to SI subjects would change. The support received from
teaching staff was largely based on help with preparation for sessions, with some teaching staff offering to review preparation work for leaders. One leader said that the lecturer on the SI-attached subject took the leaders on that subject out to lunch at the end of the semester to show her appreciation of their efforts.

SIL support-seeking behaviours varied greatly; one supervisor said that leaders are happy to work on their own and seek help when they require it, whereas others like being part of the “SI team”. Those SILs who did describe their support-seeking behaviours mentioned either being “pro-active” in seeking support, or being aware that the support existed or appreciating it but not using it. Leader attitudes to support varied; it was not uncommon to find a leader who appreciated and used one sort of support but acknowledged the existence of another support and said it wasn’t required for them. An example was an experienced leader who appreciated the open-door, drop-in support from the SI office but also mentioned informal meetings with other leaders as a support he never had to use but was “comforted that they were there”. One supervisor said that the support needed was related to the leader’s “personality type”, and that this can influence how satisfying it is to be the only leader at a satellite campus, or the only one on a particular subject. This supervisor said that when supporting SILs on satellite campuses a combination of email and phone support was used successfully.

**Summary**

According to the SILs and supervisors interviewed, SILs receive a variety of support, including:

- Assessments by supervisors, senior SILs or other staff
- Open-door or drop-in support
- Informal meetings with other SILs
- Support from family, friends, and academics
• Administrative and IT support

• Social events

Some said that they receive a large amount of support, although one SIL commented on the importance of delivering the support that is promised.

**Reasons for wanting to be a SIL**

To understand why students choose to become SILs, supervisors and SILs were each asked one of the following questions:

• Why do you choose to be a PASS/SI Leader?

• Why do you think your PASS/SI Leaders choose to take on that role?

They were prompted to provide responses relating both to the initial decision to be a leader and the ongoing decision to stay involved. Themes mentioned by supervisors formed a subset of the more diverse set of themes mentioned by leaders. Two themes commonly mentioned by SILs and supervisors were personal and professional development, as well as money. Many leaders and supervisors also mentioned personal satisfaction, a desire to give something back to their university and a chance to revisit subject content.

Professional and personal development was described in different ways by different interviewees. One leader said that it is more of a facilitative role than a teaching role and the skills gained are “more social than pedagogical”. This may be reflected in the responses from supervisors and other leaders, as their responses did not describe the personal or professional development in terms of teaching skills, although one leader did say that she originally joined SI to use it as a stepping-stone to becoming a university tutor. Communication skills and self-confidence were themes common among supervisor and leader responses, with supervisors also mentioning leadership skills. Leaders additionally mentioned the development of organisational skills and the “ability to think on my feet”. The leader who ran the Bible study groups said that he found that both roles use and develop the same sorts of skills.
Money was also a major motivator mentioned by SILs and supervisors. The SIL’s job was differentiated from other student jobs by the “high hourly rate”, which for the interviewed leaders would have been roughly 50% more than other student jobs in retail or hospitality. It was also differentiated as being a more fulfilling way to earn a student income than “waiting on tables”. One interviewee said that the researcher conducting the interviews, who also sent out SIL recruitment emails to students, must view money as an important motivator as it is one of the first things mentioned in the recruitment emails.

Money was a motivator mentioned by supervisors at both high-paying and low-paying institutions, which is interesting given the variance in pay between these categories. A leader at a higher-paying institution would be likely to earn more than five times the amount a leader at a lower-paying institution would over the course of a semester. Payment varied in terms of both the hourly rate and the hours leaders were paid to work, as well as the hours leaders were expected to work unpaid.

Supervisors said that their leaders gained a sense of satisfaction from their role, and this was also commonly mentioned by leaders. Leaders said that this sense of satisfaction came from many things, including retaining students, believing that the students were being helped academically and that the leader was helping with transition issues. Two leaders said that they are SILs “because I’m good at it” or “because I’m good at what I do and I like being good at what I do”. An associated theme was “the desire to give something back”, which was mentioned by supervisors and leaders.

SI leaders and supervisors mentioned that leaders get a chance to revisit subject content they may not have dealt with since they studied the subject they are attached to. For science-based SI leaders this was described as a chance to relearn content they may have forgotten, whereas some humanities-based leaders said that SI gives them the opportunity to hear different views on the subject matter presented by students. Some leaders reported a deeper level of understanding of the subject matter they are covering.
Two SILs mentioned that they attended SI as students and that this was part of their motivation for wanting to be a SIL. Both of these leaders said that they enjoyed attending as students, and one said that when she attended she thought, “I could do a better job than that”. They were also the only leaders that mentioned their belief and confidence in the SI model was a motivator for wanting to be a SIL. SI supervisors mentioned that some leaders have wanted to become involved after attending as students, or because of the reputation of SI at their institution. One leader said that he thought the benefits for leaders are greater than the benefits for students.

Most SILs said that they choose to continue to be SILs because they enjoy it. In addition to enjoying the role some leaders said that they found it interesting. For some leaders, the role itself was interesting, whereas for others the new way of covering content about a subject they liked was interesting. One supervisor also said that she thought that her leaders want to be SILs because it provides them with the chance to stay involved with the learning and teaching of subject content that they love.

Some leaders mentioned “resume building” as one motivation for wanting to be a SIL. They believed that being a SIL would be a positive contributor to their employability when they graduated. Some other reasons mentioned were it was part of a plan to become a university tutor, and the desire to have a credible university referee who knows them on a personal and professional level.

Two SILs said that one of the reasons they choose to continue with the role is the level of freedom and creativity it allows them when helping students learn. One of these leaders has had many semesters of experience as a university tutor but chooses to stay with SI because it allows a different way of looking at the content.

SI leaders and supervisors said that the friendships developed by leaders can be motivating factors. These friendships are typically with their students or fellow leaders. One leader said that SI allowed him to form relationships with different sorts of students to those he was usually involved with in his study, as
the subject he was attached to was a service subject for students from another faculty.

**Summary**

SILs and supervisors said that they or their leaders chose to be SILs for a variety of reasons, including:

- Personal or professional development and resume building
- Payment
- Satisfaction or a desire to ‘give back’
- The freedom and creativity they are allowed in the role
- The chance they are given to revisit content
- Friendships they form with students and other SILs

**Reasons for SILs ending their involvement with SI**

To understand the reasons some SILs choose to resign from their work with SI, supervisors were asked the following question:

- “From your experience, why do some PASS/SI Leaders choose to discontinue their involvement?”

All supervisors said that discontinuation was rare, and that retention of SILs was very high, with most leaving when they graduate or are no longer eligible to be SILs. Time was mentioned by every supervisor as a factor that can contribute to leaders leaving, and many commented that in their experience it is the main factor. Other factors generally related to personal suitability to the role.

Time commitments were identified as the main reason leaders may choose to leave. As high-achieving students themselves, leaders have their own study commitments, and one supervisor said that leaders who don’t need the payment prefer to spend all of their time on their studies. Some supervisors said that time commitments were particularly pressing for leaders in the honours
year of their degrees. Some leaders move on to become university tutors and may not have the time to commit to SI any more. One supervisor said that although she is sad to see them go, she is happy that the faculty gained an excellent tutor. One supervisor said that, hypothetically, not having access to adequate resources or support could make a leader consider that their role was too demanding and “not worth the hassle”.

Some supervisors mentioned issues of personal suitability when discussing why leaders leave SI. One supervisor had leaders leave because they did not feel able to achieve what was expected of them. Other leaders left after not being able to follow the SI model despite regular feedback and help from the supervisor. One supervisor said that some SILs leave because they are not personally suited to the role; they may be too dominant or lack a sufficient amount of self-confidence.

**Summary**

Time and personal suitability were the main reasons that supervisors gave for SILs leaving their role, although they all said that it was rare that their leaders would leave the role before they graduated or were no longer eligible.

**Desirable qualities of a supporter for SILs**

To understand what sort of person would be an ideal supporter for SILs, supervisors and SILs were asked one of the following questions:

- “Describe in as much detail as possible the ideal person to help you in your role as a PASS/SI Leader”

- “Describe in as much detail as possible the ideal person to help your PASS/SI Leaders”

The term ‘person to help’ was used in this part of the interviews to elicit a broader range of responses than the term mentor might provide, as SI programs already implement a variety of support schemes. Supervisors most commonly mentioned an understanding of the SI model, experience as a SIL
and empathy as the qualities a supporter for SILs would have. Leaders described a person who was approachable, friendly, skilled in giving feedback, flexible and responsive. Leader responses varied about the importance of understanding subject content.

Most SI supervisors regarded an understanding of the SI model, or experience as a leader as important for a supporter for SILs. Supervisors said that understanding of the SI model was indicated by the quality of the leader’s sessions. Most SILs interviewed indicated that experience as a SIL was either necessary or desirable. It was more important that the supporter understands the needs of the SIL, or be interested in discussing “the philosophy of SI and education”. Those leaders and supervisors who mentioned an amount of experience said that two semesters of experience would be ideal.

The most commonly-mentioned desirable personal qualities for a supporter for SILs were empathy – mentioned by supervisors, and being approachable and friendly – mentioned by SILs. Self-confidence, confidence in others, a sense of humour, a non-authoritarian approach and humility were other qualities mentioned by supervisors. A common theme in the responses of leaders and supervisors is that the supporter needs to be able to form a connection with the person they are supporting.

Skill in giving feedback was mentioned by most SILs and one supervisor as a requirement of a supporter of leaders. A leader who currently receives mentoring support described her existing mentor as being skilled at giving feedback, specifically in providing what she called a “compliment sandwich” of positive feedback, negative feedback and positive feedback. The supervisor who mentioned skill in providing feedback as a desirable skill was at the time preparing for a professional development workshop for SILs on this issue in collaboration with the university’s tutor training staff. One leader said that he wanted someone who was “interested in dissecting, analysing what went on in each session, understanding why various things happen”. Skill in giving
feedback and identifying areas for feedback was mentioned by more and less-experienced SILs.

SILs said that flexibility in contact times and methods was desirable in a supporter, as was a high degree of responsiveness. One leader said that she prepares for all of her weekly sessions on a Sunday night, and that contact with a support person would be most helpful then. She also said that if she had a problem with how her plan went in the session that she’d want to discuss it that night with a support person so that she could implement the improvements for her sessions later that week. Leaders mentioned that dedication was considered desirable for a support person. One leader stated that it is important that the leader and supporter are equally dedicated to the relationship.

One SIL said that the support person needed to be highly-competent in the subject matter as the leader could then discuss their session preparation materials with them. Another two SILs said that it was preferable for the support person to have content expertise, but that this was not absolutely necessary. The three SILs who mentioned content expertise also said this may result in the support person having an understanding of the sorts of people that would be present in the sessions.

One supervisor and two leaders said that it would be useful but not essential to have a subject matter expert on call, and that this could be a different person from the main support person. By way of contrast, three SILs said that the supporter’s understanding of subject content was not important, that SILs themselves are deemed competent in the content, and the role of the support person should be to help with SI rather than with content.

One supervisor said that a support person for her leaders would often be someone who just wanted more work. She said that the ideal support person for a SIL is another SIL; in describing her ideal support person she said that “it’s a skill set they seem to come with”. One SIL said that her ideal support person would be a combination of all the existing support people “all rolled into one”.

Summary

SILs and supervisors thought that someone to support SILs should be:

- Knowledgeable about the SI model
- Experienced as a SIL
- Empathetic
- Approachable and friendly
- Skilled in giving feedback
- Flexible and responsive

There was some disagreement about the importance of an understanding of disciplinary subject matter.

Desirable attributes of a support relationship between SILs

To understand how SILs and supervisors envisaged a support relationship for SILs, each was asked one of the following questions:

- “Describe the ideal supportive relationship for your PASS/SI Leaders”
- “Describe the ideal supportive relationship for you as a PASS/SI Leader”

For leaders, the most commonly-mentioned themes were that the supporter acts as a critical friend and that they are in contact regularly, with other aspects of the ideal support relationship varying from leader to leader. The lack of common responses indicates that supervisors had diverse opinions about the ideal support relationship.

Three SILs described the supporter's role as a critical relationship built on a basis of friendship. One leader said that not everyone would be able to do this, that some people can’t give constructive criticism to their friends. Leaders who mentioned this theme expressed the view that both components of a critical friendship were necessary for a support relationship.
Leaders expressed the view that a support relationship should take place on a regular basis, and one Leader suggested weekly meetings. One leader said that the relationship should be more intensive at the start of the semester and taper off as the semester goes on to let the leader “run their own show”. This leader said that the relationship should still continue throughout the semester to prevent complacency in the supported Leader. The theme of less support later in the relationship was also mentioned by one supervisor, who said that an ideal support relationship involved contact on a weekly basis for the first semester and less contact for the second semester, to allow the supported Leader freedom and autonomy.

Two SILs said that they would prefer face-to-face support if this sort of support was available, rather than online-only support. These leaders said that they prefer the personal sort of relationship allowed by face-to-face contact and prefer not to use email or other online support.

Some supervisors and leaders discussed the structure and content of communications between the supporter and the supported Leader. For one supervisor, an ideal support relationship involved regular contacts beginning with some sort of general discussion, but with little unstructured time, and a positive, encouraging critique of the leader’s sessions. The discussion would then focus on session planning. This supervisor said that structure and clearly-defined objectives were vital to the success of the support relationship. Aspects of the content of communications between leader and supporter mentioned by leaders included guidance, discussion of strategies to use in sessions, and dealing with difficult problems encountered by the leader. One supervisor said that each meeting would be run like a miniature SI session, in that it would be facilitated by the supporter but not dominated by them; this supervisor was describing meetings of around three or four SILs, with serious problems dealt with one-to-one. One other supervisor said that the ideal support relationship would be dyadic.
One supervisor described the ideal support relationship as one built on respect and constructive feedback, with another supervisor adding that the supporter would provide “pastoral” support to make the leader feel “one of the group”. One leader described the relationship in detail as being centred on the common experience of “being a [SIL]”. For this leader it was important that the supporter was seen as more of a peer than a supervisor to the supported leader. Another leader said that he considers that the relationship should be initiated by the supporter, rather than the supported leader. He said that were he the supported leader, he would be unlikely to initiate contact and ask for help, but would appreciate his supporter offering it.

Summary

SILs and supervisors had diverse ideas about an ideal support relationship for SILs. There were two common components of their ideal relationship:

- Critical friendship
- Regular contact

There was a variety of ideas about the number of people in the relationship and the sort of support that the relationship would provide.

Time commitment to online mentoring

To understand how much time SILs would be willing to commit to an online mentoring relationship, the following questions were asked:

- As a potential mentee, how much time would you want to commit to an online mentoring relationship, and how often?
- As a potential mentor, how much time would you want to commit to an online mentoring relationship, and how often?
- How much time would you anticipate your PASS/SI Leaders would be willing to commit to an online mentoring relationship?
Responses to these questions usually mentioned that time commitment would depend on the specifics of the relationship, and that issues such as technology, structure, and the benefits available to participants would be critical. Supervisors said that their leaders would most likely be able to spend between one and two hours per week on online mentoring. Responses from leaders ranged from 15 minutes per week to an hour or two per day. The time of day that leaders said that they would participate in online mentoring varied, but it would have to avoid clashes with their classes.

Two main categories emerged from discussions with SILs about time commitment to online mentoring. Four SILs said that they would be willing to spend thirty minutes per week, or less as a mentee, in an online mentoring relationship, with three of these leaders saying that they would be willing to spend at least double that amount of time as a mentor. The remaining three leaders fell into a second category and were willing to spend an hour or more per week on online mentoring as a mentee or mentor, with one saying that he would be willing to commit an hour or two each day. The three leaders in the second category had academic backgrounds in technical fields and were all male, whereas the first category had no leaders with technical backgrounds and contained a mix of the genders.

Some SILs and supervisors talked about the time of day and week that online mentoring would be used. One supervisor said that it would be best “after hours” to avoid clashes with classes; this opinion was also held by two leaders, but most leaders gave no specific indication about when they would participate in online mentoring. For example one leader said she would be most likely to participate in online mentoring before her weekly preparation, and apart from that she would participate every four or five days. Her reasons were to allow time for enough online discussion to occur and to dedicate sufficient time to make a well thought-out contribution. One leader and one supervisor said that they would favour more contact at the start of semester, tapering off towards the end of the semester. Another leader said that he checks many blogs and
discussion forums each day already and would add online mentoring to his Internet surfing routine.

Summary

A variety of levels of time commitment was indicated by SILs and supervisors, who were often presented with the caveat that the commitment would depend on the specifics of the relationship and its benefits. The median time commitment reported by SILs was half an hour per week.

Benefits required of an online mentoring relationship

To understand the benefits that would be required to make an online mentoring relationship worthwhile, SILs and supervisors were each asked one of the following questions:

• “What benefits would be required to make an online mentoring scheme worth the time and effort of participation for your PASS/SI Leaders?”

• “What benefits would be required to make an online mentoring scheme worth the time and effort of participation?”

A range of required benefits was mentioned, some pertinent to the mentor and others to the mentee. Payment was mentioned by many interviewees, but others said that was either preferable or not an issue. Seeing improvement as a result of the mentee leader’s sessions was identified as important for both mentor and mentee. Other common requirements were a meaningful mentoring relationship in which the mentee felt supported and there was some sort of recognition for the mentor.

Opinions on payment varied greatly, with supervisors generally viewing it as either required or preferred, but leaders had a broader range of views. One leader viewed payment as required and said that this is in keeping with the structure of SI, saying that “when everybody wants a piece of your time its good if you get paid for some of it”. Another leader said that if the benefits weren’t clear to the participants but the SI program required them to be part of it, then
payment would be important, even if it was at a half-time pay rate. Another leader said that the importance of payment would depend on the level of commitment expected, with mentoring one or two people for up to an hour per week in total not requiring payment, but for mentoring 10 people payment would be required. This leader also said that other sorts of material rewards would work, such as coffee vouchers. Some leaders took an altruistic view of mentoring, saying that seeing the mentee improve would “surpass any material benefits”, that quality would be more important than payment, and that the mentor’s role could be seen as volunteering. One leader said that the importance of payment would “vary from person to person” and that it “would not be the best way to get people involved”.

Improvements in the mentee’s sessions were mentioned by SILs and supervisors. Leaders expected that this would result in better student numbers, and improved confidence as a SIL for the mentee. One Leader said that as a mentor this would indicate “that I’m good at what I do, and it is important for me to be good at what I do”.

The development of a meaningful relationship was mentioned by supervisors and leaders as a requirement of an online mentoring relationship. Components of a meaningful relationship included the development of rapport, the mentor feeling they are actually assisting the mentee, and both parties believing the other is dedicated to the relationship. Leaders also mentioned guidance, feedback and personal interaction as part of a meaningful relationship. One leader said that he would be much more likely to participate in online mentoring than he would be to use “generic answers, pre-set articles or video files”. This leader said that the prospect of contact with SILs from around the world was exciting.

Some leaders and supervisors said that the mentee needs to feel supported but should not feel that they are receiving extra help because they are considered incompetent as a leader.
Recognition was considered as an important benefit of an online mentoring relationship, particularly for the mentor. Recognition could take the form of a certificate, a line in the mentor’s resume, or a mention on the university’s website. One leader said that sufficient recognition could take the place of payment, particularly for mentors who aspire to move into management-related graduate positions.

Summary

SILs and supervisors gave a range of opinions about the importance of payment for mentors. In addition, they mentioned a variety of benefits for mentors and mentees, including

- Improvement in sessions
- A meaningful relationship
- Recognition for the mentor

Barriers to online mentoring

To understand the potential barriers that may prevent SILs from being involved with online mentoring, the following questions were asked:

- “What barriers exist that would prevent you or other PASS/SI Leaders from participating in online mentoring?”
- “What barriers exist that would prevent your PASS/SI Leaders from participating in online mentoring?”
- “What barriers exist that may prevent your organisation from supporting an online mentoring program?”

Leaders and supervisors were asked about the barriers that might prevent SILs participating in online mentoring, and supervisors were also asked to identify the barriers to organisational support of online mentoring. Time and technology-related issues were the most common barriers raised by leaders. Two supervisors said that while they would support online mentoring for SILs, it
wouldn’t work in their context because face-to-face support is possible. Cost, in terms of paying mentors and mentees, as well as paying for any required technology, was also identified as a concern by supervisors. One supervisor said for online mentoring to work it would need to be implemented within the budget of the SI program as a whole.

Leaders and supervisors mentioned access to technology as a potential barrier to online mentoring. One leader said that he used to live in a small rural town and commute to university, and that online mentoring “would have been difficult … I didn’t have broadband at the time because there was no broadband where I was living”. Ease of use of the technology, as well as any lack of computer-usage skills on the part of mentors and mentees was seen as another technology-related potential barrier. One supervisor and one leader mentioned that they perceive online communications to be impersonal. The leader said that an initial meeting would overcome this problem and help him perceive the other mentors and mentees as real people.

Monitoring, supervision, quality assurance, the potential for misuse, and privacy concerns were mentioned as potential barriers by one supervisor. This supervisor said that if something inappropriate happens within current face-to-face support relationships then it is recognised quickly, but with online mentoring that would be more difficult. One leader mentioned that poor mentor-mentee matching would be a barrier to online mentoring, and that expectations would need to be mutually understood and accepted by both parties.

Lack of a clear understanding of the benefits to the organisation and to the participating leaders was mentioned by one supervisor as a potential barrier to organisational support of online mentoring. This supervisor said that their organisation is typically very supportive of the use of educational technology as long as there is a sound pedagogical purpose for it; a “gadgets for the sake of gadgets” approach would be a significant barrier to organisational support. One SI supervisor said that an online mentoring program would be most likely to receive organisational support if it was presented as a complete package,
containing “guidelines, frameworks for implementation and evaluation, and an integrated approach including software”, with ease of reimplementation also being important.

Summary

The main barriers to participation and organisational support mentioned by SILs and supervisors were:

- Time
- Technology-related
- The potential for face-to-face mentoring, which they considered preferable to online support
- Cost
- The potential for misuse or poor-quality relationships
- A lack of understanding of the potential benefits

Availability and use of online communities and IT resources for SILs

To understand SIL use of technology to participate in online communities and create digital media, and the availability of technologies to do these tasks, the following questions were asked:

- “What computing facilities do your PASS/SI Leaders have access to on campus?”
- “Tell me about the online communities that you participate in, what was their focus?”
- “What systems did [those communities] use?”
- “What experience do you have with viewing or creating digital video?”

SI supervisors were asked about the IT resources available to their leaders, and leaders were asked about their involvement with online communities and their
experience with creating and viewing digital media. Three SI supervisors mentioned that their institution provides IT resources specifically for leaders, while others mentioned general on-campus facilities such as computer laboratories, video conferencing and wireless Internet access.

When discussing their involvement with online communities, almost all leaders mentioned their university’s learning management system. Most leaders described themselves as rare or infrequent posters on this system, with some saying that they prefer to email their lecturers or tutors directly rather than participate in the community. Three leaders said that they have recreational involvement with special-interest web forums. One leader said that she enjoys using social networking sites but has identified that “these sites can waste a lot of time, so I restrict my use of them”.

Four of the SILs interviewed had experience creating digital video, which ranged from digitising home movies to filming and editing a documentary for distribution at university and online. One of the SILs interviewed had experience creating computer games for school students using educational technology tools. One leader said she had no experience with creating or viewing any digital video, and limited experience with the Internet, whereas another leader said he had extensive experience viewing content but none with content creation.

**Summary**

Supervisors and SILs reported access to computers and the Internet through on-campus facilities. All SILs reported using their university’s Learning Management System (LMS), however most were only rare or infrequent contributors. Most SILs reported being involved with digital video creation or recreational online communities.

**Summary of analysis of SIL and supervisor interviews**

SILs and supervisors described the SIL’s role as one of providing academic support, social support and community building for their students. They also mentioned that the SIL prepares students for their future studies and for
establishing their own study groups. Managing group dynamics, involving students and preparing for sessions were identified as difficult or challenging for SILs. Avoiding re-teaching content to students was also a challenge, as was dealing with different-sized groups of students. Specific types and characteristics of students were identified as difficult for SILs to relate-to in their sessions. Interviewees also indicated that some SILs have problems with self-confidence and confidence in the SI model.

When discussing how SILs develop their skills, many interviewees mentioned feedback from formal observations, although others said this had the potential to be intimidating. Some skills development occurs through trial and error, although this was regarded as being less preferable than feedback. Self-analysis and discussion with other SILs was also mentioned, and was accompanied by training and a manual. Some SILs sought online resources, their supervisor or academic staff to further their skills development. SILs receive a variety of support, including formal observations of their sessions and informal face-to-face meetings.

Students choose to become SILs for a variety of reasons, including the payment they receive. SILs and supervisors described the friendships, personal satisfaction, freedom and creativity that the SIL role can provide. Practical benefits included the opportunity to revisit important content and ‘resume building’. The main reason SILs end their involvement with SI was described as a loss of eligibility through graduating and leaving the institution. Other reasons for leaving were time pressures or the realisation that the SIL is not personally suited to the role.

The ideal person to support SILs was described as being knowledgeable about SI and experienced as a SIL. Personal qualities of empathy, approachability and flexibility were also mentioned. Skill with giving feedback was also mentioned by some interviewees. There was no agreement on the importance of the support person understanding disciplinary content. Although SILs and supervisors described a variety of relationship structures, all featured regular contact with a
critical friend. When asked how long they would commit to this relationship, the median was half-an-hour per week.

SILs and supervisors mentioned a variety of benefits necessary for an online support relationship to be worthwhile. These included improvement in sessions, a meaningful relationship and recognition for the mentor. A lack of time was identified as a potential barrier to an online relationship. Cost and technology-related problems were anticipated, and online relationships were described as less preferable than face-to-face relationships. SILs and supervisors reported that they have access to computers and the Internet through on-campus facilities. All SILs reported using their university’s LMS and some mentioned that they used multimedia or online communities recreationally.

**Interviews with practitioners experienced with online mentoring of professionals and teaching staff**

The three online mentoring practitioners interviewed had a range of experiences with online mentoring. One had experience with online mentoring to support early career teachers through a professional association; another had experience supporting commencing teachers with online mentoring as an academic involved with teacher training. The third interviewee was involved with online mentoring of professionals, predominantly engineers. All three interviewees had been involved with online mentoring as a practical activity and as a research endeavour. Their responses are reported based on the themes that they discussed in response to the interview schedules in Appendix 1. To provide an understanding of the context of each practitioner, analysis is reported here on a per-interviewee basis.

**Interviewee 1**

The first interviewee was involved with an online mentoring program for secondary school Physical Education (P.E.) teachers and this program was in its third year of operation. The P.E. teacher-mentoring program has two phases; the first is a conference in which beginning teachers elect to participate in an online mentoring, and training. Those who elect to participate are paired up with
selected experienced teacher-volunteer mentors, and during the first phase the
mentor-mentee pairs learn the technology and develop a rapport in a face-to-
face setting. They also commit to engaging in online mentoring on a weekly
basis for the second phase, which takes place in the second school term of the
mentee’s first year of teaching. Online mentoring relationships are allowed to
continue for the third school term, with mentors and mentees allowed to
negotiate their own expectations of each other. The interviewee’s involvement
with this project was in its design and organisation but not in the technology. A
project officer is employed one day per week to stimulate the discussion and
monitor it.

After an initial trial using one mentor to two mentees, the project changed to one
mentor to one mentee. The primary reason for this was that two mentees was
too much work for the mentors, who were all full-time teachers. Another
secondary reason was that the mentors said they gain a great deal from the
mentoring relationship themselves. The online mentoring program focused on
“what beginning teachers need to think about”, and the NSW Institute of
Teachers helped to provide topics to discuss.

In addition to the training day at the start of the semester that mentors and
mentees attend, the time commitment expected of online mentors and mentees
is about one hour per week. Actual time commitment varies from this, and the
relationship usually tapers off due to teachers’ heavy workload at the end of
term. The interviewee made the point that “no contact does not mean that it is
not working” and that some see the online support as a “safety net”. The project
finishes at the end of the third school term, but the online tool stays open.

Interviewee 2

The second interviewee described an online mentoring program for beginning
teachers that contains two components: resources and community. The
resources component contains useful information about preparing lessons,
classroom management and other topics of interest to beginning teachers.
Resources are not created by the users and are mostly syndicated feeds from
other sites. The community component is for connecting beginning teachers with their peers and voluntary mentors who are experienced teachers who have won teaching awards.

In the mentoring program described by the second interviewee the mentors are not given training, as their status as exemplary teachers is perceived as qualifying them sufficiently for the role. As mentors are volunteers, one challenge that has been faced is encountered when the mentee needs help within a short timeframe that may not be feasible for the mentor. Another problem that has been posed is that teachers at the time typically had “patchy” access to email.

**Interviewee three**

The third interviewee’s experience with online mentoring is with a professional organisation, with mentors and mentees who were “professionals operating as independent contractors and consultants – predominantly engineers but also IT professionals, pharmacists and scientists”. This mentoring program intended to facilitate the development of business skills in mentees in the “startup phase” or first three years of consulting. Mentors were qualified and experienced self-employed professionals.

Before participating in online mentoring as a mentee or mentor, participants were required to complete a general online mentoring module and a module aimed at either mentors or mentees. The training was aimed at “clarifying the expectations of participants, exploring learning styles, outlining tips and common pitfalls, and taking participants through the basic steps of building rapport, agreeing learning outcomes, agreeing topics, discussing topics and agreeing actions and new topics”. Participants also received the module in print form as part of a participant manual.

The mentoring relationship was facilitated by email, which was appropriate for some users but not for others. Mentor-mentee pairs were supported by fortnightly facilitation messages. Time commitment was at the discretion of the mentoring pairs, but generally was between one and two hours per week.
Factors identified by experienced practitioners as contributing to the success of online mentoring

Interviewees were asked to identify what they thought were the main factors that contribute to the success of online programs to support teaching staff or professionals, as well as the steps that have been taken to increase quality and quantity of mentoring contacts. Analysis of their responses to these questions is grouped by theme to highlight any common ideas or disagreement.

Interviewees 1 and 2 both mentioned a project officer as critical to the success of online mentoring. The roles of this person include facilitating discussion, prompting mentoring pairs to initiate and maintain contact, and providing referrals to other supports. Both interviewees who mentioned a project officer said that the quality and suitability of this person to the role was critical to the success of online mentoring. Interviewee 2 said that it can be difficult to source funding for a project officer position.

All three interviewees mentioned the quality of mentoring relationships as a factor that contributes to the success of online mentoring. Interviewee 1 described an “online mentoring agreement” which is written collaboratively by mentor and mentee at the start of their relationship. This acts as a mechanism to get mentors and mentees to indicate what they want out of the relationship. Although it is not enforced by the project officer, it is kept for reference so that mentors and mentees can refer back to it. Interviewee 1 found these agreements to be important to the quality of relationships. Although most mentoring dyads produce similar agreements, he said that requiring each to produce their own agreement allows for customisation. Interviewee 2 mentioned trust, privacy and confidentiality as necessary for successful mentoring relationships, and described technical and policy measures used to achieve this. He emphasised the need for a “closed site” that was only accessible by mentoring participants. For Interviewee 3, successful online mentoring relationships are characterised by long-term, diverse, customised support and
professional learning. She also said that the success of mentoring relationships was dependent on the quality of the mentoring matches.

All practitioners spoke positively about their mentors. Interviewee 1 said that they were motivated, professional, and believed in online mentoring. Although the mentors of Interviewee 1 did not desire payment or any other external reward, they did sometimes find fitting mentoring into their workload difficult.

Interviewee 2 said that mentors and mentees need to be enthusiastic for online mentoring to succeed, and described approaches used to get them engaged. Participants were sent email prompts to encourage them to log in to the online mentoring system. Once they were logged in, case studies, stories and other structured activities were provided in an attempt to engage them. Interviewee 3 described similar approaches including a manual, web-based exercises and a journal.

One other contributor to success that was mentioned by the first interviewee was face-to-face contact between mentor and mentee at a training day. He said that invariably the pairs that aren’t able to meet at the face-to-face training are the pairs that do not work as well. This interviewee also mentioned having photos of all the mentors and mentees available online to help them appear “human”.

**Experienced practitioner advice on technology choice for online mentoring**

Interviewees were asked to discuss the sorts of technologies that would be appropriate for specific components of an online mentoring relationship for SILs: modelling of teaching skills, assessment of teaching skills, provision of psychosocial support, and career or informational support. Analysis focuses on the first two interviewees, as the third interviewee’s experiences lay with email mentoring of non-teaching staff.

All interviewees mentioned the technology used in their online mentoring program as contributing to its success. Interviewee 1 said that functional,
reliable technology is necessary. Expanding on this, he said that technical support is necessary, and that when the system is down participants will substitute it with email or telephone contact. He said any system problems that discourage participants detract from a sense of community. The second participant said that email notifications were important for the success of his mentoring scheme. When one member of a mentoring dyad makes a post, the other member is immediately notified by email. He said that this promotes more timely responses, which can increase the perceived quality of the relationship.

The first interviewee said that while remote modelling of teaching skills was not used within their project, skills and approaches were discussed, and mentors and mentees were encouraged to reflect on their own teaching. Pairs would discuss possible strategies, try them out in the classroom and discuss how they went. Mentors were encouraged to motivate their mentees to think rather than just give advice, and this is reflected in how teaching skills are discussed. The second interviewee described an approach of “this is how an expert does it and it is how you should do it” and said it was an outdated concept. He described another approach that focuses on “sharing stories”, in which leaders themselves ask each other how they approach a skill and share resources such as a reflective blog entry, a video from their mobile phone, or an artefact on TeacherTube.

The first and second interviewees described technical features to upload resources. The majority of these resources were documents for use in the classroom.

The second interviewee said that career, informational and psychosocial support was provided through online mentoring. This interviewee said that initially he had a set view of what would happen in online mentoring but that what happens is actually much broader. He said that online mentoring is about providing a resource and facilitating a process rather than having a restricted view of what should happen.
When discussing remote provision of psychosocial support, the second interviewee said that for beginning teachers, issues such as classroom management, assessment and dealing with parents were examples of focus topics. He suggested that within an SI context, the content being discussed in SILs’ sessions could be used as a framework, or stories from their sessions. This interviewee emphasised asking the community what it wants to have and providing it.

**Summary of analysis of experienced practitioner interviews**

Three practitioners who were experienced with formal online mentoring programs for teachers and other professionals were interviewed. Two practitioners used web-based tools for mentoring, with the other using email. Online mentoring project officers were praised for their high quality and suitability to the role, although one practitioner found funding such a position difficult. Practitioners said that relationships were the key to successful online mentoring. Measures were incorporated into mentoring programs to improve relationship quality, including careful matching and an online mentoring agreement. Technology was described, and reliability and support were highly valued.

**Summary**

This chapter addressed Research Question 1, “What is an appropriate model for the mentoring of geographically-dispersed Supplemental Instruction leaders?” through an exploratory qualitative study. Design variables that represent an abstract way of designing or communicating a mentoring model were identified from the literature. Data relating to these variables were gathered and analysed from SILs, SI supervisors and online mentoring practitioners. In Chapter 4 these data form the basis of an online mentoring model for geographically-dispersed SILs.
Chapter 4: Development and review of the detailed model

Introduction

This chapter details the model that was developed from the data reported in Chapter 3 using the design variables. Research into the review of that model by SILs and educational technology specialists is also presented. Finally, modifications to the model based on the review are documented.

Step 3: Development of the detailed model

In this step a model of mentoring geographically-dispersed SILs was developed. This model was informed by the research data presented in Chapter 3, and it is presented using the model design variables discussed in that chapter.

Objectives

One goal of the interviews was to understand what makes an ideal SI session, what makes an ideal SI leader, and to use this understanding to develop the support objectives for the model. SIL personal and job requirements are discussed in SI research literature and various manuals are used by practitioners. The views of supervisors and leaders were used in developing the model's objectives as they describe what happens in practice.

This mentoring model’s objectives are to support geographically-dispersed SILs by assisting with skills development, and providing psychosocial support. The intended outcome of the model was to enhance the ability of SILs to conduct higher-quality SI sessions. Interview data provided more specific information about the skills that need developing and the nature of the psychosocial support that is required.

Psychosocial support is a component of mentoring discussed in the research literature, including friendship, acceptance, counselling and confidentiality.
Psychosocial support is also present in this study’s definition of mentoring. Interviewees mentioned some components of psychosocial support when they were discussing the ideal supporter for SILs and the ideal support relationship. Within this model, psychosocial support is primarily intended to provide socialisation. Intensive psychological support, such as the sort provided by a professional counsellor, is not part of the model’s psychosocial support objective.

Socialisation aims to provide leaders with the chance to connect with their peers and learn the “climate and culture” (Ehrich & Hansford, 1999, p. 7) of SI and of higher education as a workplace. SILs commented that a part of the support they receive in their role is socialising with their peers, however geographically-dispersed SILs do not have access to this in a face-to-face setting. SILs who are co-located benefit from many sorts of socialisation opportunities, such as “open-door” support from staff, and the chance to work on a team with other leaders on the same subject. The socialisation objective is to provide leaders with the opportunity to connect in a similar way, albeit mediated by technology.

The nature of the socialisation experienced and appreciated by SILs who were interviewed was not only one-to-one. These many-to-many discussions, such as team meetings or informal gatherings of multiple leaders, are not replicable in a solely dyadic mentoring model. The desire for more than one-to-one socialisation resulted in the addition of a learning community to the mentoring model. This community shares the same objectives as the rest of the mentoring model and provides for many-to-many socialisation.

SILs have a difficult job to do, which requires skills that are “difficult for seasoned academics to demonstrate, much less second-year students only one year out from high school” (Murray, 1999, p. 161). Leaders and supervisors identified the following difficult skills, which are the focus of the skills development objective:

- Managing the group
- Preparing for sessions
• Dealing with sessions that have very large or very small attendances
• Avoiding re-teaching content
• Involving international students
• Developing confidence in oneself and the SI model
• Dealing with difficult students
• Improving attendance in sessions
• Involving all of the students in a session, particularly ‘quiet’ students

Roles

Five roles exist within the model: mentor; mentee; supervisor; moderator; and community member. The existence of the mentor and mentee roles is common to any other mentoring model, however the supervisor, moderator and community member roles are an addition to the definition of mentoring, and emerged from the data.

The definition of mentoring used as a basis for the model in this study states that “Relative to their protégés, mentors show greater experience, influence, and achievement within a particular organization or environment”. As online mentors in this model will not be co-located with their mentee and may not be part of the same university, the “organization or environment” is the SI environment. Those interviewees who did indicate a length of involvement with SI that would be required to be a mentor agreed that two semesters of experience was enough. Mentors within this model are thus “step-ahead” mentors, rather than “peer” mentors or “traditional” mentors (Ensher, et al., 2001, p. 419).

Analysis of interview data helped to identify that the skills and personal qualities required of a mentor are similar to those required of a SIL: in the words of one supervisor, “it’s a skill set they seem to come with”. Some SI programs even call their leaders ‘mentors’. The role of an online mentor to a mentee SIL is, however, different from the role of being a SIL, and the relative importance of particular personal qualities and skills is also different. SILs rated being
approachable, friendly, experienced as a SIL and skilled with giving feedback as most important.

In this model, mentees participate in dyadic mentoring with a mentor. Potential mentees are drawn from the subset of SILs who do not qualify to be mentors due to inexperience; that is they are SILs who have less than two semesters of experience. As this model is designed to support geographically-dispersed SILs, mentees are also not co-located with their mentor.

Some supervisors suggested the need for quality control and monitoring of the mentoring relationships. Technologists described a “project officer” or “moderator” who has these responsibilities. Within this mentoring model, a moderator is tasked with two complementary objectives: to encourage positive, on-topic discussion, and to take action against anything illegal or inappropriate as indicated by policy. The moderator’s role requires no expertise as a SIL or supervisor, but does require facilitation skills and technical skills. The moderator is recruited from outside of any participants’ SI contexts.

Community members are those leaders who are not involved in a mentoring dyad, but are involved in the community. In any given implementation of the model it is more likely that there will be different numbers of experienced and inexperienced SIL participants, and that some leaders who weren’t able to be mentors or mentees may still want to be involved as community members. Unlike mentors and mentees who have a negotiated commitment to each other to maintain a relationship, there is no relationship or time expectation for community members. Community members participate in an open discussion with each other, focused on issues introduced by themselves, their peers, or the moderator.

The role of supervisors within the model was not clear at this step of the development of the model. There were many potential ways for supervisors to be a part of the model, as well as the option not to be involved at all. This was noted at this stage in the model’s development as something to be discussed further in the next step.
Relationships

A connection between cardinality, strength of relationship tie, and time emerged from analysis of the data in Step 2 and the social exchange component of the theoretical framework. SILs and supervisors indicated that a meaningful, close-tied relationship was desirable for supporting beginning SILs. They also expressed a desire for a sense of community and relationships with many SILs. Given that SILs indicated they would be willing to spend half-an-hour per week on their mentoring relationships, a one-to-one cardinality (one mentor and one mentee) was chosen for these relationships. This has been chosen to allow each member time with one other person to develop a more strongly-tied relationship (Higgins & Kram, 2001). Community relationships have a many-to-many cardinality, as each member has the potential to interact with many other members. These relationships are necessarily weakly tied, as the time required to maintain many strongly-tied relationships would be too great.

Time

This mentoring model is designed around spending less than one hour per week in total between mentoring and community activities. Mentoring can occur at any time throughout the week and will be negotiated between mentors and mentees. Participants will be involved from the first week of their semester until the last week.

Selection

Mentors and mentees are selected by a criteria-based approach. Based on input from supervisors and SILs, the selection criteria for mentors are:

- Potential mentor is currently practising as a SIL
- Potential mentor is recommended by their supervisor
- Potential mentor has at least two semesters of experience as a SIL
- Potential mentor volunteers to be a mentor
The selection criteria for mentees is:

- Potential mentee is currently practising as a SIL
- Potential mentee has less than two semesters of experience as a SIL
- Potential mentee volunteers to be a mentee

**Matching**

Matching of mentors and mentees is made by a criteria-based matching process informed by theoretical assumptions and data from interviewees about what they want from a match. Criteria for matching of mentors and mentees were, in order:

- Approval by both mentor and mentee of the match
- Similarity of academic major studied
- Similarity of SIL subjects

Where one-to-one matching of all mentees to mentors was not possible, mentoring dyad assignment aimed to maximise the adherence to the criteria above.

**Activities**

Four activities were designed for mentors and mentees. These activities were based on analysis of discussions with SILs, supervisors and mentoring practitioners. These activities included: addressing questions from the mentee; providing feedback on preparation or recordings of sessions; modelling of strategies; and reflecting on SI sessions.

In addition to these mentor-mentee activities, a number of moderator-initiated discussions was designed as a community activity. The discussion topics were based on analysis of the skills and challenges that SILs and supervisors described as most difficult or important. The topics covered include:

- Student attendance in sessions
• Managing sessions that have large or small numbers of students
• Avoiding re-teaching
• Setting the agenda in sessions and time management
• Preparing for exams in sessions
• Group dynamics
• Encouraging quiet students to participate

Tools

The primary tool required by the model is an online asynchronous text, audio and video communication system. Asynchronous tools allow time between contributions by participants (Romiszowski & Mason, 1996), which can provide opportunities to reflect on posted message and compose considered responses (Johnson, 2006). Another motivation for the choice of asynchronous tools is to allow participants to involve themselves whenever they wish. Given that the geographic dispersal of participants may span time zones they may have difficulty arranging meetings around their busy schedules. This tool would be similar to an online discussion forum but would also provide facilities for users to upload video or audio for others to use. Participants would also need to be able to upload their preparation or any activities they would like to share. Access controls need to be in place so that participants can choose to communicate with their mentor/mentee, the community, or a subset of the community. Tools to ask questions of the community anonymously would also be helpful for participants who would not like to let others know their identity.

To lower the costs of implementation and re-implementation of the model, open-source software (Pan & Bonk, 2007) tools have been chosen. Under the open-source model, software is provided free of charge, and the end user is free to modify the program code, usually with the proviso that the code is redistributed under the same license. On reviewing the available free tools for the model, the open-source content management system Drupal was found to be the closest
match for functionality. Modifications were made to Drupal in the form of additional ‘modules’. Some of these modules were provided by the open-source community, and some were written by the researcher.

In addition to the technology required for online mentoring, other tools are required to help participants with evaluating themselves and their sessions. For the session evaluation tool, the University of Wollongong’s SI observation tool was used (a copy is shown in Appendix 3). A search of the literature found no suitable SIL self-evaluation tools, so a tool was developed based on teacher self-efficacy scales. The development of this tool is documented in Appendix 4, and the tool itself is in Appendix 5.

Role of technology

The goal of this model is to provide mentoring to those mentees who are separated from all other mentoring opportunities by distance. For this reason the mentoring will be CMC-only. Providing mentees with access to more experienced SILs in a face-to-face setting is an ideal situation that was not available. Therefore CMC-only was seen as a practical and cost-effective option. Thus all communications between participants used CMC. Here a broad definition of CMC is being used that includes tools like video conferencing.

Training

Three training needs were identified from examination of the model and its associated technology components: specific IT skills; understanding and introduction to mentoring; and understanding and introduction to the community. These needs then informed the choice of training objectives, which combined with the social exchange and social learning framework for this research, guided the choice of training methods.

The training is broken up into three modules: using the system; mentoring; and community. Each is described below in terms of objectives, assumptions and content.
Module 1: Using the system

Objective: develop the IT skills required to use the system.

Assumptions: trainees have basic Web browsing skills

Content: by the end of this module trainees should be able to:

• log in
• log out
• navigate the online environment
• post in their private mentoring space
• post in the public community space
• post in the public anonymous discussion space
• view other participants' profiles
• edit their own profile
• upload documents, video and audio for discussion
• use session evaluation forms
• use skills evaluation forms
• get technical support via email or phone

Module 2: Mentoring

Objective: develop an understanding of what mentoring is and begin the mentoring relationship by initiating the online mentoring agreement

Assumptions: trainees have completed SiL training; trainees have been assigned an online mentor/mentee

Content: by the end of this module trainees should understand:

• what mentoring is
• how mentoring fits in with face-to-face SiL supports
• how mentoring fits in with the community
• skills required for modelling, feedback and advice within the mentoring relationship
• skills required for psychosocial support within the mentoring relationship
• appropriate boundaries for a mentoring relationship
• privacy within the online mentoring relationship
• the role of the moderator within the online mentoring relationship
• the role and contents of the online mentoring agreement

Module 3: Community

Objective: develop an understanding of what the community is and commence involvement by making an introductory post

Assumptions: trainees have completed SIL/supervisor training

Content: by the end of this module trainees should understand:

• what the community is
• how the community fits in with face-to-face SIL supports
• skills required for participation in the community
• anonymous posting within the community
• appropriate boundaries for participating in the community
• the role and contents of the community agenda
• the role of the moderator within the community
• their profile within the community

Method and delivery of training

Social Learning Theory and Social Exchange Theory guide the method and delivery of the training, which are described below:

Method: each concept is:

• introduced
• described symbolically, such as with a flowchart, algorithm or diagram
• enacted by the trainee
• summarised with emphasis on the value of the process/skill

At the end of each module the trainee is guided through a task that uses the skills they have read about in that module. By the end of all three modules, SILs
will have used the basic features of the technology, introduced themselves to the community and initiated their mentoring relationship.

Delivery: training modules are delivered through the following media:

- an index page detailing hyperlinked headings for each process/skill
- text description
- graphics to illustrate the text presented alongside where appropriate

The index page allows trainees to revisit particular sections of the training when they wish.

Marketing
Social Exchange Theory suggests that marketing should promote the potential benefits of involvement with mentoring to the participants. In addition to this, they should be made clear about costs involved to them so that they are informed participants. Marketing for this model indicates to potential participants the time requirement, and informs them about what they could do and how it would benefit them.

Resources
The only resources required by the model are IT and the moderator’s time. The IT resources required include both the server-side infrastructure, such as the web server, and client-side infrastructure, such as the computer that participants use to log in. The moderator’s time requirement is around 3.5 hours per week.

Expectations
Participant expectations are detailed in the consent and information package made available to them before they agree to join. Given that this model is voluntary, the expectations are left open-ended, and are recommendations rather than compulsory tasks. In mentoring relationships, participants are encouraged to negotiate their own online mentoring agreement in which they
detail their expectations of themselves and each other. A sample online mentoring agreement is provided to mentors and mentees.

**Rewards**

Given that SILs’ views on payment as a reward for mentoring were mixed it was decided that there would be no monetary reward for participating. This was further motivated by a desire that the model be replicable with minimal resources, as adding financial cost to the model would make it more difficult to replicate. Despite the lack of a financial reward, other rewards are part of the model. For mentees these stem from the definition of mentoring and include:

- role modelling
- psychosocial support
- information and career support

For mentors the same rewards are present, and additionally they have the reward of satisfaction from having helped their mentee.

**Interaction with context**

A significant part of this model’s interaction with its context is that it will not replace existing supports; instead it will supplement them. This means that the model will not take the place of formal supervision of SILs. The model will also not provide certain types of context-specific support, such as advice for dealing with institution-specific administrative systems or access to resources. For the model to be effective, those sorts of supports need to exist, and SILs need to be aware of them.
Table 4-1 shows the division in responsibility between the model and participants’ contexts.
Table 4-1. Responsibilities of Supervisors, Mentors and the Community

<table>
<thead>
<tr>
<th>SIL Need</th>
<th>Addressed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition and reward</td>
<td>Supervisor, mentor, community</td>
</tr>
<tr>
<td>Mentoring and socialization with other SILs</td>
<td>Supervisor, mentor, community</td>
</tr>
<tr>
<td>Ongoing training</td>
<td>Supervisor, mentor, community</td>
</tr>
<tr>
<td>Quality assurance and supervision</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Initial training</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Administrative and marketing support</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Classrooms to run SI in and payment</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>
Table 4-1 shows that some needs are met by the supervisor, but others can be supported by mentoring and the community. To be a supplement to existing supports, the relationship between supervisors and the model is important for its success as effective mentoring relationships need organisational support, particularly from management. Therefore, supervisors are an important part of the model, although at this stage in the model’s development their role was unclear.

**Boundaries**

Boundaries in this model are determined by the availability to participants of the range of help providers they are likely to need. Participants were instructed to contact their supervisor in the following circumstances:

- If they have an administrative request
- If someone is at risk of harm
- If they need help immediately

Participants were encouraged to consult with their online mentor in these circumstances:

- If they would like help from someone who has experience as a SIL
- If they would like help with preparation
- If they would like to debrief after a session
- If they would like feedback about their session

Participants were encouraged to consult with the online community:

- If they would like to talk with other new and experienced SILs and supervisors
- If they would like to share resources with other SILs

They were instructed to contact the researcher with any difficulties they were having with the technology.
Step 4: Review of the model

This step of the study aimed to address the design variables that were not covered in the previous step, and obtain feedback on the model through consultation with SILs and educational technology specialists. The outcome of this step was a revised and more complete model of mentoring that addressed all the variables identified in Step 1.

Methodology

As in the previous step, this step employed qualitative semi-structured interviews. There were two groups of participants: SILs, and educational technology specialists. SILs are necessary in this step, as they were in the previous step, because they are the intended participants in the model. Educational technology specialists who lead small teams that implement projects similar to the model were the other group of participants. The research was granted approval from the University of Wollongong’s Human Research Ethics Committee before potential participants were contacted. Documentation of ethics approval for this phase of the research is in Appendix 2.

Recruitment

The two SILs who were recruited were the participants in the previous step who had requested to be more involved in the development of the model. One was male, the other female; one led sessions on a technology-related discipline, the other a humanities discipline. Both had one semester of experience with SI. The two educational technology specialists were known to the research team. One was from a discrete educational technology unit with a university-wide portfolio, and the other was from a faculty. One was an academic member of staff and the other was general staff. Participants were recruited using materials similar to those from the previous step.
Interview Schedules

The same interview schedule was used with both groups of participants. The schedule was semi-structured and began with a verbal description of the model by the interviewer and a viewing of a paper-based representation of the technology components. Interviewees were then given a chance to ask questions. The researcher then asked questions relating to the technology and the remaining design variables. The interview schedule is included in Appendix 6 and the paper-based presentation is included in Appendix 7.

Analysis Strategy

This step used an analysis strategy based around the design variables for the research, with a particular emphasis on those variables that were not addressed in the previous step. Interview data were coded according to emergent themes, which were then aggregated against the design variables.

Results

Data are reported against the design variables under consideration. Both SIL and educational technology specialist responses are presented together.

Roles

The supervisor’s role was considered contentious among interviewees. Both SILs and one of the educational technology specialists thought that supervisors should have access to the community. The SILs described an informal, helping relationship with their supervisor that they thought would extend into an online relationship. They also said that it would help to keep the supervisor informed about what was happening, and that it would be easier to contact them through this method than face-to-face. The remaining educational technology specialist said that if necessary, supervisors should be part of the community but that it may negatively affect the dynamic. A decision was made to offer membership to those supervisors who have SILs that are part of the community.
When discussing supervisors, all interviewees thought that they should not be part of the dyadic mentoring relationship. One of the SILs thought that supervisors should have access to the community to keep them informed about what was happening. Reasons given to keep the mentoring relationship closed to supervisors were related to keeping the relationship open, honest and private. The decision was made to keep mentoring relationships closed to supervisors, but to have the moderator monitor relationships and inform supervisors under certain circumstances, which are made clear to the participants in their information and consent package (Appendix 8).

Policy

A privacy policy (Appendix 8) was developed out of discussions with interviewees and the Australian National Privacy Principles. This policy details what privacy participants can expect, and what they need to do with respect to confidentiality. All interviewees agreed about the need for a privacy policy, and they all agreed that there would be some circumstances in which participant privacy needs to be broken, such as if someone is at risk of harm. Both educational technology specialists also mentioned that these circumstances need to be clear and unambiguous to participants, otherwise they may lead to anxiety or participants not communicating as freely.

Monitoring

The moderator has primary responsibility for monitoring the community and mentoring relationships. The events that the moderator is monitoring for are listed in Table 4-2, along with the actions to be taken.

*Table 4-2. Events the Moderator Monitors for and their Associated Actions*

<table>
<thead>
<tr>
<th>Event</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A participant indicates that they, one of their students, or someone else is at risk of harm</td>
<td>Consult privacy policy</td>
</tr>
</tbody>
</table>
A mentoring dyad hasn’t made contact for two weeks Contact mentor and mentee

There is a technical problem Contact the researcher

As Table 4-2 shows, monitoring does not include other components of the moderator’s role, such as facilitating discussion. It is limited only to circumstances in which the moderator needs to take specific action.

Termination

Termination of mentoring relationships had not been discussed at this stage in the development of the model. Both mentoring and the community have recommended start and end periods, which are described when discussing the Time variable. There may be circumstances in which a mentoring relationship needs to terminate before the recommended end date. Participants are provided with a ‘No-fault exit clause’ (Jorgenson, 1992) that allows them to elect to end a mentoring relationship at any time. Those participants who do this will still be offered a chance to participate in normal evaluation of the model and may be asked about their reasons for leaving the relationship. There will be no negative consequences for them for leaving and they will not be forced to explain themselves.

Evaluation

This mentoring model is being developed as part of a research project, and at this stage the evaluation procedures are not separated from the research methodology. Future implementations of the model will require evaluation procedures that may be modelled from components of the research methodology.
Summary

This chapter addressed Research Question 1, “What is an appropriate model for the mentoring of geographically-dispersed Supplemental Instruction Leaders?” through developing and reviewing a model. Findings from the previous chapter were used to address variables identified in that chapter in the construction of the model. This model was then reviewed and further refined based on feedback from SILs and educational technology specialists.

The next chapter describes the methodology employed during Phase 2 of the study.
Chapter 5: Phase 2 Methodology

Phase 2 was designed to address the second research question

Research Question 2: In what ways does participation in an online SIL support program impact on or affect mentors, mentees and community members?

This phase required an in-depth understanding of both the context and the experiences of the participants, which is best addressed by a qualitative approach (Creswell, 1998, 2009; Yin, 2003, 2009) informed by pragmatist research philosophy (Badley, 2003; Creswell, 2009; Pring, 2000).

Qualitative research seeks to understand a complex social problem in its natural setting (Creswell). In the case of this research the problem is the support of geographically-dispersed and inexperienced SILs.

Although qualitative methods were used in this phase, the rationale for their use is pragmatic rather than socio-constructivist (Creswell, 2009). Pragmatist researchers reject the false dualism of quantitative and qualitative epistemologies (Pring, 2000) and instead advocate using the appropriate methods for a given problem or question (Creswell, 2009). Qualitative methods are useful for understanding this research problem, and these research questions.

Pragmatic researchers suggest using different approaches for different parts of an investigation (Pring, 2000). This thesis solely uses qualitative research methods due to the desire to understand “actions”, “situations” and “problems” (Creswell, 2009, p. 10). In the previous chapters an exploratory approach was used, and in this chapter a multi-case study approach is described.

Two studies, each consisting of multiple qualitative case studies were conducted with the model developed in the previous chapter. Case study is a useful tool for understanding an intervention within its context. Yin (2003, p. 2)
describes the use of case study as coming out of a desire to “understand complex social phenomena”, while retaining “the holistic and meaningful characteristics of real-life events”.

**Study Context**

This study took place during 2008 within the Australasian PASS community (Australian and New Zealand universities that offer PASS) and the international SI community (universities worldwide that offer SI). The researcher has been a part of both contexts for more than five years and continues to be an active member. There were two separate implementations of the model in this study. The first implementation occurred in Australian semester one, 2008, and involved PASS Leaders and supervisors from Australia and New Zealand. The second implementation, which commenced in Australian semester two, 2008, involved some of the same participants from the first implementation, and some new ones from the international Supplemental Instruction community.

**Cases**

For this study there were two types of cases: community cases and mentoring cases. There was one community case for each study and multiple mentoring cases for each study. Cases were bounded in terms of participants, location, data and time. Although there is one larger unit of analysis (the community) and one smaller (mentoring dyads), this is not an embedded multi-case study design (Yin, 2009, p. 59) as the mentoring cases are not part of a community case; however they may share some common data. This design choice allows isolation of the community cases from mentoring cases as well as consideration of mentoring cases and community cases together.

**Participant membership in cases**

Each community case included all participants for a particular study of the model, and each mentoring case included the two participants that make up a particular mentoring dyad in a particular study. Using the whole community as a unit of analysis provides clear boundaries for the case that would be more
difficult to assert with other units of analysis such as a sub-community, topic of discussion or relationship. Rather than being the unit of analysis, these features form part of the community cases. For the mentoring cases a dyad level unit of analysis was chosen, as it is comprehensive whilst still allowing each relationship to be considered independently. Further information about participants, including recruitment and sampling, is presented in the Participants section of this chapter.

**Locations included in cases**

Cases include the locations of all of their participants. In a community case this is the locations of all participants, and in a mentoring case this is the locations of both the mentor and mentee. Participants were dispersed across multiple campuses of multiple universities. As mentoring cases were between SILs who were not co-located, each includes two locations: either two campuses of the same university; or two campuses of different universities.

**Data included in cases**

Each case included all the data that all members of that case contributed, including data from the online system and interviews. For the community cases this meant that all data from a particular implementation were part of that community case. For mentoring cases, this meant that each case included data from the mentoring relationship, and data from the community. Figure 5-1 shows all of the data sources (which are explained in further detail in the Data Collection section of this chapter) that form part of the data for a mentoring case.
### Data Type

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Mentoring Cases</th>
<th>Community Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community postings from</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td>Mentoring postings from</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td>Files uploaded by</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td>Skills and session evaluations</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td>completed by</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System logs</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td>User profiles completed by</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td>Transcripts of interviews with</td>
<td>Mentor and mentee</td>
<td>All community members</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As Figure 5-1 shows, mentoring cases include all data contributed by their mentor and mentee, whereas community cases draw from a broader dataset.

### Time span of cases

Each case is bounded in time, including all participant communications between the start and end of the study they are a part of. As mentoring cases include data from the community, the duration of a mentoring case is longer than the duration of a mentoring relationship. Relationships were deemed to have ended at the finish of semester for the mentee, or after 12 weeks of the relationship, whichever happened first. Community and mentoring cases span the length of
time from the first login of any participant, to the end of semester for all
participants. Figure 5-2 shows the composition of cases in terms of time.

*Figure 5-2. Composition of Cases in Terms of Time*

<table>
<thead>
<tr>
<th>Event</th>
<th>Date in Study 1</th>
<th>Date in Study 2</th>
<th>Part of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>System is put online</td>
<td>February 21st</td>
<td>July 14th</td>
<td></td>
</tr>
<tr>
<td>Community Starts</td>
<td>March 10th</td>
<td>July 21st</td>
<td></td>
</tr>
<tr>
<td>Initiation of mentoring relationships</td>
<td>March 10th</td>
<td>July 28th</td>
<td></td>
</tr>
<tr>
<td>Termination of mentoring relationships</td>
<td>May 21st</td>
<td>November 3rd</td>
<td></td>
</tr>
<tr>
<td>Community ends</td>
<td>May 21st</td>
<td>November 3rd</td>
<td></td>
</tr>
<tr>
<td>System taken offline</td>
<td>May 23rd</td>
<td>November 23rd</td>
<td></td>
</tr>
</tbody>
</table>

In Figure 5-2, the shaded area represents that a particular time span was a part
of mentoring and community cases. In Study 1, cases spanned, at maximum,
from the 10th of March 2008 to the 21st of May 2008. In Study 2, cases spanned,
at maximum, from the 21st of July 2008 to the 3rd of November 2008.

**Participants**

**Types of participants**

There were four categories of participants within this research: mentor; mentee;
community member; and supervisor. Mentors with at least two semesters of SI
experience provided one-to-one mentoring to a mentee with less than two
semesters of experience. Members of dyads were not co-located at the same
campus and potentially may not have been part of the same university.
Community members were current SILs who did not have a mentor or mentee, while supervisor members were supervisors of SILs.

**Sampling and Recruitment**

A sampling strategy was developed to provide access to potential participants for involvement in one or both of the following:

- Cross-campus online mentoring relationships
- A community of geographically-dispersed SILs

The strategy was thus purposeful (Creswell, 2009) and the researcher sought SILs of varying levels of experience who were located at a variety of geographically-dispersed locations. Ethics approval was granted by the University of Wollongong’s Human Research Ethics Committee before participants were contacted. Documentation of ethics approval is in Appendix 9. Participants were approached by email and provided with a copy of the participant information and consent package (Appendix 8).

The number of participants in the study as a whole depended on the level of interest with an upper limit of 80 participants per implementation. This size was chosen to limit resource requirements, particularly in terms of the computing infrastructure and the time required of the moderator. This resulted in an upper limit of 80 potential mentoring cases and two community cases.

**Study 1**

In the first study, supervisors at Australian and New Zealand universities trialling small-scale implementations of SI were targeted for participation in this research with a view to their SILs becoming mentees or community members. These campuses were chosen as they were known to the researcher and did not have convenient access to face-to-face mentors for their new SILs. Mentors were SILs recruited from universities that had been operating PASS programs for at least two years. Supervisors were approached to inquire about access to their SILs as potential participants, and if they approved then they themselves
were also approached about participating. In the first study, the researcher approached specific supervisors and leaders personally, and offered the supervisors the option to pass on the invitation to their leaders. Thirty participants were recruited in this study.

**Study 2**

In the second study, supervisors and leaders from the global Supplemental Instruction community were invited to participate. The researcher approached all members of the Australasian PASS email list (pass_list@uow.edu.au), which the researcher was the administrator of, and the international SI-Net email list (SINET@listserv.umkc.edu), of which the researcher is also a member. These lists were mostly populated by PASS/SI supervisors, and they were encouraged to invite their leaders to participate. Sixty-seven participants were recruited in this study. Table 5-1 shows the breakdown of participants by type and study.

*Table 5-1. Participant Breakdown by Type and Study*

<table>
<thead>
<tr>
<th>Type</th>
<th>n (study 1)</th>
<th>n (study 2)</th>
<th>Involvement with PASS</th>
<th>Part of the community</th>
<th>Part of a mentoring dyad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor</td>
<td>8</td>
<td>2</td>
<td>2 or more semesters or experience as a SIL</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Mentee</td>
<td>8</td>
<td>2</td>
<td>Less than 2 semesters of experience as a leader</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Community member</td>
<td>13</td>
<td>47*</td>
<td>Current SIL</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Supervisor</td>
<td>1</td>
<td>19*</td>
<td>Supervisor of an SI program</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*One participant identified as both a SIL and a supervisor and therefore is included in both counts*
Timeline

The two implementations of the model had similar timelines, which were heavily influenced by the academic semesters of the participants. In the first implementation, all participants were part of universities that had similar academic calendars, so all participants were recruited, matched and trained at the same time. In the second implementation the start of the semesters was staggered over a period of seven weeks, and the start dates for participants reflected this difference. For all mentoring dyads the term of the relationship was between 10 and 12 weeks. The first community case had a time length of 11 weeks, and the second a length of 16 weeks. Figure 5-3 shows the timelines for both implementations in terms of start and end of semester for participants.

Figure 5-3. Timelines for the Two Implementations of the Model

<table>
<thead>
<tr>
<th>Week</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Weeks before start of semester for any participant</td>
<td>Recruiting and matching participants</td>
</tr>
<tr>
<td>Week 2</td>
<td>System put online</td>
</tr>
<tr>
<td>Week 3</td>
<td>Train participants</td>
</tr>
<tr>
<td>2 Weeks after semester has ended for all participants</td>
<td>System put offline, prepare system data for extraction, de-identification and analysis. Interview participants</td>
</tr>
</tbody>
</table>

Data Collection

The online system used to facilitate the model, which was called PASS Online Mentoring and Community (POMAC) was the primary data collection tool for this phase of the research. Although participant interactions with the system were logged at the software, database and web server levels, for privacy reasons only some of this information was considered as data for the research. Other information was necessary for administration of the system but was not analysed by the researcher. Participants were informed of the specific types of
data that were to be collected for the research in the participant information package (Appendix 8). Participants were also offered the opportunity to participate in a semi-structured interview at the end of the implementation in which they were involved.

**Participant Communications**

Communications that participants had with each other via the system form the largest amount of the data for this phase. Specific types of communications that were possible were: forum posts; uploaded video; uploaded audio; and attached documents such as session preparation material. These data were necessary to understand the intervention, as they were unbiased records of what actually happened from a user's perspective on the system. User profiles also form part of the data set for each case and contain information about SI experiences, IT skills and their campus/university environment. Data for user profiles was to be completed by the user during their initial training. User profile fields are detailed in Appendix 10.

**Self-Assessment Tools**

Self-assessment tools were available to participants to help them structure reflections on their sessions and their own efficacy as a leader. The session evaluation tool was an online version of a tool used at the University of Wollongong that is also disseminated to leaders and supervisors that receive training there (Appendix 3). The self-efficacy tool that was used (Appendix 5) was developed specifically for the model and its development is described in Appendix 4. Dyad members also had access to these tools to provide feedback to each other. These data help provide an understanding of participants' self-perceived skills and session development, as well as their mentor/mentee's assessments.

**Interviews**

All participants were invited to participate in a semi-structured interview after the end of the semester, with the objective of understanding their perspective on
their involvement. An interview protocol was developed which was critiqued for clarity of expression by one of the PASS leader participants. Their feedback was incorporated into the final version that is in Appendix 11 along with the participant information package, which is in Appendix 12.

The interview schedule consisted of six questions, most of which contained several prompts. Topics covered by the questions included, in order:

1. the interviewee’s involvement with PASS/SI
2. their involvement with mentoring and community this semester
3. how they were supported by mentoring and community this semester
4. how else their development as a leader could have been supported
5. what contributed to the effectiveness of mentoring and community
6. what else could have been done to improve its effectiveness

Questions 3 and 5 contained prompts relating to the mentoring design variables identified in the previous chapter. Where possible, the interviews were conducted face-to-face, however telephone interviews were also offered to those participants outside the Wollongong area. Some such participants requested to complete the interview by email and this was allowed.

Due to the researcher’s involvement with the PASS Program at the University of Wollongong, participants were provided with the option to be interviewed by a research assistant who was not associated with PASS or the research project. No participants chose this option.

Face-to-face and telephone interviews were audio recorded, with the participants’ permission, and transcribed. Participants were provided with a copy of the transcript by email and given the opportunity to change or add to any part. Participant checking of transcripts enhances internal validity of case study reports (Gibbs, 2007, in Creswell, 2009).
De-Identification and Data Protection

Identity of participants was protected in the analysis process through converting participant names and identifying information into pseudonyms. All participant data was stored, encrypted, in a locked filing cabinet.

Methods of analysis

Data analysis initially employed a within-case descriptive approach (Creswell, 1998, p. 153) to provide a rich understanding of the chronology of events and the settings, both virtual and physical, in which they occurred. Employing this approach first provided the researcher with a broad understanding of the whole data set.

After rich descriptions of each case were developed, an analysis strategy (Yin, 2003, p. 109) guided by a combined social exchange and social learning theoretical perspective was used. Yin describes “relying on theoretical propositions” as the preferred analysis strategy for case study research (2003, pp. 111-112). In addition to helping organise the case study, it also helps focus attention on some data in preference to other data.

To structure the dataset and extract meaning from it, a coding system was used. Data were aggregated according to codes that were either emergent from the data or known a priori from the theoretical propositions. The codes that were known before data were analysed were inferred from the combined social exchange and social learning framework, and are detailed in Table 5-2.
<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation</th>
<th>Anticipated response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost/Benefit</td>
<td>Decision-making considering costs and benefits</td>
<td>“I would log in every week and check. It took twenty minutes but I always got a new strategy that I would use in my sessions, so it was worth it”</td>
</tr>
<tr>
<td>Cost</td>
<td>The costs involved with a relationship or a decision relating to one</td>
<td>“It was a lot of effort to write up a detailed evaluation of my session, but I felt it was necessary to maintain the relationship”</td>
</tr>
<tr>
<td>Benefit</td>
<td>The benefits involved with a relationship or a decision relating to one</td>
<td>“The strategies I got from my mentor really made me want to stay in contact”</td>
</tr>
<tr>
<td>Deprivation-Satiation</td>
<td>The diminishing value of a particular type of reward the more units of it are obtained</td>
<td>“I get all the online social support I need from Facebook, so I wasn’t looking for more of that from my mentor”</td>
</tr>
<tr>
<td>Modelling</td>
<td>Role-modelling of behaviours, both consciously and unconsciously</td>
<td>“I liked the community, I could go on there and see how other people handled similar situations to mine and try out their ideas”</td>
</tr>
<tr>
<td>Similarity of model to observer</td>
<td>Similarities between mentors and mentees; similarities between community members</td>
<td>“My mentor was a student, and a leader, just like me”</td>
</tr>
<tr>
<td>Model’s admired status</td>
<td>Mentors or other models holding admired status</td>
<td>“My mentor was a really experienced leader, so I guess I respected that”</td>
</tr>
<tr>
<td>Observer</td>
<td>Characteristics or behaviours of the observer</td>
<td>“When my mentor was discussing their own sessions I’d always be thinking about how it related to my own sessions”</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Behaviour</td>
<td>Identification of behaviours modelled by other leaders</td>
<td>“I saw the way my mentor was thinking about preparing for their session and I thought ‘I could do it that way’”</td>
</tr>
<tr>
<td>Organising behaviour symbolically</td>
<td>Organising, structuring, creating algorithms, creating flowcharts, breaking down, diagramming, or otherwise expressing a modelled behaviour symbolically</td>
<td>“My mentor and I would outline the process for how to prepare for a session by identifying the key steps and considerations”</td>
</tr>
<tr>
<td>Rehearsing behaviour symbolically</td>
<td>Rehearsing a behaviour that has been modelled in an abstract, imagined, theoretical or otherwise symbolic way</td>
<td>“Sometimes I’d just go through the steps of how to prepare with my mentor, telling them the things I thought I needed to think about this week”</td>
</tr>
<tr>
<td>Enacting behaviour overtly</td>
<td>Performing a behaviour that has been modelled</td>
<td>“I’d prepare my stuff for PASS this week and show it to my mentor”</td>
</tr>
<tr>
<td>Value of outcomes of behaviour to the observer</td>
<td>Enacting a behaviour is perceived by observer to hold some value</td>
<td>“The tricks that my mentor showed me for preparation saved me heaps of time”</td>
</tr>
</tbody>
</table>

Table 5-2 shows the codes that were based on the theoretical framework that guided this study. In analysing the data, the researcher was also looking for rival explanations and factors not addressed by these theoretically-inferred codes. The researcher was thus also looking for emergent themes from the data to supplement the initial code set.
Validity

Multiple validity strategies (Creswell, 2009) were employed to ensure the accuracy of the findings. Firstly, the design incorporates triangulation through the use of interviews, online discussions and logs. This is a necessary measure as although interviews provide a private, personal reflection on participant experiences that is not available from the online data, interview transcripts carry with them inherent problems of “bias, poor recall, and poor or inaccurate articulation” (Yin, 2003, p. 92). Validity is also strengthened through the long and comprehensive data collection process (Creswell, 2009), which spans the entire involvement that participants have with the model. The researcher’s role is also explicitly stated, and steps are made to distance the researcher from the online environment. These include the use of a moderator who is not part of the research team and the researcher avoiding formally supervising any participant in their SI work for the duration of the study. Finally, the researcher employed peer debriefing (Creswell, 2009) during this phase by engaging fellow doctoral students to review the methodology and the code set. This process also included a review of coding on the largest mentoring case (by data volume), with a peer debriefer conducting an independent coding of that case.

Consistency between the researcher and the peer debriefer’s codings was greater than 90% in terms of percentage agreement, which is one measure of reliability in a qualitative study (Creswell, 2009).

Summary

This chapter described the qualitative multi-case study design used in Phase 2 of this research. Pragmatism informed the choice of qualitative methods, and case study was chosen out of a desire to understand the complexity of mentoring within its real-life context. Two non-embedded units of analysis were defined: mentoring cases and community cases. Methods of data collection and analysis were presented that were informed by the theoretical framework. The following two chapters present the results of this study design as it was implemented in 2008.
Chapter 6: Study 1 Results

During 2008, the online mentoring and community model was implemented twice as PASS Online Mentoring and Community (POMAC) and studied using the methods described in the previous chapter. Each study is described in a separate chapter with the following structure: participants are described; the community case is described (in terms of locations, time and the discussions); the analysis of the data from that case is presented; and each mentoring case begins with an introduction and then presents an analysis of the data from that case.

This chapter focuses on the first study, which occurred between March and June 2008, and contained one community case and eight potential mentoring cases, of which four were selected for analysis. Figure 6-1 shows the structure of this chapter.

*Figure 6-1. Structure of this Chapter*
Participants

There were 30 participants in this study, including 29 Supplemental Instruction Leaders (SILs) and one supervisor. Twenty-one of the 29 SILs were inexperienced (less than two semesters as a SIL) and eight were experienced (two or more semesters as a SIL). Thirteen participants were male and 17 were female. All of the SIL participants were current undergraduate students at their respective universities and were studying a diverse range of disciplines, including business, computing, arts, engineering, science and law.

All SILs requested to be part of a mentoring dyad through one of three methods: they elected to do this on their consent form; they notified the researcher or the moderator; or, they notified their supervisor who subsequently notified the researcher or the moderator. As the mentoring matches were dyadic, the number of mentoring matches was eight – equal to the number of potential mentors. Matches were made according to the criteria outlined in the model detailed in Chapter 4 of this thesis. Those potential mentees who were not part of a mentoring dyad became community members.

Community Case One

Locations

Community members were located at six campuses in total from four different universities in Australia and New Zealand. The profiles of the campuses on which SILs were located were:

- The main campus of an Australian regional multi-campus university that has implemented PASS for more than five years. Experienced and inexperienced SILs, from a variety of academic disciplines, were involved.

- Two education access centres of the same Australian regional multi-campus university, located in regional communities that were more than 200km away from the main campus. These centres had not operated
PASS before. The sole, inexperienced SIL at each of these centres was part of the online community.

- The main campus of an Australian urban university that had implemented PASS for more than three years. The experienced SILs from this location were from the same academic discipline and also were members of the online community.

- The main campus of an Australian city university that had not implemented PASS before. This university was piloting PASS and had inexperienced SILs from multiple academic backgrounds.

- The main campus of a New Zealand city university that had not implemented PASS before. This university was piloting PASS and had inexperienced SILs from multiple academic backgrounds.

**Timeline**

This study and all cases are bounded in time from the 21\textsuperscript{st} of February 2008 to the 23\textsuperscript{rd} of May 2008. Figure 6-2 is a timeline listing the events that occurred in that period.
Figure 6.2. Timeline for Study 1

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 21st</td>
<td>System taken online</td>
</tr>
<tr>
<td>March 10th to 12th</td>
<td>Participants sent account details</td>
</tr>
<tr>
<td>March 10th to 12th</td>
<td>Participants assigned to mentoring dyads</td>
</tr>
<tr>
<td>March 14th to April 6th</td>
<td>Discussion: “Attendance”</td>
</tr>
<tr>
<td>April 3rd to 28th</td>
<td>Discussion: “Re-teaching”</td>
</tr>
<tr>
<td>April 6th</td>
<td>Discussion: “5-minute hook”</td>
</tr>
<tr>
<td>April 21st to May 21st</td>
<td>Discussion: “Setting the agenda and managing time”</td>
</tr>
<tr>
<td>May 6th to 21st</td>
<td>Discussion: “Group dynamics”</td>
</tr>
<tr>
<td>May 15th</td>
<td>Discussion: “Exams”</td>
</tr>
<tr>
<td>May 23rd</td>
<td>System taken offline</td>
</tr>
</tbody>
</table>

Analysis in terms of discussions

There were six topics discussed within the Community Discussion Space. Five topics were guided by the mentoring model and initiated by the moderator. The remaining topic was initiated by an experienced SIL. The community members contributed over 5500 words to this public discussion in a total of 26 postings including the five discussion-starters by the moderator. The three longer discussions were all started by the moderator and are reported in detail from data gathered through the online discussion text, logs from the online system, and interviews.

Discussion topic: Attendance

The first discussion started in the community was about attendance in SI sessions. There were six contributors to this discussion, including four inexperienced and two experienced SILs. During the development of the model, the number of students attending SI sessions was identified by SILs and supervisors as of major concern. When asked about the ideal number of students in an SI session they reported numbers between 12 and 20. In
determining the ideal number of students in a session they considered a variety of factors: the financial viability of the session; the proportion of students enrolled in a subject who attended; and the effect of the number of students on SI session dynamics.

The moderator started the discussion by prompting SILs to consider student attendance patterns in their sessions, why students attend their sessions, what they as SILs can do to promote attendance and what the ideal number of students was in a session. Three of the discussion participants (Amanda, Michelle and Tim) responded with their own attendance figures. Amanda, a SIL at a remote education centre, had all seven of the enrolled students attending, and Michelle, also a SIL at a remote education centre had 11 out of 13 coming to her sessions. Natasha, a SIL for two semesters, wrote from her more diverse experiences, with attendances in the past ranging from 1 to 25 students. Tim, another inexperienced leader, wrote three weeks after the discussion started that his attendance was “very good” but that since the mid-semester break his numbers had been “slightly lower”. Tim didn’t elaborate about what actual number of students he had in attendance.

Natasha was the only participant who gave an opinion about what she thought the ideal number of students in a session was. For her it was 15 because “there are enough students so that they can learn from each other, and at the same time, they get to know each other and participate much more willingly”. By her definition, some of her sessions, and all of Amanda and Michelle’s sessions, had a less-than-ideal number of attendees.

When discussing why students attend, course content, fun and the SIL’s concern for students were the main reasons given by the participants in the discussion. A particular emphasis was put on students being able to take something away from the session in the form of learning about the subject material or tangible resources (such as a worksheet or summary) that they can use later. The discussion around making the session enjoyable did not go in to detail, except for the mention of humour. Amanda and Jane mentioned that
students attend because the leader cares about them and their progress in the subject. SILs did not mention academic or study skills as reasons for student attendance.

When discussing how to increase or maintain viable attendance in their sessions, Amanda and Jane described particular strategies that they use. Amanda described making an effort to get to know the students individually to “establish that each student’s learning and progress is very important to you as a leader”. She also wrote that she “stressed at the first session that the PASS sessions belong to them, and that its success hinges on sufficient attendance”. She did not elaborate on what sufficient attendance was or why it is required.

Jane, an inexperienced SIL in her first semester in the role, described her efforts to tailor the groups to the different levels of academic preparedness of her students. Some had undertaken high school study relevant to the subject, and others had not. Jane writes that for less prepared students she thinks it “is crucial to let them see you care and offer them resources to update themselves and encourage them with their involvement. Hopefully, this will give them the incentive to return and not feel isolated from the rest. :)”. This comment suggests that Jane thinks it is important for her to offer encouragement, support and resources to help less-prepared students.

Michelle and Natasha were the only participants who asked questions in this discussion about attendance, and neither of them received direct answers. Michelle asked a question about how to increase attendance in her session. She had 11 out of the 13 students enrolled in her subject attending her sessions regularly. Natasha made the next comment in the discussion and stated that she had experienced between one and 25 students in her sessions. Natasha’s comment could be seen as being targeted at Michelle. As an experienced leader, Natasha may have been trying to demonstrate that attendance figures vary between sessions. In an interview at the end of the semester Michelle said her own attendances were “really good”, with an average of 10 students a session. Attendance was also discussed in her mentoring dyad.
Natasha asked two questions that went unanswered. Her first was a reiteration of the moderator’s question about the ideal number of students in a session. Her second question was about getting part-time students to attend a session she was running that was set up particularly for them. This session was set up outside the normal 10:30 AM to 3:30 PM time period that sessions were normally scheduled at her institution so that it would be more suitable to students who work in business hours. It was poorly attended, and she received no direct response or advice from the community about how to get part-time students to attend.

**Discussion topic: Re-Teaching**

The second discussion initiated by the moderator in the community was about avoiding re-teaching in sessions. Re-teaching is a term used by SI practitioners to describe when the SIL uses their own knowledge to provide the students with course content. Examples of re-teaching include the SIL lecturing their session, or directly answering content-related student questions. Supervisors discourage re-teaching to varying degrees. The moderator introduced the topic and described a typical scenario in which re-teaching could be seen as an option. Three alternatives were posed: what they can do when nobody seems to know the answer; what the pros and cons of explaining concepts to students are; and where the line exists between giving helpful guidance and teaching course content. Seven SILs contributed to this discussion, including three experienced and four inexperienced leaders.

Ian, an experienced SIL, was the first contributor to the discussion, and also the first to identify the “grey area” around re-teaching. He stated that at his university it is “an absolute no-no” and described five strategies that are used to avoid it:

- **Always try to get students to do the writing on the blackboard or white board - as soon as [a SIL] writes on the board, it creates a tutorial like environment where the students are expecting answers from you.**
• **redirection** - the most basic tool for not re-teaching is to ask around (using names of course) and source the answer from other students in the room, often there’ll be at least one stronger student who you can rely on to know the answer;

• **breaking the problem down into its most basic components** - if everyone in the room is drawing a blank, go back to basics and attack the question using probing questions to draw the answer out from first principles;

• **referring students to lecture notes or text books** - have the relevant section of the text book flagged so you can direct them to it or have some spare copies of the lecture notes that you can direct them to; and

• **careful structuring of the session** - both within each session and over consecutive weeks so that content builds from easiest to most challenging

(Ian, community post, 3/4/2008 @ 12:48PM AEST)

After his lengthy (compared to other posters) criticism of re-teaching he did make one concession that there are circumstances in which it is acceptable:

*That said, there are occasions when a session can grind to a halt and sometimes (hopefully rarely) you need to make a concept clear for the good of the session. There’s no point spending half an hour getting nowhere. So my argument is that there are instances where giving an answer can be for the ‘greater good’. However, this should be a last resort.*

(Ian, community post, 3/4/2008 @ 12:48PM AEST)

This quote shows that Ian concedes that re-teaching or direct instruction is a last resort. His views about re-teaching became the reference point for the other SILs in this discussion. Michael identified some common ground with Ian, saying that his suggestions “really are the best tactics we as leaders have for combating this kind of situation”, but that he disagreed that re-teaching can be used as a “last resort”: 
In the event that this would seem as the only option (i.e. after redirecting a bunch of questions and breaking it down into simple tasks) I believe it can be more appropriate to then redirect the student, and their question, to a tutor or the subject lecturer. I believe this is important as it avoids blurring your role as a Peer Leader with that of the tutor. Providing the answer (even just once) can imply to the students that you are prepared to provide the answer again.

(Michael, community post, 6/4/2008 @ 12:11PM AEST)

Natasha described her attitude as similar to Ian and Michael’s. She was the third of three experienced SILs to comment on this discussion. Tim, Kristy and Alicia were inexperienced SILs from universities that had not run SI before, and they all described re-teaching as something that they would be more comfortable with doing, or would feel compelled to do. Tim referred to the more experienced community members’ attitudes as the “hard line” on re-teaching. He wrote that while this had merit, there was a competing need to maintain “order and structure” in sessions. Tim also wrote about problems he has encountered with simplifying content or problems:

In my limited experience with PASS, the problem has not been so much that the students don’t know the answer, but that they know it so well that they think it’s too obvious to say. This generally results in the students sitting in awkward silence. In such a situation, simplifying the problem only makes it even more obvious, and students are even less willing to contribute.

(Tim, community post, 6/4/2008 @ 7:49PM AEST)

Kristy wrote about re-teaching as her biggest problem in sessions with low attendances, as “when there are only a few people in the room, chances are someone’s forgotten their notes and the others have no idea, or don’t recall ever hearing the topic in a lecture”. Although she had tried strategies suggested by Ian and Michael, she found that they could be ineffective and even that they “waste valuable time”. She discussed being compelled to explain concepts to
students, as “sometimes just saying a really simple answer can jog them into remembering something or at least guessing what other issues may be relevant to the topic”.

Alicia described the need for efficiency and time management as overruling a desire to “avoid giving answers”:

_Sometimes, time management is an issue, where you have to give answers straight away to keep things in order, ie to move on from one topic to another. Some of the participants expect more efficient session, and their definition of efficiency is how much correct answers they got. And I feel that if they know the correct answers, it will actually boost their confidence when solving problems, am I right?_ (Alicia, community post, 3/4/2008 @ 8:06PM AEST)

Chris, an inexperienced SI at a location that had experienced SILs, said that he agreed with Ian and Michael’s opinions on re-teaching. He further argued that often the students do have the ability to teach the content to each other, but that they need time before they can do this, often just “3 or 4 seconds”. SI practitioners call this technique “wait time” and it is used to encourage student interaction. Chris had a face-to-face mentor and had discussed this technique with them before mentioning it online.

More experienced SILs and those at locations with experienced SILs had strong views about re-teaching. This may reflect a clearer understanding of how re-teaching fits in their role. Less experienced SILs who did not have experienced SILs co-located with them did not have such views. They indicated that concerns of time and maintaining session structure might lead them to re-teach. Their views might reflect a less developed understanding of re-teaching.

This discussion was the most controversial of all the community topics, being mentioned by SILs in all interviews in which they mentioned specific discussions. An external audit conducted by the University of Missouri – Kansas City in 2005 noted that the researcher’s institution places particular emphasis
on re-teaching in the training of SILs, and this is evident in the responses of the SILs from that institution. Despite the varying passionately-held attitudes towards re-teaching, the SILs were very polite in their disagreement. They wrote more about what they agreed with in each other’s responses than they disagreed with; they did not argue or make personal attacks.

Every SIL who participated in this discussion identified strategies that they use to address re-teaching. To maintain consistency with language used in the theoretical framework and model these are referred to as behaviours. In total, 10 unique strategies (behaviours) were identified, with some being mentioned by multiple SILs. Behaviours to avoid were also discussed and usually presented as the opposite or a counter to the useful strategy being presented, for example:

*Always try to get students to do the writing on the blackboard or white board - as soon as a facilitator writes on the board, it creates a tutorial like environment where the students are expecting answers from you.*

(Ian, community post, 3/4/2008 @ 12:48PM AEST)

The specific strategies (behaviours) discussed were:

- Getting students to do the writing on the white board (Ian, Michael, Natasha)
- Redirecting questions (Ian, Natasha)
- Breaking a problem down into its component parts; going back to basic principles (Ian, Michael, Tim)
- Referring students to lecture notes or textbooks (Ian, Tim, Kristy)
- Structuring of each session, and all sessions in a semester so that content builds from the easiest to the most challenging (Ian)
- Redirecting the student and their question to a tutor or the subject lecturer (Michael)
- Questioning techniques (Tim, Natasha, Chris)
- Sitting “at the front on the side” of the session (Natasha)
- Waiting “3 or 4 seconds” before participating in the discussion (Chris)
• Providing students with some answers (Kristy)

In this discussion, problems and questions were addressed, although answers were directed to all participants rather than at the poster. This is reinforced by interview data, as all interviewees said that in the community discussions they would talk with the community in general rather than with specific members.

Discussion Topic: Setting the Agenda and Managing Time

The third discussion in the community was about agenda-setting and time management. In addition to the moderator’s topic starter there were five posts from four SILs. As two of the posts were consecutive postings by the same SIL (Chris) within 30 minutes of each other, they could be thought of as part of the same contribution. Of those SILs who contributed, three were inexperienced and one was experienced. The discussion starter asked the SILs to consider what they can do to set the agenda in their sessions, how they choose between the “most important” and “most difficult” concepts, who holds the responsibility for agenda-setting, and what their tips are to help manage time.

The first contribution to the discussion was from Mandy, who was in her first semester as a SIL. She was very concerned about covering all of the material from lectures:

The first PASS session for the finance part of the course we only got through the first lecture’s worth of stuff, and there are three lectures in a week. The first part of the course it is very important to understand the content so that the harder stuff that comes later can be mastered, but I dont know how to get 3 lectures worth of stuff covered in only an hour.

(Mandy, community post, 21/4/2008 @ 9:20AM AEST)

Unlike in previous community discussions in which the participants wrote to the community in general, in this discussion Mandy’s concerns were addressed directly by two SILs. The first was Suzie, who identified herself as a fellow finance SIL. She began by empathizing with Mandy about the scope of material to cover in a finance session. She then wrote that
With regards to what you should be covering, it may depend on the capabilities of the students in the session. It is alright to cover just the first lecture's worth of stuff, if most of them are having difficulty mastering the more easier concepts.

(Suzie, community post, 24/4/2008 @ 8:16AM AEST)

Kristy was the next contributor to the discussion and her approach to agenda-setting relied on her own experiences in the subject as a student. She would allocate more time to the concepts that she struggled with. She found that this was ineffective, as the students would have more difficulty with different topics than she had. Her advice was to “stay flexible and allow for mishaps in your agenda so that there are activities that can be dropped or pushed to the next week”.

The final two postings were by Chris, who first described the differences in agenda-setting between his sessions. He creates a range of activities and selects them based on the specific needs of the session as it happens. Like Suzie and Kristy before him, he emphasized flexibility in his sessions:

I believe that it's very important for pass leaders to remain flexible, and to identify what the students in would like to cover. There have been times when I've had to modify a question or write a totally new one on the whiteboard because the students had more and/or less trouble than I thought with particular questions ... So I guess in the end the important thing is that we have covered what the students in our session wanted to cover, regardless of whether or not it was on our 'agenda' for the week...

(Chris, community post, 7/5/2008 @ 10:59PM AEST)

Chris addressed agenda-setting and time-management as two separate issues, dedicating one post to each. He first described his initial difficulties, then his current approach to time-management. After that, he explicitly addressed Mandy’s concerns, including a quote from her post:
"but I don't know how to get 3 lectures worth of stuff covered in only an hour.  
Does anyone have suggestions?"

To [Mandy], I don't think there is any way to get three lectures worth of content covered in an hour (not if you want to do it properly). But that's OK because it's not really our job :P I don't envy your position. I would probably try to focus more on the techniques and steps they can use to learn the formula's and how to apply them, as these are the sorts of things that helped me in the past ... as opposed to looking through working that I just can't understand (induction *shudder*).  

(Chris, community post, 7/5/2008 @ 11:23PM AEST)

No contributor to the discussion directly addressed the concept of who holds responsibility for agenda-setting in their sessions. In their posts was an implicit assumption that this responsibility lies with the SIL, although Chris did suggest that the leader set the agenda but still cover what the students want.

**Discussion topics that received no comments**

Two discussions were started that received no comments. The first of these, started by Michael, was about a technique he called the “Five Minute Hook”. This discussion was unique as it was the only one started by a SIL. Also it was the only discussion in which the session evaluation form was used as a starting point. Figure 6-3 shows part of this form.
Using this different tool to post made it appear differently on the site, as Figure 6-4 and Figure 6-5 show. Figure 6-4 is a screen capture of Michael's discussion starter, and Figure 6-5 is a screen capture of one of the moderator's discussion starters. In both cases the identity of the participants has been protected by obscuring their photographs.
Both Figure 6-4 and Figure 6-5 remained on the front page of the site for over a month. Although there is a short summary of Michael’s discussion in the form of “A good hook using Kirchoff’s Voltage/Current Law’s”, it doesn’t have the depth of information available in the re-teaching post that was made three days before it. For community members to see Michael’s tips they would have needed to click on the hyperlink “Five Minute Hook” and scroll down a full screen of his evaluation of his session.

Michael’s post’s title was “A good hook using Kirchoff’s Voltage/Current Law’s”. Kirchhoff’s Voltage Law and Kirchhoff’s Current Law are two fundamental electrical engineering laws used in the subject Michael was a SIL on. Although
his Five Minute Hook strategy may have been useful to other SILs, his mentioning of the content area in his post’s title may have affected how many SILs looked at it.

Michael’s post described his Five Minute Hook strategy, which is an adaptation of the “hook” strategy used by SILs at the end of their sessions. The goal of a hook is to maintain attendance in the session. Some hooks that are used by SILs include descriptions of the next session or pre-empting difficult lecture content that the students may want to discuss in the coming week. Michael described his context, then his strategy, and finished by encouraging other SILs to consider his contribution and offer comments or suggestions. His six paragraphs of text were the longest contribution to the site by a SIL.

The second discussion that started but did not receive any comments was about exam preparation. The topic starter was posted by the moderator around three weeks before the end of the semester. This is often the time that SILs and their students begin preparing for their exams. The moderator described the SILs’ special status as potentially “the only person [the students] know who has taken – and passed – the exam”. They were asked to contribute their opinions on the exam preparation help they can provide the students that they can’t get elsewhere, the most difficult part of running an exam preparation session, and for their tips on running an exam preparation session.

**The Supervisor Member**

There was one supervisor member of the community. This member was given the same level of access as any other community member, and although he did log in he did not participate in the discussion. This person requested a login, as they were the supervisor of some of the community members, but did not participate in an interview.
Analysis of the community’s online and interview data in terms of the analysis framework

Cost

SILs discussed the ‘cost’ of their involvement in interviews and in mentoring. Although they did not use the word ‘cost’ they did discuss their use of finite resources such as time; in this analysis framework the Social Exchange Theory term ‘cost’ is used to represent this theme. Cathy, Amanda, Natasha, Michelle, Suzie, Michael, Chris and Simone discussed the cost of their involvement.

SILs said that they viewed their available time as scarce. This is realistic as compared to other students they usually have more demands on their time, including a requirement to maintaining a minimum of a credit average to continue as a SIL. Some had other demands on their time, including other work with their SI program, other paid work or family commitments. Michael said that although he had a typical semester in terms of workload, he expected that his experience of a scarcity of time would probably be similar to that of other SILs:

_I think [SILs] are usually high achieving students who pressure themselves quite a lot sometimes. I don’t doubt at all that that would be a contributing factor to someone’s experience because time can be quite constrained and that’s going to affect how someone contributed to any community._

(Michael, interview)

Some SILs had particularly difficult semesters in terms of time. Cathy had initially expected to be able to participate, but was required to act as a SIL on two subjects instead of one. For Michelle, being a parent, a student and a SIL made it difficult to find time:

_My schedule is pretty demanding so I’d be at home trying to fit it in between cooking dinner and looking after my son and that type of thing,_
yeah it was pretty demanding. Trying to find 5 minutes of quiet time to have a look at something can be pretty hard sometimes
(Michelle, interview)

The small amount of time the SILs had available to use at their discretion led to this time being highly valuable. This impacted on their perception of the time cost of involvement with online mentoring and the community.

Of all the SILs that mentioned a time cost, all but Michelle mentioned that it took them less time than they had expected. Michelle said that she had spent the amount of time that she had expected. The anticipated time expenditures ranged from 20 minutes per week to one hour per week. The actual time spent per week reported by SILs varied from a few minutes per week to one hour per week.

The time required for the training was mentioned by one SIL, Chris. He said that the training used too much of his time and he would have preferred something briefer. He also mentioned that he would have preferred to have had the training materials given to him before the semester started when he had more time. He said this would have dealt with all the training at once, getting it over with “like a band aid”. No other participants commented about the time required for the training.

For some SILs the time required was prohibitively high and they did not participate. Despite her initial interest in participating, Simone made no contact with her mentor or the community. When asked for an interview, she said she didn’t have time but would answer the questions by email. She said that she didn’t participate in mentoring or the community because she didn’t have the time:

I read the emails supplied but did not participate with the online mentoring – I work and study full time and could not find spare time to do this.
(Simone, email)
In addition to the time costs associated with participating, there were what can be thought of as psychosocial costs associated with contributing. SILs said that they were less likely to post to a discussion that they perceived was long as they didn’t want to be seen posting redundant information. They also said there was a difficulty associated with contributing to a post that had no replies. These ‘costs’ reduced as the semester progressed and the SILs became more comfortable with the community.

**Benefit**

There were two main categories of benefits that were identified through analysis of the community data: those that were actually experienced; and those that were expected but not experienced. Reading about session behaviours other SILs used in their sessions was one benefit experienced by SILs. They regarded it as a benefit because they were given new things to try in their sessions that were actually implemented by their colleagues. This direct method of helping community members was appreciated by many SILs, including Chris who said:

*I found experienced leaders were giving me actual things to try rather than just beating around the bush. Like things to try and things that have worked in the past … the experienced guys … are really the best resource that PASS has*

(Chris, interview)

Chris mentioned benefiting particularly from the role-modelling of experienced SILs. Two experienced SILs, Natasha and Suzie, also made special mention that they benefited from the role-modelling of experienced SILs. For Suzie, the disagreement between Tony and Michael about re-teaching was particularly helpful:

*It was interesting that they were both very experienced leaders and at the same time have very different understanding of how pass should be run. And that was helpful for me as even though this was my third*
[semester] these are the really difficult things that even with a lot of experience, like it’s still really easy to re-teach if you are not paying attention.

(Suzie, interview)

SILs reported benefiting psychosocially from their involvement with the community. For Michelle, knowing that the support was there was a support in itself. She said that her online mentoring and community experience was her main support as a SIL:

oh it helped me heaps ‘cause like I said at the beginning I didn’t feel like I had the support down here. But being able to go on there I could see what everyone else was doing and ask questions and a lot of the time the things that were posted on there were something that I was dealing with or had thought about and was wanting a bit more information and I could find it on there which was good

(Michelle, interview)

Here Michelle has discussed how involvement in the community helped her deal with isolation. In addition to helping some SILs cope with isolation from other SILs, involvement also helped newer SILs psychosocially through boosting their confidence. This came in a variety of forms: knowing that their problems were normal for beginning SILs; being told that they were achieving well in their sessions; or seeing that their approach was also used by more experienced SILs. Chris talked about “the gut feeling about how good you were, feeling better about that and gaining confidence” as a significant benefit from his involvement. More experienced SILs mentioned that they thought the less-experienced SILs would benefit from a confidence boost from their involvement.

SILs talked about the benefits of learning new information. They learnt about the scale of SI/PASS in Australia and New Zealand and that it is implemented differently at different institutions. This prompted some SILs to reflect on their own philosophy of SI, particularly with respect to re-teaching. SILs said that they
benefited from this sort of information as it prompted them to think about their approach in their sessions.

Michelle had not experienced higher education outside of her small geographically-isolated education access centre. She said that she benefited from her involvement in the community by learning about diversity in higher education. She was able to apply some of what she learnt about cultural diversity to deal with diversity in her own sessions:

> they were talking about diversity and mainly cultural diversity and I sorta don't have that at [my campus], but I did have it in age. Because I had a big range in ages I could sorta relate a little bit.

(Michelle, interview)

The environment created on the community was regarded as a benefit by some SILs. Inexperienced SILs appreciated that they could discuss problems openly and that the response they received was constructive. Some more experienced SILs said that they preferred aspects of the online support to their face-to-face experiences. Michael appreciated the structured nature of the support:

> It provided a different environment for people to interact. In other situations you might not end up discussing things in such depth. And there was the more structured thing about it, like when you run into someone, even a pass leader; you are more inclined to talk about general things. The online community provided that environment to discuss those direct issues that affect everyone’s [SIL] experience. I thought that was really effective.

(Michael, Interview)

Some SILs benefited from improvement in their communication skills. Cathy, an international student and experienced SIL, said that she developed her online communication skills related to questioning and persuasion. Michelle said that she benefited from personal development through her involvement:
 everything from different methods to time management, leadership skills, yeah a huge amount of stuff
(Michelle, interview)

Chris said that he benefited personally from the community by becoming a better SIL, which in turn helped him become a better leader in the rest of his life:

*I originally did this to develop some leadership skills and I feel by making me a better [SIL] it made me a better leader.*

(Chris, interview)

SILs said that the discussions posted by the moderator were relevant and timely. Some said that they benefited from these even if they didn’t contribute and just read what was posted. Suzie said that she benefited from the discussion by linking it to her training, which as an experienced SIL was more than a year ago. It also prompted her to go back to her resources, such as her university’s SIL manual:

*when people were posting stuff about [SIL] techniques it definitely reinforced that training. And I probably would have talked about that during my initial two day training when I started as a leader. So it made me go back and look at that manual*

(Suzie, interview)

Michelle talked about the comparative benefits of mentoring and the community. When talking about the community, she appreciated the many inputs she could get:

*rather than just having one opinion on something you could have ten, or more, depending on how many people decided to post comments on there and you could see all different aspects of what maybe you could try or how people were dealing with things and it just sorta opened my eyes about things I probably hadn’t thought about*

(Michelle, interview)
She also appreciated her mentoring relationship as it provided safety and confidentiality:

*rather than feeling intimidated and opening up to everyone that was on there you could have that one-to-one relationship and get to know someone a bit better before you did divulge that information, yeah it made me feel a lot more comfortable*  
(Michelle, interview)

Some SILs expected to have a mentoring experience but didn’t have one, usually due to a non-responsive mentor or mentee. Some of these SILs, such as Chris, Suzie and Michael tried to get those benefits from the community. Michael found that the benefits he could gain from the community were limited by the amount of discussion.

Suzie had expected to benefit from a higher use of profiles and use of the video functionality. She felt that without seeing videos of sessions there was a limit on the benefits she could gain from the community. She also would have preferred if more users had filled out their profiles:

*I think that more people should have pictures; it’s easier to be writing and being able to picture the person’s face that you are writing too. And maybe a profile with their experience and that so you know straight away what experience they have had.*  
(Suzie, interview)

**Cost-benefit**

SILs mentioned making rational decisions based on consideration of some positives and negatives of their involvement in the community. Using the terminology of Social Exchange Theory, these SILs are conducting a cost-benefit analysis. These decisions occurred at three stages. First the SIL decided whether they would be involved with the community. The SIL then decided if they wanted to log in at a particular time. The SIL then decided what they wanted to do once logged in.
For Cathy and Amanda the prospect of involvement in the community had initially appeared positive on evaluating the potential benefits and what it would require of them. As their circumstances changed they reconsidered their decision. Cathy took on leading in another subject, effectively doubling her SI workload; Amanda was in the process of moving house and selling a business. As their available time decreased its value became greater. Their expected benefits remained constant. Using the terminology of Social Exchange Theory, the decisions they described having made can be thought of as coming from a less positive cost-benefit evaluation than they initially expected. Both said that they had not been as involved as they would have liked, but asked to become involved the following semester as they thought they would have more time.

SILs discussed their decision to log in at a particular day and time on consideration of what can be described as ‘costs’ and ‘benefits’ for Michelle. These were both high; she would find it very difficult to find time to log in, but she said that she was “getting a lot out of it” and was “willing to find the time”.

For Chris, logging in was not difficult or time-consuming, and although he found logging in beneficial it was not to the extent that Michelle experienced. He had more support at his campus than Michelle did. Chris had a much lower time cost than Michelle did, as he would log in on his laptop during “boring lectures”, some of which he may have been getting paid to attend as a SIL. He also found that his disciplinary background and degree structure made it easy for him to get involved and increased the benefits he received:

As a computer science student getting onto the site and doing this type of thing was cool, and it was also a good way to communicate with people. Other than that, I had an easy timetable and I had a lot of time on my hands to do stuff, so that wasn’t a problem for me.

(Chris, interview)

As the semester progressed, SILs witnessed an increase in postings and then a decrease. As a result, their perceptions of the usefulness of discussion varied through the course of the semester. Thus some SILs logged in less often
towards the end of the semester. For example, Chris found himself logging in once a week instead of several times a week and Michael ended up revising his initial 1.5-hour per week commitment:

I’m very structured with my time usage and at the start of it I thought to myself what my expectations were and how I was going to be involved and I structured some time commitments around that very early on in the piece. And I came to the conclusion I would check it twice a week, but as it turned out it started to die off and nothing really developed for me to have an interest in it.

(Michael, interview)

If a SIL decided to log in they then decided what they would do in the community. SILs discussed their decision-making around numerous options: posting, reading but not posting, uploading materials and completing the training. The decision to post or just read was commonly discussed in interviews. SILs who were time-poor at a particular moment would sometimes choose to just read as the time required was lower, but they retained much of their perceived benefits of posting. When they had more time available their time-cost would be lessened and posting would be a more attractive option.

Using the terminology of Social Exchange Theory, their decision can be thought of as a rational cost-benefit analysis.

Only two SILs attempted to upload their materials. Chris said that he would have liked to, but that as the upload tool was part of the session evaluation tool he felt it took more time and effort than it was worth:

I probably could have put my slides up to be reviewed. And I know you could do this, but to do so you needed to do the whole evaluation form template. I just remember the form being really long; I was filling it in thinking that I would finish it off later but never doing so. It probably would have been easier where you could have things separate, like a gallery of slides or just preparations.

(Chris, interview)
Chris viewed the training similarly in what could be termed a negative cost-benefit. He was the only SIL to express this view, while some others found the training to be helpful and brief. Chris was the only SIL from a computer science discipline background, and this may have affected the effort required for him to read the text, and the benefit he would receive from some parts of the training, particularly the section on how to use the system.

Suzie found that fully filled-out profiles informed her about their background without requiring her to spend significant time re-reading the same information. This can be considered as a positive cost-benefit for her. She said that SILs were repeating themselves too much and that this could have been remedied by their filling out their profiles:

*the profiling stuff, so each leader has a profile on how long they have been a pass leader, what subjects, what campus, so that on each post they didn’t have to keep repeating themselves*

(Suzie, interview)

**Deprivation-satiation**

Suzie was the only SIL who discussed themes that Social Exchange Theory would term ‘deprivation-satiation’. In addition to satisfying her mentee’s need for reassurance, she also noticed an effect in the community that can be described as deprivation-satiation. She found that as topics grew longer, the community would build a more comprehensive knowledge base. She thought that she didn’t want to add redundant information; as if the community’s need for understanding of the topic had been satisfied and there would be little reward for any additional information:

*by the time I looked on it people had already said some pretty comprehensive things and I was thinking it was really good and I could use it. I did post on the issue of managing time and I felt more*
comfortable because there wasn’t like ten responses already and not just repeating what others had said.
(Suzie, interview)

**Behaviour**

SILs discussed strategies they used in their sessions and activities that they do that are related to their role. Using the terminology of Bandura’s Social Learning Theory, these are named behaviours in this analysis.

**Reasons for discussing SI behaviours and reading about them**

In the community, SILs chose behaviours to contribute for one of five reasons:

- Another SIL asked a question that could be addressed with a behaviour
- The moderator started a discussion topic that related to that behaviour
- The SIL wanted to share a behaviour they thought would be of value to the community
- The SIL was sharing an evaluation of their session
- The SIL wanted to reinforce another SIL’s behaviour

According to Chris, the behaviours that they discussed were “actual things to try rather than just beating around the bush”. Chris said that he preferred reading other SILs discussing their behaviours rather than reading about it in the SIL manual.

When discussing behaviours in interviews, SILs said that comparing their own behaviours to those that were being discussed by others online helped them evaluate themselves as SILs. Chris said that seeing others’ behaviours “really helped [him] gauge where [he] was and the sort of things [he] was doing or not doing well”. From the perspective of Suzie, one of the experienced SILs in the community, this was intentional:
I was sort of saying, well you’re doing a really good job and yeah, I’ve done the same sort of things, and I went about it this way.

(Suzie, interview)

For Suzie, detailing behaviours she employed as a SIL that were the same as those already illustrated by less-experienced SILs was one way of providing them with positive feedback.

**SIL-Student relationship behaviours**

SILs discussed behaviours they can employ regarding their relationship with their students. Jane said that she thinks “it is crucial to let them see you care and offer them resources to update themselves and encourage them with their involvement”. Amanda mentioned multiple behaviours that she employs to develop her SIL-student relationships, including putting “extra effort” into “getting to know them individually ASAP”.

Amanda was located at an isolated education centre with fewer than 20 students enrolled in her subject. In interview she said that her relationship with her students, and their relationships with each other, were closer than at larger campuses. In the online discussion about attendance she described a particular behaviour of using this closeness to pass responsibility for her sessions to her students:

*I stressed at the first session that the PASS sessions belong to them, and that its success hinges on sufficient attendance*

(Amanda, community post, 16/3/2008 @ 8:48AM AEST)

**Behaviours to increase student attendance**

The role of the SIL includes advertising and promotion of their sessions to encourage more students to attend. Paul described his attendance promotion behaviours while discussing a small session with his mentee Kristy:

*advertise the class somehow and talk up the fact that it is much more intimate due to low numbers. I also have a class of around three, i have*
tried advertising but to no avail, it is often hard to grow classes and is i
guess then more important to try to retain those that you do have
(Paul, mentoring post, 22/5/2008 @ 10:14AM AEST)

Paul suggested a behaviour to attract new students to Kristy’s sessions and
recommended that she try to retain the students that are currently attending her
sessions. One behaviour used to retain students is the ‘hook’, in which the SIL
provides the students with a reason to attend the following week. This reason to
attend is usually centred on the content that will be covered that week.
Experienced SILs Natasha and Michael both promoted the use of a hook.

Natasha advocated the use of a hook as a “continual reminder of what [the
students] can get out of attending [SI] each week”. Michael’s hook behaviour
built on the content that he had covered in the session that week, and gave
students questions they could answer in the last five minutes of the session. He
used this as a way to get the students to reflect on their learning and see the
benefit that they had gained from attending.

Michael’s hook involved five carefully-sequenced questions, with the first four
being components of the fifth question. Michael wrote that students are able to
solve the first four questions easily, and that this then forms the solution for the
last question. He uses his expertise as a student in the subject as his hook:

I then turn this into my hook... I propose the question: "If I showed you all
that last question first up, how many people could have solved that in
their head?". I promote the fact that there are shortcuts and easier ways
of doing things, and my experience in this subject previously can assist
students by helping them realise these shortcuts.
(Michael, community post, 6/4/2008 @ 12:40PM AEST)

Behaviours to avoid re-teaching

A range of behaviours was presented by SILs regarding re-teaching. These
were mentioned previously in the description of the re-teaching discussion.
A diversity of re-teaching attitudes was presented by SILs. As a result, all SIL participants were presented with a range of behaviours that may have been new or affirmed, or that challenged their current practices. Experienced SILs, Natasha and Suzie, both changed their re-teaching behaviours after getting involved in the community discussion. Natasha said that reading other SILs’ approaches led her to adopt some of the same behaviours and analyse her own approach to re-teaching. She said that she was now more comfortable getting students to write on the whiteboard instead of herself, a behaviour advocated by Ian and Michael. She said that as a result of adopting some of their behaviours, “[her] own re-teaching is not so much as it was”. For Suzie the behaviours she adopted made it easier for her to avoid re-teaching:

> Often it's so easy to give them the answer, as one post said, but then they wrote a brilliant response on how to counter that. And then from that I started doing that at the end of my sessions. I started giving one sheet between two and telling them to ask the other person before they ask me, and though sometimes they would still ask me there would be sessions where they would just be discussing it amongst themselves.

(Suzie, interview)

Suzie credits one of her fellow SILs discussing a re-teaching-related behaviour with reducing the pressure on her to re-teach.

**Behaviours for preparing and sequencing sessions**

SILs are required to prepare-for and plan their own sessions and they shared behaviours related to this in the community. Jane demonstrated her session sequencing using the session evaluation form:

> We went through the 'how to learn tip' of how to prepare and write a good essay then played pass the parcel, which i had questions in each layer as we listened to michael Jackson... :) After we discussed the key parts of their lectures. I had so much fun this session. The students said they
enjoyed the activity afterwards and they were more interactive and keen to help each other with the questions.

(Jane, community post, 26/3/2008 @ 4:03PM AEST)

Her entry shows that she attempts to incorporate academic skills in her sessions as well as games and course content.

SILs (including Natasha, Chris, Mandy and Kristy) discussed difficulties that they face preparing for sessions and provided their solutions as behaviours. Natasha discussed the difficulties of preparing for four sessions that are spread throughout the week. Having her sessions spread out this way means that some are before assessments or lectures and some are afterwards. After describing the difficulty that this poses she described her planning behaviour:

Basically, I prepared 2 different sessions based on what the students has requested the previous week. My PASS before the test wanted to do some practice multiple choice questions and so I prepared a mock test for them (see the last 2 pages of the attachment). This went really well, as I felt that the students both cemented their learning with what they already knew, as well as picked up a few extra hints and tips. The PASS' after the test had a surprisingly good turn-out considering that it was just after a test and just before the midsession break (I even had students attend both the before and after test sessions!). We continued on with the course content from the previous week by completing exercises in pairs and then reporting answers back to the group and explaining how to get the answer on the whiteboard.

(Natasha, community post, 3/4/2008 @ 9:11PM AEST)

In addition to modelling her preparation with this description, Natasha also provided an artefact from her session: her preparation document. After modelling the behaviour as it was implemented she provided a more abstract summary:
Please see the attached file for my preparation for the sessions. I prepare a worksheet every week with the following headings: introduction, lesson outline, activities, study tips and hook. I have found this method very useful in effectively preparing for sessions!
(Natasha, community post, 3/4/2008 @ 9:11PM AEST)

Here she has overtly modelled her behaviour, provided the community with a sample of her work, coded the behaviour into steps, and provided the community with her framework for session preparation.

Mandy mentioned in the discussion about agenda-setting and time-management that she was having difficulty fitting three lectures worth of content into her sessions each week. Chris also had difficulty with choosing how much content to cover in a session:

This is something that I struggled with early in the session. Looking back, I'm quite sure it's because I tried to cover too much during each session. My other major issue was not allowing time to go over solutions and answers, depending on the difficulty this could be a good 5 or 10 minutes.
(Chris, community post, 7/5/2008 @ 11:23PM AEST)

Chris addressed his own difficulties with his preferred preparation behaviour: being aware that students may finish activities quickly or slowly and being prepared for both possibilities. In addition to sharing his difficulties, Chris addressed Mandy’s concerns, firstly by agreeing that covering that much content would be difficult:

I don't think there is any way to get three lectures worth of content covered in an hour (not if you want to do it properly). But that's OK because it's not really our job :P I don't envy your position.
(Chris, community post, 7/5/2008 @ 11:23PM AEST)

After this comment, Chris started to describe the behaviour he would use to address this problem:
I would probably try to focus more on the techniques and steps they can use to learn the formula's and how to apply them, as these are the sorts of things that helped me in the past ... as opposed to looking through working that I just can't understand

(Chris, community post, 7/5/2008 @ 11:23PM AEST)

Chris described his behaviour firstly in a generic context that was common to both himself, a computer science SIL, and Mandy, a finance SIL, and that both could relate to. He then gave an example of his actual behaviour in his own context.

Chris advocated that the SIL be prepared for many circumstances, and also be adaptive to the needs of the students:

When I'm doing my prep, I will look ahead in the lecture notes and in the upcoming assignments to identify the areas that may need to be covered. When I begin writing questions and tasks, I try to include some easy and some more difficult tasks for the groups that have sessions later in the week. I usually have about 5 all up, and then we decide which questions to work through as a group usually. ie. Before handing out the handouts I'll ask the group what they've covered recently or just quiz them a little about a certain topic. eg. "What is an array, how do you declare an array?". This gives me the opportunity gauge which questions might be most appropriate for them. I believe that it's very important for pass leaders to remain flexible, and to identify what the students in would like to cover. There have been times when I've had to modify a question or write a totally new one on the whiteboard because the students had more and/or less trouble than I thought with particular questions ... So I guess in the end the important thing is that we have covered what the students in our session wanted to cover, regardless of whether or not it was on our 'agenda' for the week

(Chris, community post, 7/5/2008 @ 10:59PM AEST)
Here Chris is advocating a model of SI that is very much driven by student need. The preparation behaviours he is modelling include over-preparing so that he is prepared for any occurrence. Both Chris and Suzie described behaviours that included preparing more than one session of material each week. In the development of the model, one of the SI supervisors interviewed remarked that this was a behaviour to be avoided to lessen the workload on SILs. Kristy wrote that she had also learned to be flexible with the students, and found that “the key is to stay flexible and allow for mishaps in your agenda so that there are activities that can be dropped or pushed to the next week”. Here she is providing a time-saving behaviour: activities prepared for one week can be saved to use the following week.

Kristy, Mandy, Suzie and Chris discussed the problem of choosing the level of difficulty of activities, and what parts of the subject to focus on. Suzie contributed to the student-driven agenda-setting theme of the discussion by promoting a behaviour of letting students set the difficulty of the session.

\[\text{With regards to what you should be covering, it may depend on the capabilities of the students in the session. It is alright to cover just the first lecture's worth of stuff, if most of them are having difficulty mastering the more easier concepts. Like as you said, the first part is very important and that usually builds the foundations for what they need to grasp the harder concepts. What I like to do, is to introduce the easier material first, to ensure that all students have a general understanding of what's going on, in later sessions when I set practice tests for them to do, then I include harder material.}\]

(Suzie, community post, 24/4/2008 @ 8:16AM AEST)

Here Suzie is directly addressing Mandy’s concerns by modelling a behaviour.

**Organising Behaviour Symbolically**

Using Bandura’s terminology, a symbolic organisation of a behaviour is a representation or understanding of it that is abstracted in some way. Symbolic
organisation of behaviour can take many forms, including flowcharts, templates and algorithms. When SILs were modelling behaviours they represented them through a symbolic organisation and/or an overt model. When SILs were observing modelled behaviours, represented by the written descriptions and/or overt models of other SILs, they were reading and responding to this symbolic organisation. As a result, this analysis focuses on symbolic organisation of behaviours by the SILs who were modelling the behaviours.

Overt and symbolic modelling were not mutually exclusive. One example is Natasha’s session evaluation in which she also provided her preparation. Here she modelled behaviours she used in the session as well as her behaviours in preparing for her sessions. Her modelling is overt because her description is of actually implementing her behaviours in a real-life session:

> Basically, I prepared 2 different sessions based on what the students has requested the previous week. My PASS before the test wanted to do some practice multiple choice questions and so I prepared a mock test for them (see the last 2 pages of the attachment). This went really well, as I felt that the students both cemented their learning with what they already knew, as well as picked up a few extra hints and tips. The PASS’ after the test had a surprisingly good turn-out considering that it was just after a test and just before the midsession break (I even had students attend both the before and after test sessions!). We continued on with the course content from the previous week by completing exercises in pairs and then reporting answers back to the group and explaining how to get the answer on the whiteboard.

(Natasha, community post, 3/4/2008 @ 9:11PM AEST)

Natasha’s modelling is both overt and symbolic, as after she described what happened she described the steps she took to perform the behaviour:

> I prepare a worksheet every week with the following headings: introduction, lesson outline, activities, study tips and hook. I have found
this method very useful in effectively preparing for sessions!
(Natasha, community post, 3/4/2008 @ 9:11PM AEST)

Here her organising method is to abstract the behaviour into a set of steps, which are the headings that she uses to structure her sessions. Some modelling was only symbolic, such as the behaviours modelled by Ian and Michael in the re-teaching discussion. Ian encourages SILs to use this behaviour as one remedy to re-teaching:

breaking the problem down into its most basic components - if everyone in the room is drawing a blank, go back to basics and attack the question using probing questions to draw the answer out from first principles;
(Ian, community post, 3/4/2008 @ 12:48PM AEST)

Here Ian is providing symbolic modelling representing his behaviour as a logical, generic sequence rather than overtly modelling by re-telling his own actions. Later in the discussion Ian concedes that re-teaching may be permissible as a last resort, something that Michael disagreed with. Michael offered this symbolically-modelled behaviour as a part of his counterargument to Ian’s opinion on re-teaching:

In the event that this would seem as the only option (i.e. after redirecting a bunch of questions and breaking it down into simple tasks) I believe it can be more appropriate to then redirect the student, and their question, to a tutor or the subject lecturer.
(Michael, community post, 6/4/2008 @ 12:11PM AEST)

Michael has described the decision-making process he would employ and the actions he would take symbolically.

Sometimes modelling was only represented overtly. This was usually by inexperienced SILs who would address the moderator’s discussion prompts with a re-telling of what they had done in their session. In response to the moderator’s prompt, which asked what SILs can do to increase attendance in their sessions, Amanda wrote:
I stressed at the first session that the PASS sessions belong to them, and that its success hinges on sufficient attendance
(Amanda, community post, 16/3/2008 @ 8:48AM AEST)

Here she is overtly modelling by recounting what she has done in her own sessions to increase attendance.

**Enacting Behaviour Overtly**

When SILs implemented behaviours in their sessions that they saw modelled in the community they were enacting them overtly. SILs only discussed enacting behaviours overtly in mentoring dyads and in interviews, but they did not do this in the community discussion. They did discuss in interviews that they implemented behaviours that they saw modelled in the community, and that is the source of data for this analysis.

Suzie said that she would trial behaviours that she read online and evaluate them. She would decide to continue the behaviour based on its outcome in the session:

... and then see how they went down, if they went down really well or not. So I think ill do that more often now...

(Suzie, interview)

Here she is discussing that not only would she overtly enact the behaviours she read about but that she would also evaluate them. Fellow experienced-SIL Cathy also overtly enacted and evaluated behaviours she observed in the community:

I think during the middle of the semester this facilitator asked a similar question on how to prepare effectively and other people were replying with hints, like to check the textbooks for questions to save some time, or take some questions from the lecture notes. So I tried that one as well as even though they came across the questions during the lecture I found
that a lot of the students were still confused and they really needed some explanation from the good students
(Cathy, interview)

Contrasting with this, inexperienced-SIL Chris was already regularly enacting some behaviours that he read about, and used the modelling of other SILs as a way of evaluating his own performance. When more-experienced SILs indicated that they also used some of the same behaviours that he used, he felt more confident about his own performance.

**Model’s admired status**

In the community, admired status came from experience as a SIL. Both experienced and inexperienced SILs indicated that experienced SILs held admired status; for example Suzie indicated an appreciation for Michael’s level of experience even though both were equally experienced.

Apart from those SILs who knew each other outside of the community, experience was communicated either through profile information or mentioning in the community discussion. In the community discussion they would either describe their SIL activity in a previous semester or would explicitly say what their level of experience was.

An example of when experienced SILs influenced the discussion was in re-teaching. To use Tim’s words, more-experienced SILs had a more “hard line” approach to re-teaching. Although there was a diversity of opinion in this discussion, the anti-re-teaching viewpoint was backed by more-experienced SILs, and it was they who held admired status. Suzie indicated that she altered her own re-teaching behaviour in response to these “very experienced leaders”. She said that those SILs were more experienced in dealing with re-teaching:

*I think that in the community it was useful in that there were people who were more experience with things like the re-teaching issue, so I could draw upon their experience and implement what they recommended.*
They really were practicing the philosophy behind pass probably more than I was doing in my own sessions

(Suzie, interview)

Suzie had the same level of experience as a SIL but she considered that Michael had more experience in dealing with re-teaching. Because she admired their experience she adopted the behaviours put forward.

Chris indicated a strong preference towards the behaviours modelled by experienced SILs. In interview he mentioned the experience of models numerous times:

listening to the experienced guys role modelling the skills and what they actually do was really helpful

the experienced guys … they are really the best resource that pass has. I think that’s what made it really effective

I remember a leader giving really good input, as an experienced leader, saying how he did things and how he dealt with issues

(Chris, interview)

Chris views observing behaviours modelled by experienced SILs as the best way for him to develop as a SIL. He regards this as preferable to either the manual or the testimony of inexperienced SILs, as the experienced SILs can recall real-life experiences from sessions. For Chris this is better because “when you are in the session it’s completely different”.

Similarity of Model and Observer

All SIL participants were similar in that they were current students at their universities and each was employed by that university as a SIL. They did not mention this similarity in interviews or in the community discussion.

Some SILs had more similarity to each other, however this was only rarely mentioned; for example the similarity between Suzie and Mandy. When Mandy indicated that her subject area was “half accounting, half finance”, former
finance SIL, Suzie, offered help with session planning. She started her post by indicating her similarity to Mandy:

I am currently a PASS leader for a statistics course, but I have previously been a leader for a finance subject. I can fully comprehend what you mean, by saying that there is alot of material to cover in finance.  
(Suzie, community post, 24/4/2008 @ 8:16AM AEST)

Suzie followed this introduction with a session planning behaviour. Her introduction suggests she is trying to use her similarity to Mandy to empathise with her and add credibility to the behaviour she is modelling.

**Value of Outcomes of Behaviour to Observer**

Model SILs used the value of outcomes of behaviours to persuade others to adopt them. In interview, Cathy said that she learned to role-model and communicate more effectively as a result of her involvement in the community:

From my experience it is how you persuade other people to use your techniques through examples rather than just asking them directly to use them

(Cathy, interview)

Cathy identified being persuasive in getting others to adopt her behaviours as a leadership skill that she has developed through the online community. She said that learning to role-model more effectively was a leadership skill for her, both as a SIL and as a leader within her SI program.

The outcomes that were presented by SILs when modelling their behaviours were often related to the discussion starter posted by the moderator. An example of this is the discussion about attendance. SILs modelled behaviours that they said would have the valued outcome of retaining students in their sessions. Amanda’s behaviour of making a personal connection with the students is an example of this:
I also think if you can establish that each student's learning and progress is very important to you as a leader, then they will also be more likely to come back

(Amanda, community post, 16/3/2008 @ 8:48AM AEST)

Jane, Cathy and Tim all made similar contributions to their discussions in that they modelled a behaviour and mentioned its value in terms of getting students to attend. Most of the behaviours with a value of retaining students were modelled in response to that discussion. There were other occasions when SILs listed the outcome of a behaviour as retaining students, such as Michael’s post about his “5 Minute Hook” behaviour:

This puts alot of smiles on peoples faces, and hopefully make them think "I better be back for more tips next time". Overall, the activity and hook should not last any more then about 5mins. Quick, efficient and effective!

(Michael, community post, 6/4/2008 @ 12:40PM AEST)

Here Michael has used student retention as an outcome for his hook behaviour without being prompted by the moderator that this is a valuable outcome.

Some SILs viewed avoiding re-teaching as a valuable outcome, and this might have been influenced by the moderator’s discussion topic, which was focused on re-teaching. In this discussion, Michael, Ian, Natasha and Chris modelled behaviours and expressed that their desired outcome was to avoid re-teaching. Ian’s posting, the first in the discussion about re-teaching, details why avoiding re-teaching is an outcome that should be valued:

As soon as [a SIL] starts re-teaching, the session turns into a tutorial. While it's very easy to give the answer, it's much more difficult to change the dynamic of the session back from a tutorial to a PASS session. Once students get a taste of you giving them the answer, they'll keep trying to get more out of you. I know because I've made the mistake before, more than once because it is so easy to do.

(Ian, community post, 3/4/2008 @ 12:48PM AEST)
Ian then continues, to model behaviours that he believes achieve this outcome. Michael, Natasha and Chris supported Ian’s behaviours by writing that they would have the outcome of avoiding re-teaching. Michael writes this in support of Ian’s behaviour:

*I agree with much of what you have said Ian. Particularly about getting the students to do the writing and breaking the problem down into easier questions and steps, these really are the best tactics we as leaders have for combating [re-teaching].*

(Michael, community post, 6/4/2008 @ 12:11PM AEST)

Although Ian, Michael, Natasha and Chris viewed avoiding re-teaching as a very valuable outcome, some other SILs in the discussion viewed this outcome as having a competing and mutually exclusive outcome. In Tim’s words this is “the problem with maintaining order and structure”. He proposes behaviours that do not result in avoiding re-teaching, as he is actively encouraging re-teaching as a behaviour that has other desired outcomes. Fellow inexperienced-SIL, Kristy, also advocates for re-teaching. In her sessions, re-teaching has the outcome of providing the students with another resource:

*When there are a large number of students, generally someone knows the answer or at least has a resource to refer to but when there are only a few people in the room, chances are someone’s forgotten their notes and the others have no idea, or don’t recall ever hearing the topic in a lecture. In such cases, I tried bringing a text book in and getting them to look it up but it’s ineffective because only one person can use it and it wastes valuable time. When I have to resort to explaining a concept to students, sometimes just saying a really simple answer can jog them into remembering something or at least guessing what other issues may be relevant to the topic.*

(Kristy, community post, 28/4/2008 @ 5:39PM AEST)

Here Kristy explains that she sometimes has to “resort to explaining a concept to students” and that this has outcomes that she values. Another inexperienced
SIL, Alicia, also contributed to the discussion and valued the outcomes of re-teaching:

*Sometimes, time management is an issue, where you have to give answers straight away to keep things in order, ie to move on from one topic to another. Some of the participants expect more efficient session, and their definition of efficiency is how much correct answers they got. And I feel that if they know the correct answers, it will actually boost their confidence when solving problems, am I right?*

(Alicia, community post, 3/4/2008 @ 8:06PM AEST)

Like Tim, Alicia values keeping her session on schedule and uses re-teaching as a method to obtain that outcome. Alicia, Tim and Kristy were international students at institutions that had not operated SI before and this may have influenced the outcomes that they valued.

SILs also modelled behaviours that they claimed resulted in student learning and improved session dynamics. Chris modelled a behaviour that he has found makes students more likely to contribute to discussion:

*one other thing that I always remind myself to do, is to wait 3 or 4 seconds before trying to break the problem down further etc. I've found that in my sessions there has always been somebody who could help, but for one reason or another they have not. I feel that this small wait time allows the students to remember a thing a lecturer said or provides a chance to figure out what they are going to say! (And implies that you would like the answer to come from them first?) … I feel that it's important for us to give the students a chance to teach or "reteach" themselves whenever possible. I know I definitely need a few seconds sometimes to remember things or make sure it all works in my head. So maybe when a student or the class gets stuck next time, just step back for a few seconds (3 or 4 is plenty and isn't awkward) and just see if some one else steps in. It's worked for me a few times…*

(Chris, community post, 9/4/2008 @ 10:00PM AEST)
Chris presents multiple outcomes here for his behaviour: it encourages students to contribute; it gives the students a chance to teach each other; it gives students time to compose their thoughts; and it can avoid the session becoming “stuck”. Here he is communicating these outcomes as something that observing SILs could obtain if they employ his strategy, as he uses inclusive language, like “us”, and ends his behaviour by instructing them to try his behaviour next time their session is stuck.

**Mentoring Dyads**

There were eight mentoring pairs. As the model prescribed, each consisted of one experienced SIL mentor and an inexperienced SIL as a mentee. Four mentoring dyads were selected for a descriptive analysis: Suzie and Michelle, Natasha and Amanda, Chris and Cathy, and Michael and Tony.

**Suzie and Michelle**

Suzie was a SIL with two semesters experience and acted as a mentor for Michelle, who was in her first semester as a SIL. Their dyad was selected for analysis for five reasons:

- they had the most contact of all the dyads
- they both participated in an interview
- they were at different campuses of the same university
- the mentee was the only SIL at their campus
- the mentee was at a location that had not run PASS in more than three years

At the start of their relationship, Suzie had been a SIL for a second year finance subject for two semesters and had just started leading on a first year econometrics subject. Michelle was in her first semester at a geographically-isolated education access centre of the same university as Suzie, and was leading on a first year accounting subject. Both were full-time students studying towards a degree in the same faculty.
Although Michelle had travelled the 200 kilometres to Suzie’s campus to receive her initial training, this was weeks before their mentoring match had occurred, so no formal or informal meeting was scheduled. Their first recorded contact on the system was made by Michelle, who posted up a discussion topic:

Hi Suzie,

A little about myself to begin .... I am the [subject] Pass leader at the [name of campus] campus, in my 3rd year of a Bcomm (majoring in accounting), a wife and mother of one.

I have had two pass sessions with the students so far, with another tomorrow, and i am finding the role challenging but very rewarding already. My biggest issue is time management (smaller community and we all know each other) and i am trying very hard not to re-teach the subject material. There are 13 students enrolled in Accy100 at this campus and for the past two weeks 11 of them have come (surprisingly the other 2 are repeat students).

I would be willing to spend up to an hour per week (on fridays) to participate in the online mentoring community and will be open to suggestions in all areas of Pass mentoring. Any feedback would be greatly appreciated.

Thanks

Michelle

(Michelle, mentoring post, 17/3/2008 @ 12:16AM AEST)

Suzie replied with a similar level of detail about herself and began offering her experiences with one of Suzie’s concerns, re-teaching, immediately:
Hi Michelle,

I am a 5th year Commerce/Law student and I am a PASS Leader in Comm121. This will be my 3rd session of being a leader, and I look forward to working with you.

Spending one hour per week on fridays sounds good, I am free on 10.30am for an hour, does this sound good to you, because I can also do 11:30am.

In regards to the re-teaching, I at first also found it very hard not to re-teach, especially when its your first session of doing PASS, and your so eager to help them. But techniques that I have found really helpful when students are asking you questions, is to repeat the question, and somebody else in the session usually can answer it, have worksheets for the students to attempt and encourage them to work with the people they're sitting next to before they ask you how to do it.

I hope that is helpful, let me know regarding friday

Regards

Suzie

(Suzie, mentoring post, 18/3/2008 @ 9:39AM AEST)

Two weeks after this contact Michelle logged in to agree with the meeting time. When Suzie logged in the following week for the meeting Michelle was not on. After waiting 16 minutes, Suzie posted a message letting Michelle know that she missed her and that she’d be on the following week.

Noticing that Michelle was online, Suzie posted up a discussion topic “1st Meeting” and replied to her own post asking about how PASS had been going. Michelle’s first contribution was submitted six minutes after Suzie’s initial post.
Throughout this online discussion, Suzie and Michelle used the asynchronous tools provided to conduct a semi-synchronous discussion. All 14 posts in this discussion occurred during a period of one hour and five minutes. Both Suzie and Michelle made seven contributions to the discussion.

Michelle’s first contribution to the discussion was about a student who she said “looks at me like a tutor and as much as i try not to behave in that way its hard not to”. Suzie replied within five minutes with her own personal approach and experiences.

The following two discussions were shorter than the first one and occurred later in the semester, with approximately four weeks between each. The final discussion was after the semester had finished, and Michelle had been asked to be a SIL again the following semester. She had been asked to support a subject that she wasn’t confident in, which coincidentally was the same subject that Suzie had supported for a year. Suzie offered Michelle all of her materials and her email address for any further questions.

**Analysis of Suzie and Michelle’s online and interview data in terms of the analysis framework**

**Cost**

The cost of the mentoring relationship for Michelle and Suzie was expressed in terms of time and emotion. Initially Michelle indicated that she would be willing to spend an hour per week, and Suzie agreed to this. Logs indicate that on average they did not spend this long each week. When discussing the actual time spent on their relationship compared with their initial expectations, Michelle and Suzie had different opinions.

Michelle was of the opinion that her initial expectations were correct: “I sorta thought that it would take the amount of time that I was spending on there”. She said that she could have spent more time online, but she didn’t have it. Suzie
said that she thought she would spend an hour a week, but that her actual time spent didn’t reach half an hour.

For Michelle, sharing problems with Suzie initially carried what can be described as a psychosocial cost. Michelle said that this lessened when she “realized that she wasn’t going to bite my head off and tell me that I’d done something wrong”. The perceived challenge for Michelle in this instance was that she thought Suzie would think less of her or berate her if she shared a problem with her.

**Benefit**

There were many benefits to the mentoring relationship that Michelle and Suzie identified. Both described benefits that Michelle received, and Suzie described benefits that she herself received. They identified that Michelle benefited from psychosocial support, the nature of the mentoring relationship, strategies to use in her sessions, personal development, information support and advice. The benefits that Suzie received from the mentoring relationship itself did not intersect with Michelle’s; however she did receive some of the same benefits from the community. In addition, she identified some benefits that she received from being a mentor: the satisfaction of having helped someone; and a linking to her previous SIL training and manual.

**Psychosocial Support**

Michelle talked about the psychosocial support that she received from her mentoring relationship more than any other sort of benefit. In her interview she used language like “supportive” and “reassured” when describing Suzie. At the end of the semester she thanked Suzie for being “understanding”. Michelle found Suzie’s personal communication style helpful.

Both Michelle and Suzie identified confidence as an issue for Michelle at the start of her first semester as a SIL. Suzie could relate to this herself:

*I think mainly as a first time leader you have confidence issues. For me having gone through that and having had that experience I can understand where she was coming from. And telling her what I went*
through and that it does get so much better as you go, and you get so much more confident in that you are doing things correctly. So being able to give her that reassurance, I mean I haven’t been able to actually see her sessions to know if she is good or bad, but being able to give that reassurance [was good]. And now she’s thinking about being a pass leader again which I thought was great.

(Suzie, interview)

Michelle often mentioned in interview that she learned that her concerns, difficulties and challenges were very normal. This affirmation of her emotions was done intentionally by Suzie, who would reply that she had similar experiences as a beginning SIL. Michelle also gained this sort of psychosocial support from the community, when she could read about other SILs who were having similar difficulties.

Michelle raised the issue of her geographic isolation from the other SILs and the supports that they have access to when discussing psychosocial support. She repeatedly stated that she felt supported and more confident, and that this mitigated the isolation she experienced.

\[
\text{oh it helped me heaps cause like I said at the beginning I didn’t feel like I had the support down here. Um but being able to go on there I could see what everyone else was doing and ask questions and a lot of the time the things that were posted on there were something that I was dealing with or had thought about and was wanting a bit more information and I could find it on there which was good}
\]

(Michelle, interview)

For Suzie, psychosocial support was only a minor part of her experience in her mentoring relationship and the community. The satisfaction of helping Michelle and her thanks was all the emotional support that she received. This was not present in the community, but it didn’t bother Suzie:
in the community I didn’t get that emotional support, I got a lot of techniques but maybe because I’m an experienced pass leader I … don’t need that emotional or social support as much.

(Suzie, interview)

The nature of the mentoring relationship

Michelle identified that Suzie was reliable and not intimidating and that she benefited from these characteristics. Despite her high study load and other commitments, Suzie would always respond to Michelle’s questions within a week, and she appreciated this. Michelle found Suzie to be “really easy going and flexible” and appreciated the dyadic nature of their relationship:

I think that was really good, because rather than feeling intimidated and opening up to everyone that was on there you could have that one-to-one relationship and get to know someone a bit better before you did divulge that information, yeah it made me feel a lot more comfortable

(Michelle, interview)

By way of contrast, Suzie experienced a less reliable mentoring partner. She would sometimes log in at an agreed time and find that Michelle was not online. For her own support she used the community instead.

Linking to training and the leader manual

Suzie’s experiences in the community and with mentoring Michelle connected her back to her training and the manual. Suzie had been in her role as a SIL on the same subject for two semesters and had not received any extra training since she commenced, whereas Michelle had just completed her training at the start of the semester. For Suzie, her experience with mentoring and the community made her reflect on her training and try to remember what was covered then. When she needed to get some additional material or check her understanding of the role she referred to the training manual.
Learning New Strategies

Both Michelle and Suzie benefited from learning new strategies and discussing their use of established strategies. For Michelle this benefit was gained from the community and her mentoring relationship, whereas for Suzie it was only a feature of the community. The particular strategies that were discussed were behaviours used in sessions and out of sessions and are discussed in the behaviour code.

Personal development

Michelle said that she developed personally from her involvement with mentoring. Specifically she identified time management, assertiveness and leadership as aspects of herself that had improved from the mentoring relationship.

Information and Advice

Michelle benefited from information about PASS from the community and advice from her mentor. The information about PASS that she gained included cultural diversity that wasn’t something she experienced at her rural campus. She did relate this information to her own experiences of diversity in ages in her sessions. The advice that she received was about things to do in her own sessions. Suzie benefited from information from the community as well. For her it was the disagreements that occurred within the community discussion, particularly around re-teaching, that she benefited from the most:

*some responses were like ‘no no you cannot do this at all. No re-teaching at all’. But when I was reading them I was thinking ‘but the other week I did all of this stuff here’ and I’m like oh, maybe I need to change the format of my pass sessions. But at the same time another person would respond saying that they did think there was a point when you did have to give them hints when the whole class is stuck and don’t know the question. And I agreed with that. It was interesting that they were both very experienced leaders and at the same time have very different understanding of how pass should be run. And that was helpful for me as*
even though this was my third session these are the really difficult things
that even with a lot of experience, like it’s still really easy to re-teach if
you are not paying attention … there was a debate in there and it was
interesting to see that there just wasn’t one answer.
(Suzie, interview)

Cost-Benefit

There was evidence of Michelle and Suzie independently evaluating their
decision to maintain their relationship. Also, there was evidence of them
rationally deciding the amount of time to spend on it, based on the amount of
time they had available, as Michelle said:

My schedule is pretty demanding so I’d be at home trying to fit it in
between cooking dinner and looking after my son and that type of thing,
yeah it was pretty demanding trying to find 5 minutes of quiet time to
have a look at something can be pretty hard sometimes, but it was
something that was important and I was getting a lot out of it so I was
willing to find the time
(Michelle, interview)

In addition to allocating time to their relationship, based on the amount of time
they had available, they would also factor in how much benefit they were getting
from their current online session, with Michelle saying that:

sometimes I’d just get on and have a quick check to see if any messages
had been left for me and see if there was anything that interested me at
the time. And other times I’d get on there and have to read everything
cause it all seems really relevant and I’d write messages and yeah... so
anything up to an hour
(Michelle, interview)

Deprivation-Satiation

As Suzie discussed her feelings of satisfaction with having helped Michelle she
acknowledged that her help was needed less and less as the semester, and
their relationship, continued. She found herself needed less and less by Michelle who had newfound confidence. Although Michelle attributed this change to her mentoring relationship, she thought that she didn’t need it as time progressed. This suggests that Michelle’s need for psychosocial support which was very high at the start of their relationship, was no longer required as their relationship progressed to the point where additional support was no longer valued by Michelle, and Suzie’s offer to be her mentor again in the second study was turned down by Michelle. Instead Michelle opted to just participate in the community and this may indicate a deprivation-satiation effect.

Suzie perceived a deprivation-satiation effect within the community. She said that she would not contribute to discussions that were beyond a certain length, as she didn’t want to add redundant information. She said that she’d prefer to add to shorter discussions as she could be sure that she would add something new. This could be a deprivation-satiation effect as she perceived that the community would be rewarded less by each additional comment made.

**Behaviour**

Suzie and Michelle discussed four types of behaviours: use and preparation of handouts; avoiding re-teaching; explaining and re-explaining PASS; and setting the agenda.

Suzie and Michelle both described learning behaviours to avoid re-teaching. For Suzie, these were learned from the community, whereas for Michelle they were learned from the mentoring relationship. Suzie identified getting students to write on the board rather than doing it herself as a strategy that she now uses to avoid re-teaching. She found this behaviour when reading the community discussion about re-teaching. When discussing with Michelle behaviours for avoiding re-teaching, she identified some of her own existing behaviours:

- repeat the question, and somebody else in the session usually can answer it, have worksheets for the students to attempt and encourage
them to work with the people they're sitting next to before they ask you how to do it

(Suzie, mentoring post, 18/3/2008 @ 9:39AM AEST)

Michelle said that she used some of these strategies when trying to avoid re-teaching. Handouts were also used for other reasons and were a tool for agenda-setting and time-management.

SILs often need to re-explain SI to their students, and this was a behaviour that Suzie encouraged Michelle to use to avoid re-teaching. In this instance, Suzie was responding to a direct question about handling a difficult student who was pushing Michelle to re-teach. Suzie’s strategy was a re-explaining of PASS to the whole session to avoid singling out the difficult student.

Modelling

Modelling was one way SI behaviours were communicated by Suzie to Michelle. When she was modelling them she would explain her own steps in enacting a behaviour. She was conscious that she needed to model appropriate behaviours, and sometimes needed to revisit training materials to ensure she was doing this:

This was one question my mentee asked me directly, and for me I just re-read the stuff on re-teaching and explained to her my steps. Like explaining that you should ask the person next to you before you ask me, but not to direct this to the student directly but rather generally so it’s not like you are singling someone out.

(Suzie, interview)

Similarity of Model to Observer

Suzie and Michelle had some similarities: they were both high-achieving commerce students at the same university who had been employed as SILs. They communicated this to each other in their initial online meeting and both mentioned it in interview. At Suzie’s campus she was one of more than five commerce leaders. Suzie also mentioned her status as a commerce SIL in a
community discussion with another commerce SIL. Michelle viewed their similarity, both in terms of their shared experience as SILs and as commerce students, as a positive aspect in their relationship.

**Model’s Admired Status**

Suzie’s experience as a SIL was admired by Michelle. Michelle appreciated that Suzie was able to talk from experience and let her know what had worked for her in actual sessions:

> because she had been doing it for a little while she could yeah say well I'm doing the same thing and it works well for me

(Michelle, interview)

Both Suzie and Michelle admired the experience of the other SILs in the community. As an experienced SIL herself, Suzie was able to view the opinions of her peers and those who were more experienced. It was these more-experienced SILs from whom she learned behaviours such as getting the students to write on the board. For Suzie, experience was not just other SILs’ length of time in the role, it was also their experience with particular issues and their understanding of the role:

> I think that in the community it was useful in that there were people who were more experience with things like the re-teaching issue, so I could draw upon their experience and implement what they recommended. They really were practising the philosophy behind pass probably more than I was doing in my own sessions

(Suzie, interview)

Suzie also commented that she would have preferred the experience of community members to be more obviously displayed. There was a public user profile field for experience and Suzie was aware of this. She indicated that she would have liked this information to be displayed alongside their photograph when they made a posting.
Observer

In interview, Suzie commented that Michelle could have made the mentoring relationship more productive by asking more questions. Whenever Michelle asked a question, Suzie would answer it. Michelle asked more questions as the semester progressed. Michelle said in interview that she needed time to become comfortable with Suzie, but that after she was she felt that she could ask questions.

Value of Outcomes of Behaviour to Observer

Behaviours that had value to Suzie and Michelle were explicitly mentioned in their discussion or in interviews. These values related to their own feelings of confidence; their personal development; or, an improvement in the dynamics of their sessions.

When discussing their experiences of being a SIL for a semester, both Suzie and Michelle commented to each other that they felt good. Michelle said that the “strong positive comments” she received from her students made her feel that she had contributed to their learning. Suzie said that she had experienced this in her first semester and that it made her believe that it was worthwhile and that she was valued. In addition to feeling good, Michelle noted her awareness that she was more confident, a better listener, and a better communicator as a result of the behaviours she learned from her mentoring relationship.

When discussing some behaviours, Suzie and Michelle described their value in terms of some effect in their sessions. The benefits of using handouts were described in detail by both of them. Suzie viewed them as a tangible benefit for her students as they were something they could take away from the session. She also described a strategy of using one handout between two students, and valued this because it would promote discussion. Michelle valued using handouts as they helped her to cover the appropriate subject material and manage time, as well as helping the students.
Organising Behaviours Symbolically

Suzie and Michelle did not treat behaviours symbolically very often. Usually when they discussed their behaviours they treated them overtly and discussed them explicitly. They did not discuss their behaviours at an abstract level. When they discussed them in some symbolic way, it was usually to break down a behaviour into its component parts or steps.

Rehearse Behaviour Overtly

When Suzie and Michelle overtly rehearsed their behaviours it was in its intended environment, usually in their sessions. As they were separated by distance and chose not to upload any video or audio recordings of their sessions, feedback on their overt rehearsal was based on their self-reporting of how it went. They reported having tried out some new techniques, and in Suzie’s words, “see how they went down, if they went down really well or not”. Based on a behaviour’s result they either adopted it or not.

Natasha and Amanda

Natasha was a SIL with two semesters’ experience when she began mentoring Amanda, a SIL who had just commenced her role. Amanda was 350km away from Natasha or any other experienced SIL. They had not met, although Amanda had travelled to Natasha’s campus for her initial SIL training. They were both SILs supporting subjects in the same faculty and were themselves enrolled in degrees offered by that faculty.

Amanda initiated the first contact in their relationship and said that she wouldn’t have enough time for the online mentoring for a few weeks as she was moving house. Natasha responded 10 days later and said that this was fine with her. She enquired about what Amanda wanted out of the relationship and introduced herself. She received no response from Amanda.

Natasha contacted Amanda twice more through the online system to initiate some discussion. She was not met with a reply either time. She contacted the moderator who sent out emails to encourage Amanda to make contact but she
did not. Natasha remained active in the community and Amanda posted on some topics there.

**Analysis of Natasha and Amanda’s online and interview data using the analysis framework**

**Cost**

For Amanda her anticipated time requirement of involvement in her mentoring dyad was too high. She said that she did not have enough time to even consider involvement. She had anticipated having enough time after she had finished moving house and selling her business but this did not happen. In addition to these time pressures she also needed time to do her own study and other work on campus.

One of Amanda’s significant time pressures was the eight hours a week that she spent on SI. Normally SILs from her university are paid for attending half of the lectures each week, one hour for preparation, and the time they spend in their actual sessions. For Amanda this would have been between three and four hours per week. The additional hours she spent were on preparation for her sessions. With an established pattern of SI taking up eight hours per week, after she had finished moving house, she considered she still did not have the time for online mentoring.

Natasha found the actual time requirement of involvement with online mentoring and the community to be less than Amanda expected. She said that involvement did not take her much time, and that it was actually less than expected. Natasha read everything that was put on the community and appreciated that people were concise as this saved her time.

**Benefit**

Natasha had anticipated benefits from a more responsive mentee. She said that she was looking forward to discussing SI with someone in a closer relationship than the community. As she was not able to get this benefit, she substituted it
with the community, and mentioned she felt that social support was available to her there. To some extent Natasha found that the support that she received from the community was similar to the support she received in her first semester as a SIL from one of her peers.

Natasha appreciated the breadth of ideas and conceptions of SI available in the community. She found that this was limited by the amount of content that was online and would have appreciated more discussion. To her this sort of benefit was similar to a group professional development day, but extended to include people from other universities. She found it beneficial just knowing that other universities implement SI.

Amanda did not identify any specific benefits she received from online mentoring or the community as she said she had not been very involved. She said that it would have been beneficial for her to participate “as things came up” and that she could have dealt with difficulties better that way and developed as a leader.

Cost-Benefit

Natasha and Amanda each explained in rational terms their processes for deciding if they should participate, mentioning factors that can be considered as costs and benefits. For Amanda the costs were prohibitively high for her to participate. She did identify some potential benefits to her, but also considered that she functioned well as a SIL without them. In interview she said that she anticipated having less of a study load the following semester and was interested in becoming involved in mentoring then.

Natasha’s attempts to get a response from Amanda were unsuccessful. She continued to try, as it did not take much time for her to do so, and she was hopeful of receiving benefits from her desired mentoring relationship. She commented in interview that she would have appreciated being reassigned to another mentoring relationship with a more active mentee.
Natasha discussed her decisions around involvement with the community. These could be seen as cost-benefit analyses. She described two possible outcomes. When she had more time available the time cost was not perceived as high. On these occasions she chose to interact fully, and contributed to discussions or post evaluations of her own sessions. Other times she had little time and the time cost was perceived as higher. Natasha chose just to read in these circumstances:

*I must admit, sometimes I’d read the questions prompted for discussion and I would think about them myself but if it was late at night or if I was doing something else I wouldn’t reply in the thread. It’s kind of like if you read something in a magazine and you don’t circle it to find the result later, but you kind of read through the find the answer.*

(Natasha, interview)

The amount of new content Natasha thought would be available online influenced her decision. She found herself logging in more often at the start of the semester and less often after the discussion lessened. She also thought that others would be doing this as well and that it would reinforce itself.

**Regularity of Reward**

Natasha said in interview that she logged in whenever the moderator asked her to as she expected that there was going to be more discussion. When the moderator emailed the members there was usually a spike in contributions. Natasha’s preferred reward from online mentoring or the community was new content, and as she regularly received this when she logged in after the moderator’s emails she continued to do so.

**Behaviour**

Natasha and Michelle both discussed behaviours in the community. Between them they discussed seating locations in sessions, re-teaching, getting to know the students, using a “hook” to get students to return, stressing that the students need to own the sessions, and preparation. Most of these are discussed in
greater depth as part of the community case. Natasha’s post about preparation is discussed as part of her mentoring case as it was a topic that Michelle could have benefited from.

In one of her session evaluations, Natasha posted about her approach to preparation. She attached a copy of her own preparation for that week, and also outlined her approach to preparing for every week: “I prepare a worksheet every week with the following headings: introduction, lesson outline, activities, study tips and hook”. Natasha posted information about her session preparation behaviours without prompting, and was very keen to talk about them. Had Michelle discussed session preparation behaviours with Natasha or the community, she may have found more efficient methods to lessen her eight-hour-per-week load.

**Modelling**

Natasha viewed other SILs as models. Regardless of their level of experience she viewed them as her peers. She read their approaches and gathered new ideas, but she said that she generally considered that she was “doing quite well”. She viewed herself as a role model in the community and tried to identify particularly difficult aspects of the SIL role, such as preparation, and model them.

**Model’s Admired Status**

Natasha attempted to communicate to Michelle her status as an experienced commerce SIL and student in her 5th year of full-time double-degree study. Michelle did not identify Natasha’s admired status in interview.

**Cathy and Chris**

Cathy was an experienced SIL from a city university, and volunteered to be a mentor for Chris, who was a new SIL at a regional university that did have experienced SILs. Chris had asked staff at his institution for more support. Staff suggested that Chris could get involved with online mentoring and the online community. Chris made the first and only contact with Cathy by starting a
discussion to negotiate an online mentoring agreement. He received no response from her.

The moderator contacted Cathy numerous times by email to encourage her to make contact, but Cathy never posted anything to Chris. She did participate occasionally in the community, and Chris was one of the most prolific posters there.

In interview at the end of semester, Cathy was apologetic that she had not participated. Chris was disappointed by the experience. Cathy said that she had been unexpectedly busy that semester. Chris said that he used the community to find the support he wanted.

**Analysis of Cathy and Chris’ online and interview data using the analysis framework**

**Cost**

Both Cathy and Chris found aspects of their involvement costly. Cathy had been asked to take on another subject as a SIL at her university, and said that this resulted in her not having enough time to be a mentor for Chris. Cathy said that she had expected to have enough time, but that due to circumstances beyond her control she could not possibly have mentored Chris.

Cathy was still involved in the community. She said that she read other SILs’ postings and occasionally contributed. She used the community, as this was quicker and easier than beginning or maintaining a close mentoring relationship. Cathy asked at the end of her interview if she could be a mentor the following semester as she thought she would have more time, which suggests that her perceived future time cost was anticipated to be relatively lower.

Chris perceived the time required to be involved as low. He wrote in his initial posting to Cathy that he was online “too much” as he was a computer science student. Chris checked the site during “boring lectures” and said that he had an “easy” timetable. For Chris the cost of involvement was generally low.
Training was too time-intensive, according to Chris. He judged that it was “red tape” that he tried to read through but ended up disregarding. Chris said that he would have preferred if just the vitally important parts of it were extracted and presented in a simpler way.

**Benefit**

Despite her limited involvement, Cathy identified numerous benefits from the community. She appreciated that she could get these benefits without contributing to the community. By just reading the information online she believed that she was able to improve herself as a SIL. She said that she would have liked to have received the information in an even more summarized form, such as a list of frequently-asked questions.

Cathy particularly benefited from discussions about types of students and preparation. She said that she was having difficulty dealing with quiet students and dominant students, and that there was discussion that helped her. She also said that she appreciated the discussion about preparation. She said that she was spending too much time on preparing for her sessions and that the discussion was helpful to her.

Chris said that from the community he gained a lot in terms of personal development. He said that he became a better leader through becoming a better SIL, and also became more employable, which was important to him as a final-year student. He said that a lot of this development came from his feeling better about himself as a SIL and gaining confidence. He said that he felt supported by the community.

Chris benefited from the style used by his fellow SILs. He said that he appreciated that he could talk with experienced SILs. Chris liked that they provided actual strategies that had been tested in their sessions, that there wasn’t any “beating around the bush”. He appreciated the reflection that his more experienced peers demonstrated. Chris also said that he benefited from the particular topics that the moderator raised, that these were timely and either
related to issues he was conscious of, or issues that he wasn’t aware of but needed to work on.

In setting the agenda for his mentoring dyad, Chris mentioned that he wanted to be able to discuss his sessions and preparation for them. He was not able to get these desired benefits from his mentoring dyad but was able to get them from the community. He did identify in interview that he would have appreciated other methods of discussing preparation, such as a “gallery” of preparation or PowerPoint slides.

Chris was annoyed that he had an inattentive mentor. He had expected benefits from a mentoring relationship, some of which were provided by the community, but others were not. He had hoped to have someone to talk with one-to-one but due to its structure the community could not provide this.

**Cost-Benefit**

Cathy identified that she had not put enough time into the online community, nor into her mentoring relationship. She felt “sorry” about this, but said that her decision to participate had been made for her by a lack of time. She acknowledged that had she had the time she would have mentored Chris. Cathy viewed her decision regarding mentoring as having been made for her.

Cathy was involved in the community, more often as a reader than a contributor. As the time and effort required of reading posts in the community was lower than would be required to mentor Chris, her community involvement could suggest that she found it to have a more preferable cost-benefit.

As one of the most prolific posters in the community, it could be thought that Chris’ cost-benefit of involvement was very positive. This interpretation would suggest that he chose those elements of the community that he perceived as having the best cost-benefit ratio and gave them preference. Examples of these are his disregarding of parts of the training material and his decision to not “chase up” his mentor. He also chose not to upload his preparation for critique as this required filling out an online session evaluation form that he considered
too long. He said he would have used a simpler method of uploading preparation if it were available. Chris describes making these decisions with consideration of what can be termed ‘costs’ and ‘benefits’.

**Modelling**

Both Chris and Cathy identified modelling from the community as the way that they learnt new behaviours. Cathy said that she appreciated having the preparation process modelled for her. Chris said that role-modelling was “really helpful” for his development.

**Similarity of Model and Observer**

Compared with other mentoring dyads, Cathy and Chris were possibly the least similar. All dyads were composed of two SILs who were current students, and therefore possessed some level of similarity. Unlike some other dyads, Cathy and Chris were from different universities, studying different subjects, and SILs for different subjects. They were also opposite gender, and while Chris was a domestic student, Cathy was an international student.

**Value of Outcomes of Behaviour to Observer**

When modelling behaviours in the community, both Chris and Cathy mentioned their value in sessions. Cathy stressed the need for students to learn, as a way of getting them to continue attending. Chris discussed improved session dynamics as a result of the SIL employing “wait time”.

**Michael and Tony**

Michael was a SIL who had one year of experience when he was asked to mentor Tony, a SIL at a university that was implementing SI for the first time. In addition to Michael’s role as a SIL, he also acted as a face-to-face mentor for new SILs at his campus and helped with administration of his SI program. Tony did not participate at all in mentoring or the community, but was emailed many times by Michael and the moderator. Michael participated in an interview, but Tony declined.
Michael posted a discussion starter in which he addressed the suggested elements of the online mentoring agreement. He outlined his expectations, which included that he would learn from Tony:

[as a mentor on my campus] I will occasionally sit in on another PASS Leaders sessions. More often then not, I'll find that the leader who I'm 'sitting in on' so to say, will have a really great activity or have a great idea that i can use in my own sessions. So I'm hoping this will be similar. I will look forward to hearing about your experiences and hope that I can get something out of it too.

(Michael, mentoring post, 16/3/2008 @ 7:58PM AEST)

In interview, Michael indicated that he was annoyed at his mentee's lack of contact. He said he would have preferred for Tony to have at least let him know that he wasn't going to be involved:

This was a little annoying because if you're not interested, you're not interested from the start. In a way I was annoyed at him that he couldn't come out straight away and say that. If it's a community forum, fair enough, but if it's a one on one thing it's about courtesy. I mean I did spend quite a bit of time with the first post to make sure my message got across and to make sure I gave myself the right perception. But when nothing came of it…

(Michael, interview)

As an informant in the design of the online mentoring model, Michael described his personal organisation regime, which involved detailed micro-management of his time. For Michael, Tony's not contacting him back was a significant inconvenience, as he had allocated one hour per week to the relationship:

I'm very structured with my time usage and at the start of it I thought to myself what my expectations were and how I was going to be involved and I structured some time commitments around that very early on in the
piece. And I came to the conclusion I would check it twice a week, but as it turned out it started to die off and nothing really developed for me to have an interest in it
(Michael, interview)

Analysis of Michael and Tony’s online and interview data using the analysis framework

Cost
Michael said that SILs were high-achieving students, so their time was very valuable. His non-starting mentoring relationship used some of his time, which can be viewed as a cost to him. During semester he had many university commitments: his own studies, his own sessions, his face-to-face mentoring commitments and other work assisting with his campus SI program. He viewed SILs as students who held themselves to high standards and that this made their time more precious:

I think [SILs] are usually high achieving students who pressure themselves quite a lot sometimes. I don’t doubt at all that that would be a contributing factor to someone’s experience because time can be quite constrained and that’s going to affect how someone contributed to any community
(Michael, interview)

Benefit
Michael identified benefits that he obtained from his involvement with the community, as well as benefits that he had anticipated and would have appreciated from a mentoring relationship. One benefit that he appreciated was feedback, which he said took the form of other SILs agreeing or providing similar experiences or strategies.
Training provided Michael with an understanding of the affordances of the technology, which he appreciated. He said that this, combined with the system and the model, provided a more structured environment for discussing SI:

*there was the more structured thing about it, like when you run into someone, even a pass leader; you are more inclined to talk about general things. The online community provided that environment to discuss those direct issues that affect everyone’s pass leader experience. I thought that was really effective.*

(Michael, interview)

Michael said that he did use ideas from the community in his sessions, and that it provided him with an opportunity to discuss SI more in-depth. Despite this, he said that his involvement with the online community had “very little” contribution to his development as a SIL. Michael said that more discussion and more topics would have changed this.

Michael said that he was expecting some benefits from a closer one-to-one mentoring relationship. His online post to Tony outlines some of these benefits. Michael had hoped to acquire new strategies or activities from Tony, which did not eventuate.

**Cost-Benefit**

Michael said that he was less motivated to get involved in online mentoring and the online community because he did not develop a personal relationship with anyone there. The non-responsiveness of his mentee was the biggest contributor to this. Michael expressed his thoughts on this in terms that can be considered as a rational cost-benefit analysis. The ‘costs’ of his involvement were high as he is a busy, high-achieving student and his mentee was not responding and providing the expected ‘benefits’. Therefore he chose not to be involved:

*I wasn’t involved as much with the whole community as I thought I would have been. Mostly due to the fact that I was assigned a mentee and*
Despite numerous attempts to communicate with him that never eventuated. I don’t think he ever contributed to the online community at all. And he never responded to an email or online post. So unfortunately I didn’t have much purpose to go there. There was a little less motivation for me to contribute to the community. I did try initially to contribute to discussion, but without the direct connection to someone within the community I lost the need to maintain. So my overall expectations and how much I contributed to the community differed greatly. At the start I was expecting to go on there weekly and had given myself an hour and a half on Saturdays to get on there, respond to posts etc. But as the semester progressed, because that individual relationship wasn’t there, there wasn’t the need. (Michael, interview)

Michael also noticed that he would “skip over” postings that were longer than “say, 10-15 lines” if he was pushed for time. He suggested that other SILs would probably do the same.

**Behaviour**

Michael’s biggest behaviour contribution to the community was his post about the “hook”. This post is described and discussed in the community case. Michael discussed this behaviour in detail, providing the longest description of any behaviour in the community.

**Modelling**

Michael was one of the community’s respected authorities on re-teaching. In interview, Natasha referred by name to Michael and his posting about re-teaching. Other SILs referred to his post in their replies. Michael viewed his role modelling in this discussion as more than just the content of what he said, he was also trying to model how SILs communicate with each other about sensitive topics like re-teaching:
how you would participate in a community and shape the community as well. As how you communicate affects how the next person will communicate, if you start getting edgy so will the next person

(Michael, interview)

Modelling was achieved online through description of events. Michael viewed this as being inferior to actually seeing them occur, but also as being the next best thing. Michael said that the things that were modelled were mostly behaviours from within sessions that were described based on what the SILs had actually done.

**Value of Outcomes of Behaviour to Observer**

When describing behaviours, Michael mentioned specific benefits that he thought would appeal to those SILs reading. Specific outcomes of behaviours that were valued by Michael were retaining students in sessions, and clarifying to students the role of the SIL. When describing his “hook” behaviour to his fellow SILs he mentioned these benefits explicitly.

**Summary**

This chapter reported the results of the first study of the online mentoring and community model. The key findings of the analysis are presented below.

**SILs Performed Cost-Benefit Analyses**

In this study of the online mentoring and community model, SILs reported performing what could be considered a cost-benefit analysis when deciding if they wanted to participate. SILs reported being time-poor, which increased the cost of the time that they spent online. The benefits received by SILs included role modelling of new SI strategies (labelled as behaviours in the analysis framework), psychosocial support, learning about SI, and developing leadership and communication skills.

The model offered SILs the opportunity to perform multiple cost-benefit analyses and they took them. Firstly, they would decide whether they were
going to participate in the study at all. Then they would decide if, on a given occasion, they would log on. Finally, they would decide what they would do once logged in. Over the course of the study the outcomes of these cost-benefit analyses would change, and this was influenced by a change in perceived costs and benefits. A deprivation-satiation effect existed that made SILs contribute to discussions that they considered were in need of their input rather than topics they thought had been comprehensively discussed.

**SILs communicated in behaviours**

In most posts SILs were describing their SI behaviours, commenting on others’ behaviours, or asking for new behaviours. When communicating their behaviours they sometimes organised them symbolically into a series of steps that were abstract, generic and logical.

To be persuasive, SILs would discuss the outcomes of their behaviours as particularly valuable. SI experience gave some SILs admired status and other SILs appreciated their input. Sometimes there were disagreements about the best behaviour to use in a given situation. SILs reported that they chose the behaviour modelled by the SIL with status and the outcomes that they valued.

**The community topics were appropriate and timely**

SILs said that they liked the community topics that were posted by the moderator and that they were posted at times that were helpful. Despite this, not every topic received comments. Also, the only topic that was initiated by a SIL received no comments.

The discussion about re-teaching received the most comments. This topic had SILs debating the merits of re-teaching, and it revealed a diversity of opinion.

**Establishing a personal relationship in the community was difficult**

SILs did not report forming new personal relationships with other community members. Some SILs said that profiles helped them form relationships, but that
not enough community members had complete profiles. They said that they appreciated the presence of photographs in other SILs’ profiles as it made them more human.

**Mentoring matches required both members’ involvement to be successful**

In two of the mentoring dyads only one of the members initiated contact with the other. In one case this was the mentor, in the other it was the mentee. In each dyad the active member was annoyed with the other member. The active mentee went on to the community for assistance with their sessions, and the active mentor made some contributions to the community, then left.

**There were differences in the experiences of co-located and isolated SILs**

SILs who were not co-located with other SILs reported receiving psychosocial support from the community and their mentor. They also reported that the existence of mentoring and the community was a support in itself. An experienced SIL mentor of an inexperienced, isolated SIL said that the sort of support provided in the community was similar to the support she experienced face-to-face in her first semester as a SIL.

SILs who were co-located with other SILs also reported benefiting from their involvement, but most did not mention psychosocial support. They mentioned benefits that non-co-located SILs also mentioned, such as role-modelled behaviours and information about SI.
Chapter 7: Study 2 Results

This chapter focuses on the second study of the online mentoring and community model, which occurred between July and November 2008. It contained one community case and two potential mentoring cases, of which both were selected for analysis. Figure 7-1 shows the structure of this chapter.

*Figure 7-1. Structure of this Chapter*

Participants

There were 67 participants in this study, including 47 Supplemental Instruction Leaders (SILs), 19 supervisors and one participant who identified as being both a SIL and a supervisor. Thirty-seven participants were female and 30 were
male. All of the SIL participants were current undergraduate students at their respective universities and were studying a diverse range of disciplines, including business, computing, arts, engineering, science and law.

Six SILs requested to be a mentor and two selected to be a mentee through one of the following methods: they elected to do this when they completed their online profile; they notified the researcher or the moderator; or, they notified their supervisor who subsequently notified the researcher or the moderator. As the mentoring matches were dyadic, the number of mentoring matches was two – equal to the number of potential mentees. Matches were made according to the criteria outlined in the model detailed in Chapter 4 of this thesis. Those potential mentors who did not get matched with a mentee became community members.

**Community Case One**

**Locations**

Community members were located at 27 campuses in total from 25 different universities and colleges in Australia, New Zealand, the United States of America and the United Kingdom. All locations that were part of the previous study had at least one participant in this study. Additional locations for this study were:

- The main campuses of five Australian universities. Two of these institutions had SILs as participants, and the other three had their supervisors as participants
- One campus of a UK university. The supervisor at this location was a participant
- Nine US universities. Four of these locations had only supervisor participants, two had only SILs and three had both supervisors and SILs
- Six US colleges. Three of these locations had only supervisor participants and three had both supervisors and SILs
Timeline

This study and all cases are bounded in time from the 14\textsuperscript{th} of July to the 17\textsuperscript{th} of November 2008. Figure 7-2 is a timeline listing the events that occurred in that period.

\textit{Figure 7-2. Timeline for Study 2}

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 14\textsuperscript{th}</td>
<td>System taken online</td>
</tr>
<tr>
<td>July 21\textsuperscript{st} to August 4\textsuperscript{th}</td>
<td>Participants sent account details</td>
</tr>
<tr>
<td>July 28\textsuperscript{th}</td>
<td>Participants assigned to mentoring dyads</td>
</tr>
<tr>
<td>July 21\textsuperscript{st} to 31\textsuperscript{st}</td>
<td>Discussion: “Introductions”</td>
</tr>
<tr>
<td>July 21\textsuperscript{st} to 30\textsuperscript{th}</td>
<td>Discussion: “Large Sessions”</td>
</tr>
<tr>
<td>July 25\textsuperscript{th} to August 7\textsuperscript{th}</td>
<td>Discussion: “Re-Teaching”</td>
</tr>
<tr>
<td>August 7\textsuperscript{th} to September 1\textsuperscript{st}</td>
<td>Discussion: “Attendance”</td>
</tr>
<tr>
<td>August 25\textsuperscript{th}</td>
<td>Discussion: “Setting the Agenda”</td>
</tr>
<tr>
<td>September 1\textsuperscript{st}</td>
<td>Discussion: “Group Dynamics”</td>
</tr>
<tr>
<td>September 16\textsuperscript{th}</td>
<td>Discussion: “Large Sessions and Small Sessions”</td>
</tr>
<tr>
<td>October 2\textsuperscript{nd}</td>
<td>Discussion: “Observation of SILs”</td>
</tr>
<tr>
<td>October 2\textsuperscript{nd} to 29\textsuperscript{th}</td>
<td>Discussion: “Quiet Students”</td>
</tr>
<tr>
<td>October 13\textsuperscript{th}</td>
<td>Discussion: “Exams”</td>
</tr>
<tr>
<td>November 3\textsuperscript{rd}</td>
<td>Discussion: “Safety”</td>
</tr>
<tr>
<td>November 23\textsuperscript{rd}</td>
<td>System taken offline</td>
</tr>
</tbody>
</table>
Analysis in terms of discussions

There were 11 discussion topics in the Community Discussion Space. Nine discussion topics were guided by the mentoring model and initiated by the moderator. An experienced SIL started the topic “Large Sessions” and a supervisor started the topic “Observation of SILs”. Community members contributed over 5500 words to this public discussion in a total of 39 postings including the 9 discussion starters by the moderator. The four longest discussions are reported in detail from data gathered through the online discussion text, logs from the online system, and interviews. Of these four, three were started by the moderator and the other was started by an experienced SIL.

Discussion topic: Introductions

The first and longest discussion in the community space was a space for participants to introduce themselves. This discussion was started by the moderator and 14 comments were contributed by 14 participants. Nine of the contributors were SILs and one was a supervisor. During the second study, the discussion was started in this way for the following reasons:

- The geographic dispersal of participants was greater than in the previous study. For example, participants were from Australia/New Zealand, the United States and the United Kingdom
- A greater diversity of academic cultures was represented. Participants came from a variety of universities and community colleges
- The participants included multiple SILs and multiple supervisors
- There were more participants

In this discussion all participants introduced themselves and mentioned their locations and their roles. No participants addressed each other by name. One participant asked a question; however this was not answered, with the discussion instead focusing on the moderator’s prompt. SILs Nora, Natasha, Chris, Eric and Loren expressed their enthusiasm that they would learn
something new about SI or be able to help others, as did supervisors Annie and Jan.

Four community members who posted in this discussion were also part of the previous study: experienced SIL Natasha and inexperienced SILs Chris, Michelle and Amanda. None of these members mentioned that they were part of the previous study. Amanda took the opportunity to ask a question after she had made her introduction:

This session we have ten students enrolled - only three turned up for the first PASS session. Four of the students have done this subject before (either dropped out or failed the subject). Some of the challenges I face include:

Majority of students work fulltime - they say they want PASS to run after work, but given the choice of coming to uni from 5.30 to 6.30pm (its not compulsory) or going straight home on a cold winter's night? I deliberately scheduled PASS for this time because there are no other classes on at the time - so clashing with other lectures/tutorials is not a problem.

Majority are mature age students - as am I. I know they have many other commitments including children to care for. Most are my peers (or casual friends) - I have done other classes as a fellow student with most of them.

My strategy (to try and get more attendance) is to attend their next tutorial, explain what PASS is about, how it can count for two or more hours private study, and see if there is a better time to run the PASS session. Does anyone have any suggestions?

(Amanda, community post, 1/8/2008 @ 7:58AM AEST)

Amanda’s comment received no replies. Five days later she declined the moderator’s offer to again pair her in a mentoring dyad, saying that she would prefer just to be part of the community. Two days after that the moderator
started the discussion topic “Attendance” which was related to Amanda’s question.

Two institutions had multiple participants in this discussion: four SILs in total (Michelle, Amanda, Chris and Natasha) were from three campuses of an Australian regional university, and two SILs (Isabelle and Loren) were from the same US community college. The four Australian SILs from the same institution were all participants from the previous study and understood what the community was.

Isabelle and Loren were new participants who hadn’t been involved in the previous study. They both had different levels of understanding of the community. In her introduction, Isabelle wrote:

_Cant wait to figure out what I am doing on this site! I havent the slightest!

(Isabelle, community post, 24/7/2008 @ 7:01AM AEST)

Contrasting to this, Loren wrote:

_This Fall will be my 7th year with SI here at [college name] and I've been here since the beginning. We started with just a few Math classes (I'm one of the Math Leaders) and we've expanded into English, Poli Sci, Child Development, Business, Psychology, Computer Arts, Welding, A/C, and Nursing. I love this program and have enjoyed watching it grow so much. Since I've been a leader for so long, I've been in quite a few interesting situations so if you ever need any help or have questions, feel free to ask._

(Loren, community post, 24/7/2008 @ 8:08AM AEST)

Of the four supervisors that made a comment, Annie and Lara were experienced whereas Ray and Jan were inexperienced. This distinction is in their own words, as Ray and Jan both described being in their first semester as supervisors.
Discussion topic: Large Sessions

On the same date that the moderator started the introductions discussion, Eric started a discussion about large sessions. He posted this text about his sessions:

Howdy and Hello!

*Does anyone have any ideas of what to do with large sessions. I feel like I am using the same techniques in my session. I am an outgoing leader so nothing is too crazy for me! My SI's usually consist of the students working in groups and doing activities. But I want to do something different Please post if you have any ideas.*

Thanks!

(Eric, community post, 22/7/2008 @ 4:58AM AEST)

Eric’s post was unanswered for a week until the moderator prompted the participants to participate. After this prompting, SIL Patricia made a post about her techniques:

*One of the things I do as a end of unit review are powerpoint games. A favorite is Jeopardy, and the templates can actually be found ONLINE. The students love doing this, and it gives a chance for some competition too. I have also done board races. I will think on this a bit more and see what I come up with!*

(Patricia, community post, 31/7/2008 @ 10:41PM AEST)

Although Eric was appreciative of this he went on to write that this was already what he did in his sessions. He wrote that he was looking for “something new”. His post received no more comments. A week later Eric continued writing about session size in the attendance discussion.

Eric did not define what a large session was at any point in the online discussion. In an interview, Eric said that one thing he learnt from his
involvement with the community was that the concept of a large session was relative:

I also learnt that a lot of people have small sessions and I often felt for a long time that I was one of the only people who had such large sessions. A lot of people were saying that their ideal size was 6-15 and that kinda shocked me because I’m averaging 50-60 a night. So its just like sometimes I’m like … what are we going to do. I did see a lot more of a focus on smaller groups than larger groups. What I was needing help with was larger groups, but I guess the community was full of smaller sessions.

(Eric, interview)

Eric indicates in this interview quote that the community was not able to help with his large sessions as other members had smaller sessions.

Discussion topic: Attendance

The moderator’s discussion starter for the attendance discussion was the same as in the previous study. This discussion had four responses in total from four SILs. Unlike in the previous study, all participants addressed the questions of why students attend their sessions and how many attendees they get. They still did not all address the questions about how to get more students to attend.

Eric was the first contributor to this discussion and he details why students come to his sessions and what his ideal number of attendees is:

I have many different types of students in my sessions from A students to Borderline students. I think they go to my sessions to get a different look on the material and for peer help. They come back because its fun and interesting! :-) My ideal number [of] students is 20.

(Eric, community post, 25/8/2008 @ 5:30AM AEST)

After Eric’s contribution, Patricia also addressed the same questions:
For my class and campus, 10-15 would be ideal, but a nice group is around 6. This was what I had, and I think they came because I made myself very approachable.

(Patricia, community post, 26/8/2008 @ 4:50AM AEST)

Amanda was the next participant in this discussion. She had participated in the same topic in the previous implementation when her attendances were, in her own words, “very good”. Her situation had changed:

Lately I have had very small classes (ie. 3 students). It is very difficult to manage because one student seemed to dominate discussion. I used the techniques of asking the others whether they agreed with the dominant student's answers, that seemed to work.

(Amanda, community post, 29/8/2008 @ 7:44AM AEST)

Here she has mentioned her session size and the difficulty she has been having with a dominating student. Her mentor Suzie chose to comment on this in the community space as she had been having difficulty getting access to the mentoring space:

I'll take the time to introduce myself as we haven't been able to access our mentoring space. I'm [Suzie], and this is my fourth session as a PASS leader. This session I am on [a first year business statistics subject]. I have previously also had a session with only 3 people and it is tough. If there is one student that is very dominant I try to get him/her to help out the other students. This semester my sessions have been quite large. My ideal number of students is about 15, anymore it seems like my job then becomes crowd control. In my friday session, it started out quite small, but other students have started to bring their friends along. I think this was because the session was smaller to begin with and the students felt more comfortable participating (as there is quitie alot of international students). Because there are less students, I have had the opportunity to
get to know them better, building good rapport with the students I find helps also.

(Suzie, community post, 1/9/2008 @ 12:17PM AEST)

Suzie addressed Amanda’s concerns by relating it to her own experiences of a similar situation. She also addressed the questions of why students attend and how many students go to her sessions. Although it was directed at Amanda, Suzie’s post may have been of interest to other SILs in this discussion.

The only contributors to this discussion were SILs. The language used in the discussion starter may be relevant to this observation. It asked questions like “Why do you think [students] go to your sessions?” and contained statements like “Attendance is one of your most important considerations as leaders”. It is possible that some supervisors considered that this discussion was not meant for them.

**Discussion topic: Large Sessions and Small Sessions**

Five weeks after the discussion about attendance, the moderator started another topic about dealing with large and small sessions. This topic was part of the model but was not part of the previous implementation. It was part of this implementation for the following reasons:

- This implementation spanned a longer time period, so more discussion topics were required to achieve the same regularity.
- Attendance was recognised as one of the most important topics for SILs to consider, and dealing with large and small sessions was recognised as an important sub-topic.
- It was anticipated that SILs and supervisors would have different session sizes given their range of locations and academic contexts.

In this discussion participants were asked to discuss the challenges and benefits of different sizes of sessions. They were also asked to identify strategies they can use to make their sessions effective for any number of students. The moderator asked for input from all SILs and supervisors. Three
participants responded: Jan, Ken and Patricia. SIL Ken was the first to post, with a comment addressing the moderator’s discussion starter:

*I am new to [being a SIL] this semester and I love it! I have tutored groups from 2 to 18. I have found that a group of about 6-8 students works well. If it gets smaller sometimes it's easier to lose focus of the subject and the students talk about their personal lives and if it gets bigger students feel they are not getting quality time out of the session. Smaller groups are easier to re-focus by asking a question pertaining to the text. When I have a big group I feel them out by asking questions about what they want to work on and get everyone to agree. It helps to limit the frustration of those students that come more often and may have already heard the subject you are about to tutor. I also ask those that feel they know the subject if they would like to speak on it before I do to involve them more.*

(Ken, community post, 16/9/2008 @ 1:37PM AEST)

The next contribution to the discussion came from Patricia:

*For my groups, the ideal size is 6-15 or so. I have found that there is never too few, because even if just one person shows up they can get something out of it. I think that too many would probably be in the neighborhood of 50 or so, just because at that point it is difficult to really connect with every student individually.

A challenge is if you plan something that requires a certain amount of students for it to be successful, ie a special activity. However, there are ways that you can also work around these issues. In a smaller group, it is easier to address the needs of everyone and really establish a connection with them.

One of the things I do to make my sessions effective is to be very flexible. This is also important if the students want to talk about something that you did not plan on talking about. Really, it comes down*
to what the students needs and not necessarily what you plan for the group that day.

(Patricia, community post, 17/9/2008 @ 2:17AM AEST)

Here Patricia is addressing the moderator’s discussion starter and identifying a larger range in the ideal number of students than Ken does. Jan was the next participant, and replied directly to Ken’s post. Jan was Ken’s supervisor and prompted him to write more about his large attendances:

Hi [Ken],

Since we work together at the same institution, I've noticed that your sessions are getting larger each week; what's your secret to attendance?

(Jan, community post, 3/10/2008 @ 4:42AM AEST)

There were no further comments to this discussion. Eric, the SIL who identified dealing with large sessions as particularly difficult in interview, did not participate in this discussion.

Discussion topics that received no comments

Four discussions were started that received no comments. The first of these, started by the moderator, was about setting the agenda and managing time in sessions. The moderator posted the same text that received five comments from four SILs in the previous implementation, but none replied to her post this time. The second post to receive no comments was about group dynamics in sessions, which was also part of the previous implementation. Two SILs each made a comment in the previous implementation to this topic. The topic Exams was posted in the previous implementation and received no comments in either implementation.

The fourth topic was started by Jan who was a supervisor member of the community. She named her topic “How do you perform your session observations of SI LEADERS?” and posted this as the body:
I'm about to observe the SI leaders in our program, and I need some help in figuring out the most effective, comprehensive, and fun method of performing these observations. I want my observations to serve as a learning tool for everyone involved, and I'd like to avoid a sterile and nervous environment during observation; SI is way too cool for that. I've looked at the SI Manual developed by the University of Missouri-Kansas City (beginning on pg 27) about how observations are performed, but I'd like to make up my own observation guide, maybe you can help. I'm wondering if there are any SI Supervisors out there who have an awesome observation sheet made up that I can access for ideas. Also, if any SI Leaders out there who have advice about what they feel are good things for a Supervisor to focus on during their observation, their feedback would be greatly appreciated. I'm all about using collaborative practices to enhance learning for everyone, so any feedback would be great. Also, with your feedback in mind, I'll post my observation handout on [the community] when I have it completed so that others can use it as well. Thank you in advance.

(Jan, community post, 3/10/2008 @ 5:04AM AEST)

Here Jan is asking for advice from SILs and other supervisors about observing her SILs. She didn’t receive any responses and she didn’t update the community about the development of her observation tool or post it to the site.

**Analysis of the community’s online and interview data in terms of the analysis framework**

**Cost**

As in the previous implementation, the costs of involvement were only mentioned in interviews and mentoring discussion but not in the community. No SIL used the word ‘cost’ but they did describe the time required for involvement and other themes that can be interpreted using the Social Exchange Theory term ‘cost’. Both SILs that were interviewed (Eric and Amanda) mentioned the
cost of their involvement. Amanda was again trying to fit her involvement with
the community and mentoring in around her commitments as a SIL:

*I think, doing your own third year subjects and doing PASS as well, and
again I spent too much time on PASS itself, it became like a 4th subject
...

*I probably spent about 8 hours per week [on my SIL duties]. The lecture
is 2 hours of a recording which really takes you 3 hours to listen to. But
that’s ok.*

(Amanda, interview)

Just as in the previous implementation, Amanda was spending more time on
her SIL duties than she was being paid for, with it taking her eight hours per
week. She said that this affected her decision to be involved in the community
and mentoring.

Eric said that he would spend half an hour per week or more on the community:

*I definitely put a good half hour into it, I would go on and check the
community, see if there was anything I could put my input in. Often times,
I had it bookmarked so when I had some time I would have a look at it
and see if there was anything new, so I would definitely say half an hour
a week, maybe more. Other people put in, maybe the same amount of
time, I can’t really speak for them though. For me though I could safely
say it was a little more than half an hour time wise.*

(Eric, interview)

Here he mentions that he can’t comment on other participants’ time spent in the
community. Eric contributed the greatest volume of words and the greatest
volume of postings to the community. As a participant who contributed an
exceptionally high number of postings, his weekly time expenditure might
represent an estimate of the maximum weekly time cost for SILs in the
community.
Benefit

Two types of benefits were present in the data. Expected benefits were mentioned by SILs and supervisors in the online data. Experienced benefits were mentioned by Eric and Amanda in interviews.

Desired Benefits

SILs discussed expected benefits in the community, particularly in the first discussion topic. These benefits included trying new technology, getting feedback, learning new behaviours, learning about SI in other contexts, and being able to help others.

Eric posted in the community that he was “so pleased to be here and try out new technology”. No other members mentioned benefits from the technology itself although the other benefits that were mentioned were mediated by the technology.

Supervisor Jan hoped to get help with a SIL observation tool that she was developing. She started a discussion and was clear about the benefits she wanted. These included help from other members of the community in the construction of the tool and feedback on the tool once it was finished:

Also, with your feedback in mind, I'll post my observation handout on [the community] when I have it completed so that others can use it as well.

(Jan, community post, 3/10/2008 @ 5:04AM AEST)

Jan’s desired benefits included help with constructing her tool and feedback. She did not receive these benefits as nobody assisted her with the tool. She didn’t report back to the community about the tool.

In the Introductions topic Loren wrote that she would like to help other SILs:
Since I've been a leader for so long, I've been in quite a few interesting situations so if you ever need any help or have questions, feel free to ask.

(Loren, community post, 24/7/2008 @ 8:08AM AEST)

Here Loren is identifying that she desires to help other SILs. In this offer she is hoping to provide a benefit to herself and others. Although she was not asked for help in this discussion, other SILs did state that they hoped to learn new strategies to use in their SI sessions or programs. Using Bandura's Social Learning Theory as discussed in the model, those strategies are known as behaviours.

SILs mentioned learning new behaviours as a desired benefit. This was sometimes a general interest in any new behaviours, and other times it was an interest in dealing with a particular situation. In the Introductions discussion Chris provides an example of this desire to discover new behaviours when he posts "I can't wait to hear about the fantabulous things you guys are getting up to!" Eric provides an example of a more specific desired benefit in his post about dealing with large sessions:

My SI's usually consist of the students working in groups and doing activities. But I want to do something different Please post if you have any ideas.

(Eric, community post, 22/7/2008 @ 4:58AM AEST)

After Patricia responded to his post detailing a behaviour that she uses, Eric posted back saying that he already uses that behaviour. He repeated what his desired benefit was:

I guess I am somewhat [bored] with doing the same thing. I am looking for something new.

(Patricia, community post, 30/7/2008 @ 10:41PM AEST)
Here Eric has clarified that he is not just interested in reading about any behaviours, they need to be new behaviours that he can use in his situation.

Supervisors also posted about desired benefits. These were related to supporting their SILs. Jan’s post about observing SILs indicated that she desired to learn about how other supervisors do this part of their job. She wanted help from the community in developing a tool for observing SILs. Other supervisors were less specific in their desired benefits, such as Ray who posted this in the introductions topic:

*I am hoping to find some creative ways to support our SI leaders throughout the semester.*

(Ray, community post, 22/7/2008 @ 8:17AM AEST)

Ray was also one of the community members who expressed a desire to hear about SI in other institutions or contexts:

*I'm new to being an SI supervisor and I'm sure will be checking in here often to see what is going on in SI/PASS programs on other campuses.*

(Ray, community post, 22/7/2008 @ 8:17AM AEST)

In addition to Ray, SILs Natasha and Nora both mentioned that they were interested to hear about SI in other contexts.

**Experienced Benefits**

In interviews Eric and Amanda both discussed benefits they received from the community. Eric identified benefits in the form of new behaviours to use in SI sessions, social support, and benefits for himself in his role supporting other SILs. He also identified some benefits that were not present that he would have appreciated.

Eric identified role modelling of behaviours as a benefit for other SILs, particularly beginning ones. He mentioned “dealing with large sessions, quiet sessions, making your sessions safe, exam prep” as “topics that a lot of leaders have trouble with” that were mentioned in the community. He said that they
were “really beneficial to new leaders who can see this as possible problems in the future and see things and know what to do with them in the future”. He also said that these topics were helpful to him:

I did get some good ideas about the main topics that we were talking about this semester. That was really good you know, and get some feedback about my problems and other peoples problems, help them with that … some of the strategies were definitely helpful to my sessions.

(Eric, interview)

Eric said that social support was part of his experience, but emotional support was not:

Less emotional, more social support with the amount of people who shared our experiences with PASS and SI, more of that “I understand your problem”. I definitely saw that went on a lot in posting on the topics.

(Eric, interview)

Later in the interview Eric reflected more about the shared experience he described:

I think it was something that we’ve all been really asking for and needing. I think the greatest part of it all was that its been a really big diverse group coming together and discussing problems from everywhere. It was great because we saw so many different perspectives of the problems that we were facing. It was great to also see that we had those shared experiences and those similar problems on the community and that was great about it.

(Eric, interview)

Here Eric describes sharing the common experience of being involved with SI as a benefit. In addition to his role as a SIL, Eric also supported the supervision of SILs at his campus. He mentioned the benefits that he gained from the
community in terms of supporting his SILs. One benefit he received was developing his skills for communicating with them, particularly online:

> It actually worked to my advantage because I got to learn some different communication skills, communicating with others that aren’t face-to-face, so often times I can’t always meet face-to-face with my leaders, so it helped me with communicating through email a lot better because I was able to see what we were talking about in the community and say “we are talking about this in the community, let me tell you about some stuff we are doing there”. Also, communicating with leaders online was much more improved because of the system because I was able to fine tune, focus what I was trying to tell them

(Eric, interview)

Here Eric mentions that, in addition to helping him communicate with his SILs online, it also provided him with some more topics to discuss with them. He mentioned in interview that his supervisor encouraged him to use the experiences that he had learnt from the community and apply them to his dealings with his SILs:

> I would say a lot of it was with me and the system, but after talking with my supervisor they said “why don’t you use that to your advantage when you’re talking to leaders and use some of the ideas that they’re giving you, you know, we’re talking about this on our mentoring community, maybe you could use this too” so it carried over, with that push from my supervisor, and my involvement helped that too.

(Eric, interview)

Although Eric was able to benefit from the community in ways that he hadn’t initially expected, he didn’t receive all the benefits from the community that he desired. His desire for help with his own large sessions was not met. He said that he had found his sessions “pretty much overwhelming this semester” and
that he turned to the community for help, but other SILs weren’t experiencing the same large sessions.

Amanda said that she liked “seeing what other people have got to say” and the “suggestions they make”, but that like Eric she didn’t get help with some of the problems she was having. Amanda was the only SIL at her regional education access centre. In interview she commented that “Some of it is that the problems that I face are not the problems faced by anyone around”. Whereas Eric was having problems with very large sessions, Amanda was struggling with very small sessions, which ranged between one and three students. The desired benefits for both Amanda and Eric were help with their particular problems in their sessions, but they both said that they weren’t able to get this because other community members were not in the same situation.

**Cost-benefit**

Rational decision-making that can be described as ‘cost-benefit’ analyses were discussed by Amanda and Eric in interviews. This theme was not present in any participant’s online data. Amanda’s interview discussed her decision to be involved in the community. She said that she initially started an involvement with the community but then “got waylaid with time pressures”. Later in the interview she said that her involvement with the community didn’t develop her as a SIL this semester:

> I can’t really say that it did, but that again is my fault. Well, not my fault, but because I didn’t access it often enough. I had intended to, and I had started off doing so but it just becomes another thing like washing the car.

(Amanda, interview)

Here Amanda initially blames herself for not developing as a SIL through the community, but then changes her mind and expresses her decision in terms that can be considered a cost-benefit analysis: she had wanted to be involved
more often, and had done so initially, but it turned into a chore for her so she didn’t continue.

Eric participated more in the community than any other member. He was a frequent Internet user, which he said made it less time-consuming to get involved. He also said in interview that he was “extroverted” and enjoyed communicating online, which increased the benefit for him:

*I’m very technology based, I liked going on. Because I’m extroverted I’m really interested in talking with other people and experiencing things with other people, so I think that benefited me in the community because its just stuff that I like to do. I like communicating with other people and connecting with them. My personality definitely helped with my effectiveness in the community because its just something that I enjoy.*

(Eric, interview)

Here Eric is describing personal characteristics that influenced his decision to get involved and his feelings of effectiveness. For Eric, being involved in the community was easier and more fun because of his personality and technology habits. This was also influenced by the benefits he received which are described in the discussion about benefits. Eric mentioned that he would have benefited from an email notification system to let him know when someone replied to his posts.

**Deprivation-satiation**

In interview, Eric discussed what could be considered as ‘deprivation-satiation’. He said that initially he would make the first comment to try to get the discussion started:

*With the main topics, what I would do is, either at the very beginning of the program I was basically one of the first to comment on the main*
topics. Afterwards there were more people commenting so after I would look back.

(Eric, interview)

He would wait until others had commented before he would look back at the discussion. This didn’t always work for Eric, as in the discussion about re-teaching he made a comprehensive contribution that ended the discussion. Chris replied to Eric’s comment with this:

*I guess no one has replied because [Eric’s] post was so great! Definitely agree about throwing back questions. I've found that there has almost always been somebody else in the room that knows the answer or has a at least some clue about the solution and it just takes a bit of probing to get it out of them.*

*Good one [Eric] :)*

(Chris, community post, 7/8/2008 @ 10:56AM AEST)

Here Chris is describing a deprivation-satiation effect: as Eric’s contribution was very comprehensive it satisfied the community’s need for information about avoiding re-teaching. This resulted in further posts on re-teaching being less valuable, which is a deprivation-satiation effect.

**Behaviour**

SILs and supervisors discussed behaviours to use in sessions, when preparing for sessions, and outside of sessions that related to the role of a SIL. In addition to SI-specific behaviours, supervisor member Eve mentioned a behaviour that she encourages students to use:

*I realize my answer is not exactly what you're looking for but it is relevant-- Some students indicate they worry incessantly that instructors will ask them questions during lecture. Worse is the fact that the instructors expect a well-thought out, coherent answer. I offer this advice to students who do not like being "put on the spot" during lecture: Come*
prepared to class! This means 1) Review your notes within 24 hours of each lecture; 2) Read assigned chapters beforehand; and 3) Come up with one question to ask the instructor BEFORE he/she begins lecturing. I guarantee the instructor will not pick on you for the remainder of the hour. :)

(Eve, community post, 4/11/2008 @ 7:59AM AEST)

Here Eve mentions a behaviour that is not directly transferrable to the SIL in their sessions, however it may be a behaviour they can use as students themselves. The SI model requires SILs to attend lectures for their subject and act as model students, and they may be able to apply Eve’s preparation behaviour in these classes.

SILs discussed behaviours that they use in their sessions. Some of these were brief descriptions of the SILs’ personal style, including “building good rapport with the students” (Suzie) or being “approachable” (Patricia). Others were more detailed descriptions of a behaviour, such as this comment by Chris:

*The first thing I got them to do was tell me what they had covered in the last week. We then went on to answer some quick questions / definitions about the content.*

(Chris, community post, 10/8/2008 @ 11:36AM AEST)

Here Chris is describing what he did in a particular session. While his description was brief, he provided a copy of his session preparation for further information. In addition to discussing behaviours that they have used in a particular session, SILs also discussed behaviours that they use often, such as this facilitation strategy used by Patricia:

*My geology professor had a rule that in one day, no one could answer more than three questions. I try this rule sometimes in SI, in order to stop*
conversation domination, as well as to get quiet students to show that they too know the answers.

(Patricia, community post, 30/10/2008 @ 12:31AM AEST)

Patricia offered this behaviour as advice on how to deal with quiet students, however it may also have been useful to Amanda who mentioned that she was having difficulty with students dominating her small sessions. Two months earlier than Patricia’s comment, Amanda described her situation and mentioned the behaviours that she uses:

*It is very difficult to manage because one student seemed to dominate discussion. I used the techniques of asking the others whether they agreed with the dominant student's answers, that seemed to work.*

(Amanda, community post, 29/8/2008 @ 7:44AM AEST)

Amanda was among multiple SILs who identified behaviours for large or small sessions. Ken wrote about the different strategies he used to re-focus smaller and larger sessions. Patricia wrote that the ideal behaviour for large or small sessions is to focus on the students’ needs and that this is possible regardless of session size:

*A challenge is if you plan something that requires a certain amount of students for it to be successful, ie a special activity. However, there are ways that you can also work around these issues. In a smaller group, it is easier to address the needs of everyone and really establish a connection with them. One of the things I do to make my sessions effective is to be very flexible. This is also important if the students want to talk about something that you did not plan on talking about. Really, it comes down to what the students needs and not necessarily what you plan for the group that day.*

(Patricia, community post, 17/9/2008 @ 2:17AM AEST)
Here Patricia has argued that the ideal behaviour for groups of any size is flexibility.

Eric and Chris discussed the behaviours they use to avoid re-teaching. Eric modelled multiple behaviours in his post. These have been arranged into a list for this analysis:

- **throwing back the question at the students.** 9/10 times they can answer it by looking at their notes or book … I cannot stress how important this is. If students ask you a question, throw it back to the whole class and ask it!
- **try to never give them an answer, I work to make my students find the answer for themselves and give them feedback if they are working in the right direction.** This seems frustrating at times, but the students can do it if they follow our SI model!
- **Have students re-teach each other-** When I have a hard concept, I have students work in groups and have them re-teach the concept to their peers. When they have a question they will ask their peers who presented that material the question
- **Have them predict questions-** I often have my students predict exam questions, and then we put them together to make a little quiz

(Eric, community post, 25/7/2008 @ 11:25PM AEST)

Here Eric has identified four behaviours that he uses to avoid re-teaching. Chris wrote to reinforce Eric’s first behaviour of “throwing back the question”:

I’ve found that there has almost always been somebody else in the room that knows the answer or has a at least some clue about the solution and it just takes a bit of probing to get it out of them.

(Chris, community post, 7/8/2008 @ 10:56AM AEST)

Here Chris has provided more explanation of Eric’s behaviour without identifying new behaviours himself.
Most behaviours were strategies that SILs could use in their sessions. In addition to these, Amanda wrote about the behaviours she uses to get her students to attend “on a cold winter’s night”. She was responsible for the scheduling of her own sessions and wrote:

*I deliberately scheduled [SI] for this time because there are no other classes on at the time - so clashing with other lectures/tutorials is not a problem. Majority are mature age students - as am I. I know they have many other commitments including children to care for. Most are my peers (or casual friends) - I have done other classes as a fellow student with most of them. My strategy (to try and get more attendance) is to attend their next tutorial, explain what PASS is about, how it can count for two or more hours private study, and see if there is a better time to run the PASS session.*

(Amanda, community post, 1/8/2008 @ 7:57AM AEST)

Here Amanda is discussing behaviours that she uses outside of her actual SI sessions in the form of her scheduling and advertising strategies.

**Organising Behaviour Symbolically**

SILs did not describe organising behaviours symbolically as models or observers in interview. Although there was no evidence of them organising behaviours symbolically as observers in the community, they did attempt to do this when modelling. This usually took the form of presenting a behaviour as a set of instructions that was abstracted away from a particular situation, such as this description by Eve:

*This means*

1. Review your notes within 24 hours of each lecture;

2. Read assigned chapters beforehand; and
3. **Come up with one question to ask the instructor BEFORE he/she begins lecturing.**

(Eve, community post, 4/11/2008 @ 7:59AM AEST)

Here Eve has organised the behaviour she is presenting symbolically into a set of instructions. Rather than just saying what she has done in a particular situation, she has abstracted her behaviour into key steps and put them in a numbered list. Other community members also described their behaviours in steps. Amanda describes her strategy for advertising her sessions this way:

> My strategy (to try and get more attendance) is to attend their next tutorial, explain what PASS is about, how it can count for two or more hours private study, and see if there is a better time to run the PASS session.

(Amanda, community post, 1/8/2008 @ 7:58AM AEST)

Here Amanda is describing a strategy that she is going to use to get more students to attend her sessions. She has organised this as a plan with four steps separated by commas. Both Amanda and Eve have employed the algorithmic tool of sequencing their behaviours, in that they organise them in the order they would be implemented. Another component of algorithmic representation is selection, which is the expression of the decisions or preconditions of a behaviour. Eric presents his re-teaching behaviours using sequencing and selection:

> Throw back questions - I cannot stress how important this is. If students ask you a question, throw it back to the whole class and ask it!

(Eric, community post, 25/7/2008 @ 11:25PM AEST)

Here Eric presents a behaviour that has a trigger. His statement “If students ask you a question” is a symbolic organisation using algorithmic selection.
Enacting Behaviour Overtly

There was no description of enacting modelled behaviours overtly in the community. There was discussion about enacting modelled behaviours overtly only in Eric’s interview. When discussing preparation behaviours, he said that he did implement them himself:

\[
I \text{ did see some session preparation in some of the strategies that we talked about, avoiding re-teaching strategies, how to work with exam preparation. I think that helps a lot of the time with leaders in preparing for their sessions because often we are repeating ourselves and we want to try something new. Some of the strategies were definitely helpful to my sessions.}
\]

(Eric, interview)

Here Eric has indicated that he enacted some session preparation behaviours overtly. Apart from Eric’s mentions of enacting behaviours overtly, there was no other data about this.

Model’s admired status

In the community, SILs and supervisors expressed their admired status by detailing their experience and role. In the introduction topic, SILs indicated how many years or semesters they had been a SIL; for example Luke writes:

\[
My \text{ name is Luke, I've been a leader for 2 years now.}
\]

(Luke, community post, 22/7/2008 @ 10:01AM AEST)

Nora wrote:

\[
My \text{ name is Nora, I have been a PASS leader in first year Chemistry for 2 years}
\]

(Nora, community post, 22/7/2008 @ 12:29PM AEST)

Eric indicated his experience by discussing his other roles with his SI program:
I am Supervisor Assistant/SI leader at [university name]. My current subject to SI for is Introductory Psychology. We are currently in summer session and we are having a blast! Our SI department has about 50 leaders and had been recognized as one of the top SI programs by UMKC…

(Eric, community post, 22/7/2008 @ 4:40AM AEST)

Here Eric’s potentially admired status comes from him being a Supervisor Assistant at a university that is recognised by the International Centre for Supplemental Instruction as a “top SI program”.

Supervisors indicated their status by their experience and the size of their SI program. Annie made the first contribution to the introductions discussion and wrote this:

Our SI program has grown, 6 years ago we had a single Deved math series and now this past year we covered 21 classes, with over 400 students in attendance and more than 2000 contact hours. For 2008-09 year we are having another growth spurt and doing more than 36 classes. And, even after working with SI for 2 years, I still think how awesome SI is when I see the success of those who use SI.

(Annie, community post, 26/7/2008 @ 1:49AM AEST)

Here Annie shows her potentially admired status by indicating her length of time with SI, the length of time her institution has been running SI, the size of their program and its growth.

In addition to the introductions topic, SILs sometimes mentioned their experience or roles when modelling behaviours. Eric did this by attaching a signature to his posts. This is what was at the bottom of the post in which he detailed his re-teaching avoidance strategies:

[Eric’s full name]

SI Leader (Intro. Psychology)/ Supervisor Assistant
Some supervisors contributed to the community but did not indicate that they were supervisors. Eve posted a behaviour to the community related to preparing for class but never gave any indication that she wasn’t a SIL. Jan did indicate that she was a newly-commencing supervisor in the introductions topic but didn’t mention it again. When she thought Ken, one of her SILs, had a useful contribution to make to the discussion, she described their relationship as:

\[Hi Ken,\]

\[Since we work together at the same institution, I've noticed that your sessions are getting larger each week; what's your secret to attendance?\]

(Jan, community post, 3/10/2008 @ 4:42AM AEST)

Here Jan is asking Ken to detail his behaviours and isn’t indicating her own potentially admired status as his supervisor.

**Similarity of Model and Observer**

As in the previous implementation, SILs were similar to each other because they were current students at their institution who were employed as SILs. Eric mentioned a shared SI experience in interview:

\[...social support with the amount of people who shared our experiences with PASS and SI, more of that “I understand your problem”.\]

(Eric, interview)
Eric may be referring to a discussion between Amanda and Suzie. Amanda mentioned that she was having difficulty with her small sessions:

Lately I have had very small classes (ie. 3 students). It is very difficult to manage…

(Amanda, community post, 29/8/2008 @ 7:44AM AEST)

Suzie said that she had dealt with similar situations:

I have previously also had a session with only 3 people and it is tough.

(Suzie, community post, 1/9/2008 @ 12:17PM AEST)

Here Suzie has directly described a similar experience to that which Amanda is having.

Supervisors were also similar to each other in that they were employed by their institution to supervise an SI program. There was a great diversity of supervisor members, with some being long-term full-time supervisors, and others being inexperienced part-time supervisors, such as Jan:

Howdy Folks! My name is Jan, and I'm new to being an SI coordinator. I'm writing from the campus at [name of institution]. I'm an adjunct English instructor by day and an SI coordinator by night. [name of institution] is a large community college

(Jan, community post, 23/7/2008 @ 12:09PM AEST)

In addition to part-time supervisors like Jan, there were SILs like Eric who undertook part of the supervisor role at his university. SIL participants shared a common experience, being students at their institution and undertaking a small amount of part-time work each week; however, the supervisor members were less similar.
Value of Outcomes of Behaviour to Observer

SILs and supervisors indicated the desired outcomes of behaviours when they were modelling them. These included benefits for the students, improvement in session dynamics, increased attendances and avoiding re-teaching.

Patricia described an activity that she uses with her students and mentioned that the students “love doing this”. This is an outcome of the behaviour that she values. In addition to making students feel good, Ken said that a behaviour he was modelling helped “limit the frustration” of his regularly-attending students. Patricia and Ken are both promoting their behaviours by describing an outcome that is valuable to them: an emotional effect on the students.

When evaluating one of his sessions Chris mentioned an outcome that he hadn’t expected:

We then went on to answer some quick questions / definitions about the content. I put this in usually to bring everyone up to speed so they understand the activities we do later in the session but one student from China brang up a very interesting point. Back home he had already covered this material but he told us that he wanted to "do it in English". We then proceeded to write a program on the whiteboard that simulated bank account transactions.

(Chris, community post, 10/8/2008 @ 11:36AM AEST)

Chris’ student had identified an outcome of his behaviour: it encouraged an international student to practise English with content with which he was already proficient. Later in his evaluation Chris also described another outcome from his session:

it was really great to see the other students in class jumping in to help him rather than me actively probing them for the solutions. (and I also didn't have to bribe them with any lollies either!)

(Chris, community post, 10/8/2008 @ 11:36AM AEST)
Here Chris is writing about his students being comfortable with helping each other without his input. This is an outcome that he values. Patricia also valued outcomes that encouraged student contribution:

...I try this rule sometimes in SI, in order to stop conversation domination, as well as to get quiet students to show that they too know the answers.

(Patricia, community post, 30/10/2008 @ 12:31AM AEST)

Here Patricia says that her behaviour encourages quiet students to talk and stops students from dominating the conversation.

Increased attendance and retaining students in sessions was valued by some community members. Amanda indicated that she wanted more students to attend her sessions. Supervisor Jan indicated that she valued student attendances as well when she asked Ken to describe what he does to increase attendances. The only SIL to indicate that increased attendances were not a valued outcome of their behaviour was Eric:

Also there are pro’s and cons to explaining concepts to them Pros - Attendance? (I don’t see attendance as a pro, some do). Cons - Students take advantage of leader and come to SI expecting answers not study techniques.

(Eric, community post, 25/7/2008 @ 11:25PM AEST)

Here Eric has said that he doesn’t value increased attendance, and that the valued outcome for him from not explaining concepts to students is that he avoids the “cons” that he mentions. Eric mentioned two more outcomes of his re-teaching avoidance strategies:

You will get your answer most of the time!!

(Eric, community post, 25/7/2008 @ 11:25PM AEST)
And:

_This can help students who have a question to critically think about them and get them answered to test other students knowledge._

(Eric, community post, 25/7/2008 @ 11:25PM AEST)

Here Eric presents multiple outcomes that he values for his re-teaching strategies. Outcomes that have been mentioned so far were related to behaviours the SIL would use in their sessions or their work as a SIL. Eve presented a behaviour, preparing for lectures, that would be used by the SIL in their own study or modelled to their students in class. The outcomes of this behaviour might be valued by students in their own study:

_Some students indicate they worry incessantly that instructors will ask them questions during lecture. Worse is the fact that the instructors expect a well-thought out, coherent answer. I offer this advice to students who do not like being "put on the spot" during lecture: Come prepared to class! … [presentation of the behaviour] … I guarantee the instructor will not pick on you for the remainder of the hour. :)_

(Eve, community post, 4/11/2008 @ 7:59AM AEST)

Here Eve’s behaviour has the valued outcome of avoiding the attention of the teaching staff.

**Mentoring Dyads**

There were two mentoring pairs. One pair consisted of two experienced SILs, whereas the other had an inexperienced SIL mentee and an experienced SIL mentor. Both mentoring dyads were selected for a descriptive analysis: Eric and Nora, and Suzie and Amanda.

**Eric and Nora**

Eric was a SIL with one-and-a-half years’ experience and who acted as a mentor for Nora, who had either one year or two years’ experience as a SIL.
She indicated to Eric that she had one year's experience, but had earlier written in the introductions topic that she had two years’ experience. Their dyad was selected for analysis for four reasons:

- they were from different continents
- Eric participated in an interview
- they were from different universities
- both were experienced SILs

Eric started the only discussion topic that he and Nora shared with this:

_Howdy Nora!

My name is [Eric’s full name] and I am an SI leader at [Eric's University]! It is a pleasure to be working with you this semester. Please feel free to be open with me about sessions or about any help you need about SI, I will be more than glad to help in any way I can.

Thanks,

[Eric’s full name]

(Eric, mentoring post, 2/9/2008 @ 8:47AM AEST)

Nora’s reply was:

_Hi Eric,

My name is [Nora’s full name] and i am a PASS leader at [Nora’s university].

What area are you a leader for and how long have you been doing this?

Do you have any good ways to re-direct questions?

Cheers

Nora

(Nora, mentoring post, 3/10/2008 @ 3:48PM AEST)
Eric replied with:

*Howdy (Howdy is the official greeting at my university) Nora,*

*I am a leader for Introduction to Psychology, I have been a PASS/SI Leader for 1 yr and a half now. What I usually do when redirecting questions is this ... I will either simply redirect the question or ask them to research it and have an answer next session. I try not to answer any questions during my sessions, and I try my hardest to get my students to get help from others and use references like their book to find their answers. So tell me a little more about your sessions, how is attendance/ what common activities do you do in your PASS sessions.

Thanks!*

[Eric’s signature]

(Eric, mentoring post, 28/10/2008 @ 11:41AM AEST)

Nora replied with:

*Hi Eric,*

*I conduct PASS for first year chemistry students. this is my second year as a leader and it amazes me how each group i get have a completely different dynamic every semester.

Attendance is generally really good in my groups, i have about the same numbers each week. There are the regulars and also a constant change of 3-4 new ones that come on weeks where they are having particular trouble a a concept or question.

I usually get my students to bring questions or i give them questions to discuss about the lectures they have covered in that week. Sometimes it is difficult when there is a complex concept that no one really understands, this is when they sit there and look at me to basically reteach the topic. I try step by step trying to push them through to the
right direction without telling them and we eventually get there but this seems like a lot of work and time. I have thought to set it as a sort of project for the next week’s PASS but by that stage they have moved on through more material in lectures.

Overall though, I really enjoy facilitating PASS and the students seem to really get at least one thing out of each session whether it be some understanding or a new study technique or resource to look at. What activities do you conduct in your sessions?

Thanks

Nora

(Nora, mentoring post, 30/10/2008 @ 12:56PM AEST)

Eric did not reply. These four messages spanned two months and represent all of the contact that they had.

Analysis of Eric and Nora’s interview and online data in terms of the analysis framework

Cost

Eric was the only member of his relationship to mention what could be considered ‘costs’ of involvement. Nora did not mention the cost of her involvement, although this is likely affected by there being no interview data from her. Eric said that in total he would spend “a good half hour” on mentoring and the community in total.

Benefit

Eric and Nora both indicated an expected benefit that they would learn new strategies from each other. They did this by asking each other questions and offering to provide information. They received some of this benefit when they described their behaviours to each other. Eric also benefited from his
involvement with mentoring through his development of communication skills he used with SILs he was assisting to supervise face-to-face.

Cost-Benefit
Eric mentioned making decisions about involvement in mentoring based on what could be considered a cost-benefit analysis. His "extroverted" and "technology based" nature was discussed in relation to the community and it applied in his mentoring relationship as well. This made the cost-benefit of his involvement with mentoring more positive.

Regularity of Reward
When Eric performed the action of logging in to the system based on one of the moderator’s emails he was rewarded with new content. The regularity of this reward was 100%, as the moderator’s encouragements to log in were made at the same time new content was posted to the site. Eric mentioned that the stimulus of the moderator emailing him when there was a new community topic motivated him to log in. He commented in interview that his mentoring would have been improved if a similar system existed when his mentee made a comment:

*I’d definitely like to go back to my comment about the notification because that definitely would have made it easier for me to go back and say “oh they responded to something that I posted to them”. Definitely a notification system would have been more beneficial for me to improve my quality as a mentor to someone else.*

(Eric, interview)

Here Eric is requesting that the system provide him with an additional stimulus: an email when his mentee has posted a comment. If this were to be implemented he claims his quality as a mentor would be improved.
Behaviour

Both Eric and Nora modelled behaviours in their mentoring relationship. At Nora’s request, Eric modelled the behaviours he uses when redirecting questions:

*What I usually do when redirecting questions is this ... I will either simply redirect the question or ask them to research it and have an answer next session. I try not to answer any questions during my sessions, and I try my hardest to get my students to get help from others and use references like their book to find their answers.*

(Eric, mentoring post, 28/10/2008 @ 11:41AM AEST)

Here Eric has presented a behaviour in response to Nora’s question. Nora gave three examples of behaviours that she uses to deal with this issue herself:

*I usually get my students to bring questions or i give them questions to discuss about the lectures they have covered in that week.*

*Sometimes it is difficult when there is a complex concept that no one really understands, this is when they sit there and look at me to basically reteach the topic. I try step by step trying to push them through to the right direction without telling them and we eventually get there but this seems like alot of work and time*  

*I have thought to set it as a sort of project for the next week's PASS but by that stage they have moved on through more material in lectures.*

(Nora, mentoring post, 30/10/2008 @ 12:56PM AEST)

Here Nora has modelled three behaviours that she uses to address student questions.

**Organising Behaviour Symbolically**

When presenting behaviours, Eric and Nora both presented them abstracted away from a particular example. Sometimes they presented them as a
sequence of actions that they would take in response to a stimulus, such as this behaviour from Nora:

_Sometimes it is difficult when there is a complex concept that no one really understands, this is when they sit there and look at me to basically reteach the topic. I try step by step trying to push them through to the right direction without telling them and we eventually get there but this seems like alot of work and time_

(Nora, mentoring post, 30/10/2008 @ 12:56PM AEST)

Here Nora has identified the stimulus of a “complex concept that no one really understands” and the students “sit there and look at [her] to basically reteach the topic”. She then models the behaviour that she uses when presented with this stimulus.

**Value of Outcomes of Behaviour to Observer**

When Nora asked Eric about redirecting questions he described a behaviour that he uses in his sessions:

_What I usually do when redirecting questions is this ... I will either simply redirect the question or ask them to research it and have an answer next session. I try not to answer any questions during my sessions, and I try my hardest to get my students to get help from others and use references like their book to find their answers._

(Eric, mentoring post, 28/10/2008 @ 11:41AM AEST)

Here Eric has modelled the behaviour but hasn’t discussed its outcomes. As he is modelling it to address Nora’s question about how he redirects questions, he may have assumed that redirecting questions is an outcome that she values. The rest of Eric and Nora’s discussion was similar; although they did not overtly discuss the outcomes of their behaviours, they were addressing her questions. Nora addressing situations in her sessions was an outcome that she might have valued.
Similarity of Model and Observer

As SILs, Eric and Nora were similar, but Eric thought that the SI models that they implemented were dissimilar:

*I think that the styles are definitely different. Nora was my mentee, I believe she was from [another country], and their style is, their PASS sessions are completely different to what we do at [Eric’s university], with our video taping and our model. Our model is vastly different from what most PASS/SI sessions are. The [Eric’s university] model is definitely a different model to what we see internationally because it focuses on using Bloom’s taxonomy specifically, that’s our main focus at [Eric’s university] and time management. Other things we focus on are giving students study strategies that they can take. All these pillars that we use at [Eric’s university] are the bread and butter of what we do and they have to be implemented in all our sessions. That’s what makes [Eric’s university’s] model a bit different. What I tried to do with my mentee was to balance out what we do with what she does with their model. With two different models it was great because we could change different things and figure out what works best for both of us.*

(Eric, interview)

Here Eric identifies the dissimilarity as both a challenge and a positive contributor to his mentoring relationship.

Model’s Admired Status

Compared to beginning SILs, both Nora and Eric had attributes that the other may have admired. Eric was a SIL with “1 yr and a half” of experience, and Nora was in her “second year as a leader”. Eric held other positions with his SI program that might have given him more admired status than Nora, who didn’t. Eric communicated this through his signature, placed at the bottom of his post. In this he mentioned that he was a “Supervisor Assistant” at his university.
Neither Nora nor Eric mentioned admired status with respect to their mentoring dyad.

**Suzie and Amanda**

Suzie was a SIL with three semesters’ experience and acted as a mentor for Amanda, who was in her second semester as a SIL. Their dyad was selected for analysis for three reasons:

1. they were from different campuses of the same university
2. Amanda participated in an interview
3. they had both been part of different mentoring dyads in the previous semester

Suzie and Amanda’s first contact with each other was through the attendance topic on the community space. Amanda contributed this:

> Lately I have had very small classes (ie. 3 students). It is very difficult to manage because one student seemed to dominate discussion. I used the techniques of asking the others whether they agreed with the dominant student's answers, that seemed to work.

(Amanda, community post, 29/8/2008 @ 7:44AM AEST)

Suzie had been assigned Amanda as her mentee but hadn’t been able to access her mentoring space due to a technical problem. Suzie recognized Amanda’s name and attempted to use this discussion topic as the starting point for their mentoring relationship:

> Hi Amanda,

> I'll take the time to introduce myself as we haven't been able to access our mentoring space.

> I'm Suzie, and this is my fourth session as a PASS leader. This session I am on the subject Comm121. I have previously also had a session with
only 3 people and it is tough. If there is one student that is very dominant I try to get him/her to help out the other students.

This semester my sessions have been quite large. My ideal number of students is about 15, anymore it seems like my job then becomes crowd control. In my friday session, it started out quite small, but other students have started to bring their friends along. I think this was because the session was smaller to begin with and the students felt more comfortable participating (as there is quite alot of international students). Because there are less students, I have had the opportunity to get to know them better, building good rapport with the students I find helps also.

(Suzie, community post, 1/9/2008 @ 12:17PM AEST)

Later that day the technical problem was fixed and both Suzie and Amanda were notified. Suzie made this post in their mentoring space:

Hi Amanda,

I'm not sure how you would like to do this mentoring thing. I find, that it works better if we don't have a scheduled time as somebody always forgets. Its better if you regularly check the site, say once a week and post any questions or concerns you may be having and I'll respond.

Unless you would prefer that we meet up at a certain time I'm fine with that as well. I have free time on Tuesdays from 9:00 - 1:30. To tell you a bit about myself, I'm in my final year of a Commerce/Law degree. This is my 4th session as a PASS leader. I have previously been a leader for Fin221, but am now a leader for Comm121. The size of my sessions range from 7 to over 20.

(Suzie, mentoring post, 2/9/2008 @ 1:14PM AEST)

Amanda did not reply and Suzie made no further attempts to communicate with her. When asked about the mentoring relationship in interview, Amanda said:
I didn’t get anything from that because it started late; I logged on a few times but something went wrong

(Amanda, interview)

For Amanda the late start of the relationship was a problem. She said that she would have preferred the relationship to start earlier, preferably during her initial SIL training:

Maybe got the mentoring thing happening a bit earlier. It would have been good at the beginning to sit down with you and say, this is how you work it, this is what we’re trying to do. Maybe you could fit that in the training session.

(Amanda, interview)

Here Amanda has mentioned training in the use of the software as well as the goals of online mentoring as something that could have been done in her initial SIL training.

Analysis of Suzie and Amanda’s interview and online data in terms of the analysis framework

Cost

Cost was only discussed in the interview with Amanda and not online, therefore this analysis is only from her perspective. Although she did not use the word ‘cost’ she discussed themes, such as her limited amount of time for involvement, which have been classified as costs in this analysis. She again identified that she had spent a lot of time preparing for her sessions:

I probably spent about 8 hours per week [preparing for sessions]. The lecture is 2 hours of a recording which really takes you 3 hours to listen to. But that’s ok

(Amanda, interview)
Amanda later went on to say that the time required for “PASS itself” was so
great that she didn’t have enough time to participate in online mentoring. She
said that PASS became “like a 4th subject” to study. This extra pressure on her
time reduced her available time and increased the value of the remaining time.
This might have increased the cost of participating in online mentoring.

In the previous semester Amanda had been paired with Natasha in a mentoring
dyad. They had little contact as Amanda had been moving house and selling
her small business. That semester Amanda had said that the time required for
involvement was too great as she was too busy to participate. She had
anticipated that she would be more involved in online mentoring in Study 2, as
this one-off time pressure would be finished, but this did not happen. As she
was now in her final semester of her degree, she instead had another one-off
time pressure: “a series of job interviews” that she was undertaking to secure
graduate employment.

**Benefit**

Amanda said that she benefited from “seeing what other people have got to
say” and the “suggestions they make”. For her the diversity of input and
behaviours was a benefit from her involvement with the community, and with
mentoring. Despite this, she did not consider that the community or mentoring
provided her with solutions to her specific problems; she said that this could be
because

> the problems that I face are not the problems faced by anyone around

(Amanda, interview)

Here Amanda is saying that her problems were not suited to being addressed
by the community because it lacked experience with them. She has identified
that she would have benefited from other people with experience in dealing
with, for example, small sessions on small campuses, but that this was not
available to her.
Cost-Benefit

Amanda had anticipated the previous semester that this semester she would have more time for a mentoring relationship. She had initially been involved with the community, but when Suzie attempted to communicate with her in the mentoring space she didn’t reciprocate. As has been discussed regarding the community, this was because she had become “waylaid with time pressures” and that involvement became “another thing like washing the car”.

Behaviour

Discussion of behaviours between Suzie and Amanda was minimal. The only behaviour mentioned in Amanda’s single communication with Suzie was:

*Lately I have had very small classes (ie. 3 students). It is very difficult to manage because one student seemed to dominate discussion. I used the techniques of asking the others whether they agreed with the dominant student's answers, that seemed to work.*

(Amanda, community post, 29/8/2008 @ 7:44AM AEST)

Suzie responded by suggesting two behaviours that she uses in her own smaller sessions:

- *If there is one student that is very dominant I try to get him/her to help out the other students.*

- *Because there are less students, I have had the opportunity to get to know them better, building good rapport with the students I find helps also.*

(Suzie, community post, 1/9/2008 @ 12:17PM AEST)

Here Suzie has described two behaviours that she uses to deal with the difficulties that Amanda was encountering.
Organising Behaviour Symbolically

The only instances of behaviour being organised symbolically occurred when Suzie outlined the trigger that would lead to her employing the first behaviour she described. She would do that behaviour “if there is one student that is very dominant”.

Value of Outcomes of Behaviour to Observer

The behaviours that Suzie described were in response to Amanda’s concern of her small sessions being dominated by a student. Although Suzie didn’t overtly state that her behaviours would address Amanda’s concerns, she might have been trying to imply that they would. Apart from these implicit outcomes, neither Suzie nor Amanda mentioned the outcomes of their behaviours.

Similarity of Model and Observer

Suzie and Amanda were both SILs at different campuses of the same university. The subjects they supported were offered by the same faculty and they were both enrolled in undergraduate degrees in that faculty. Suzie also tried to communicate that she had encountered problems similar to those encountered by Amanda. After Amanda indicated that she had a session with only three students and was finding it difficult, Suzie posted this:

This session I am on the subject [code of a 1st year commerce subject]. I have previously also had a session with only 3 people and it is tough.

(Suzie, community post, 1/9/2008 @ 12:17PM AEST)

Here Suzie is communicating to Amanda that not only is she in a similar position to her, but also that she has undergone similar experiences.

Model’s Admired Status

Suzie was in her fourth semester as a SIL, which could have been admirable but her mentee did not mention it in her interview. Suzie communicated her
experience to Amanda both in the mentoring space and in the attendance discussion.

**Summary**

This chapter reported the results of the second study of the online mentoring and community model. The key findings of the analysis are presented below.

**Supervisors and SILs participated in the community, which was more diverse**

In this study, both the supervisor members and the SILs contributed to the community, sometimes to the same discussions. Participants were from a diverse range of contexts, including multiple continents and institution types.

Diversity of participants had both positive and negative effects. Participants said that they benefited from learning about SI in other contexts. Differences in implementation of the SI model proved a difficulty when discussing concepts like session size. In addition, supervisor members reported that they wanted benefits from the community that were supervisor-specific. Some SILs reported that they wanted benefits from the community that it couldn’t provide because nobody else was in their situation.

**SILs Performed Cost-Benefit Analyses**

SILs again reported that they were time-poor and that this increased the time cost of their involvement. Being a frequent Internet user reduced the costs of involvement for one participant. Technical issues and issues with learning to use the online system increased costs for another participant. Benefits received by SILs and supervisors included using new technology, helping others, learning new behaviours and social support.

SILs reported conducting what could be considered cost-benefit analyses when deciding if they should be involved and deciding if they should log in on a particular occasion. They also did this when deciding how long they would participate once logged in. A deprivation-satiation effect existed that stopped
SILs and supervisors from participating in a discussion that had been comprehensively answered in one post.

**Supervisors and SILs communicated behaviours**

Behaviours were communicated between SILs and supervisors. These included both SI and student behaviours. When communicating the behaviours they would sometimes describe them overtly and sometimes symbolically. Symbolic modelling involved breaking the behaviour down into steps and decisions, like an algorithm.

For SILs, admired status came from experience as a SIL. Supervisors talked about their experience as a supervisor and the size of their SI program. One SIL talked about external awards that his SI program had received.
Chapter 8: Discussion and Conclusions

This chapter considers the research questions with respect to the analysis from the previous chapters, the online mentoring model, and relevant research literature. It is structured around the research questions, with each being addressed separately. The two research questions are:

Research Question 1: What models are appropriate for mentoring geographically-dispersed Supplemental Instruction leaders?

Research Question 2: In what ways does participation in an online SIL support program impact on mentors, mentees and community members?

The chapter also ends this thesis with a conclusion. Research Question 2 will be discussed first as it reveals features of the model that inform a discussion of Research Question 1.

Research Question 2: In what ways does participation in an online SIL support program impact on mentors, mentees and community members?

This research question is concerned with the impact that the model, as implemented in Study 1 and Study 2, had on three participant types: mentors, mentees and community members. Discussion of this question is split into three sections. Firstly, impacts are identified from the analysis presented in Chapters 6 and 7 and related to the model and research literature. The processes that enabled these impacts are then investigated. Finally, preconditions and external factors that influenced these processes are discussed. The relationship among these parts is conceptualised in Figure 8-1:
Figure 8-1 is an illustration of the relationship among preconditions and external factors, processes, and impacts. The end result of a participant's involvement with the support program are the impacts. These are results of processes, which are influenced by preconditions and external factors.

**Impacts**

This section of the discussion of Research Question 2 will identify the types of impacts that participation had on mentors, mentees and community members. There was overlap between the participant types in terms of membership (mentors and mentees also participated in the community) and how participation impacted on them. This part of the discussion will therefore be structured around the types of impacts that participation had rather than the participant types.

Participants experienced three main types of impact through their involvement with mentoring and the community: learning new strategies and skills; psychosocial support; and information and understanding.
Learning new strategies and skills

Schulz (1995) describes learning new strategies and skills through mentoring as one of the most important components of adult development. Although this model did not necessarily provide the life-changing experience Schulz describes, participants identified learning as the key benefit of their involvement. All types of participants described learning new strategies and skills through their involvement with mentoring and/or the community. The strategies and skills that SILs reported learning have been tested in real sessions, and to use the words of one inexperienced SIL mentee, they were “actual things to try” rather than “beating around the bush”. These were modelled by other SILs, often experienced SILs in the community or mentors. Apart from strategies and skills used in their sessions, SILs also learned skills that they applied outside of their role as a SIL. Some reported improving their communication skills, particularly their online communication skills. Some SILs who were also face-to-face mentors or supervisor assistants said that they improved their communication skills with other SILs. One experienced SIL, who was also an international student, said that she learned to be persuasive when modelling behaviours or giving feedback to other SILs. Rather than just ask them to do something, she learned to persuade them with the outcomes of what she was asking them to do. Some SILs also described learning to be a better leader, in many contexts: a better SI Leader, a better leader of SILs, and a better leader outside of SI. Some SILs also said that they learnt to use new online technologies.

Psychosocial support

Some SILs received psychosocial support. Some of those SILs discussed this in detail. Social support was more commonly experienced than emotional support, although both were experienced by geographically-isolated SILs. For some SILs, just knowing that mentoring was available was a support, although they may not have used it. This was predicted by mentoring practitioners during the development of the model. Beginning SILs discussed issues of confidence, and for some of them being able to read what others were doing gave them a
benchmark about how good a SIL they were, and this boosted their confidence. Being able to understand how one compares with colleagues and how achievable one’s goals are is a benefit of mentoring described by Schulz (1995) that was experienced by beginning SILs. Some SILs also described an opportunity for reflection, introspection and self-examination with respect to SI that is also consistent with Schulz’s findings. The shared experience of being a SIL was discussed as a support by some other SILs and using Kram’s (1983) terminology these SILs received ‘acceptance’ from the community. Some of the more intensive psychosocial support Kram describes, such as counselling and close friendship was not experienced.

Information and understanding

SILs reported gaining a greater understanding of SI, including SI in other contexts. In both studies, but particularly in Study 2, there were SILs from a wide variety of educational contexts. These included Australasian university campuses in capital cities and regional centres; education access centres in rural Australian towns; community colleges in US cities and universities in the US and UK. SILs said that they learned about the differences in interpretations of SI between programs. As a result, they were also prompted to evaluate their own “philosophy” of SI. Some experienced and inexperienced SILs were led to read more about SI or revisit training materials or manuals.

The three types of impacts described are the same as the supports commonly attributed to mentoring in the research literature (Ensher, et al., 2001; Kram, 1983; Single & Single, 2005). Two of these supports, learning new strategies and skills, and psychosocial support, are related to the model’s initial objectives as described in Chapter 3:

This model’s objectives are to support SILs, particularly those who are geographically-dispersed and inexperienced, by:

• assisting with skills development, and

• providing psychosocial support
with the intended outcome that the leaders have the potential to conduct higher quality SI sessions.

This discussion will now consider how these impacts happened.

Processes and methods

The processes that led to the impacts described previously can be grouped into two types: reading and contributing; and modelling. This section discusses these processes, and then considers the differences between how mentoring and community impacted on participants.

Reading and contributing

Activities that impacted on SILs can be thought of as non-contributing or contributing. Non-contributing activities ranged from performing a quick scan to find anything appropriate to their situation, to reading in-depth and mentally rehearsing what they were reading. In the development of the model, multiple SIL interviewees predicted that searching through the forum would happen, as it was how they already searched for information on other topics online. They said that when looking for information on the Internet they would find a web forum and search it for information without contributing new information or asking a question. Finding an answer to a problem they were having as a SIL helped their development, as it would lead them to, for example, try a new strategy and evaluate it.

When SILs contributed they were adding something new to the community or a mentoring relationship. The reasons they contributed included answering a question posed by the moderator or another SIL, sharing a behaviour, and reinforcing a behaviour. In making the decision to contribute, read, or not engage they conducted what could be thought of as a cost-benefit analysis. When they had less time, or the topic was less interesting to them they were less likely to contribute.
Modelling of behaviours

When SILs were writing about strategies that they used in their sessions they were providing others with descriptive and symbolic role-modelling stimuli. Descriptive modelling stimuli included instructions on how to perform a behaviour. Bandura (1977) states that one factor that influences observational learning from modelling stimuli is symbolic coding of the behaviour. When providing descriptive modelling stimuli, SILs coded behaviours into steps, decisions and algorithms. Their descriptions were brief and concise, usually one or two paragraphs. SILs modelling behaviours descriptively used plain language that commonly incorporated the algorithmic components of sequence and selection.

Descriptive stimuli included the outcomes of behaviours. Bandura (1977) proposes that observers are more likely to adopt behaviours that have outcomes that are valuable to them. This was reinforced by interview data. The individual nature of the value of outcomes was also reinforced as certain outcomes were seen as desirable by some SILs and undesirable by others. SILs chose behaviours based on their own valued outcome at that time: some desired an increase in attendance; some wanted to avoid re-teaching; and some wanted their sessions to be efficient. The value of outcomes of behaviours influenced which behaviours, if any, the observing SILs adopted.

One experienced SIL said that understanding this process developed her as a face-to-face mentor for SILs. She said that she learned not to just ask her mentees to do something, but to motivate them with the desired outcomes of what she wanted them to do.

The impact of the SILs as symbolic models was mediated by their status. Experienced SILs held admired status and were more trusted than inexperienced SILs. When there was a conflict between models, such as in the first implementation’s re-teaching discussion, the view of the experienced SILs prevailed. Even SILs who were experienced said that the status of other experienced SILs led to them adopting their behaviours.
Development also occurred when SILs overtly enacted behaviours they had observed online. SILs said that they not just implemented the behaviours, but also evaluated them. If they were happy with the outcomes of the behaviour they continued to implement it, otherwise not.

The importance and effectiveness of role modelling in this mentoring model contrasts with the proposition of Ensher, et al. (2003) that “role modelling may be the function of mentoring that is least efficiently done in a virtual setting” (p. 273). In this study, role modelling was performed using text-based descriptive and symbolic stimuli. It was regarded as one of the most important components of mentoring, and was usually performed through a small amount of text. Future studies that specifically focused on online role modelling could add to our understanding of online mentoring.

**There were differences between mentoring and the community**

In the community, participants had access to many other SILs. This provided access to many inputs and views. The discussion about re-teaching in the first implementation shows the value of these varied viewpoints. Further, if the same SILs had discussed this topic only in dyadic mentoring relationships they might not have been exposed to a view that challenged or affirmed their view.

Psychosocial support happened differently in mentoring compared to the community. For some mentees this was the most important type of support they received. In mentoring relationships this happened through the mentor being supportive, understanding and relating to the mentee’s experience. Mentors were credible near peers who had experienced similar situations before. Geographic isolation made psychosocial support more important for some mentees. In the community, psychosocial support happened in two ways. Some members reported that they received support by being part of a larger, common experience of being a SIL. Knowing that others were having similar experiences provided them with psychosocial support. Another kind of psychosocial support came from having other SILs to compare their progress, development or
strategies with. They felt emotionally supported by knowing that they were performing as well as or better than other SILs.

Provision of psychosocial support in mentoring relationships was in part dependent on the mentee asking for help. When mentees did not ask for help, mentors sometimes became frustrated. The mentor’s offer of support was itself a psychosocial support to some mentees, as they knew that if they wanted help it was available. These mentees were supported psychosocially through what they thought of as a ‘safety net’, or an emergency support.

The structured, almost weekly nature of the community encouraged participation. The topics were intended to provide just-in-time support to the SILs and start a discussion around issues that would be important to them at that moment. The timing of these discussions contributed to the SILs’ development, and they reported that the help was available to them when they needed it. This contrasts with mentoring relationships in which mentors and mentees were encouraged to negotiate around the sort of help they would like at particular times.

**Preconditions and external factors**

In considering how these impacts occurred, it is important to consider external factors and preconditions that may have influenced the process. SILs performed what could be thought of as a cost-benefit analysis before they participated, and this is considered with respect to the processes. Other factors that are considered include contexts, structure, personal characteristics and technology.

**Cost-benefit as an enabler of participation in the community**

Costs and benefits influenced participation in the community. SILs performed what could be conceptualised as cost-benefit analyses to determine whether they would participate in the community. Time was the most commonly-mentioned cost, and it acted as a barrier to participation for some SILs. If they didn’t have enough time to log in to the community then the processes that supported other SILs were not available to them. The more time they spent on
the community, the higher the time cost was for them, but the greater the opportunities for development. Key benefits such as learning new strategies, or receiving psychosocial support made the cost-benefit more positive for some SILs, which motivated them to participate. A positive cost-benefit was a precondition to the processes and impacts of the community.

**Cost-benefit as an enabler of participation in mentoring**

As in the community, costs and benefits influenced SILs’ decision to participate. Time costs were present in all mentoring relationships, and were a prohibiting factor that stopped some from developing. In one mentoring relationship the amount of time that the mentee spent preparing for her sessions each week meant that she had no time left to participate in mentoring. She was spending many times the number of hours her peers were spending on their preparation, but didn’t mention this to her mentor because she didn’t have time for mentoring. Members of other dyads reported learning about time management through mentoring, and this helped them to have the time to participate in the relationship.

A psychosocial cost was present in some relationships; this was described by one mentee as an initial fear that the mentor would “bite my head off and tell me that I’d done something wrong”. This fear disappeared as the relationship developed. This initial fear acted as a cost that gradually decreased, and influenced the impact of the support program.

SILs reported benefits that had a positive impact on the effectiveness of the relationship. These included some components of mentoring present in the definition of mentoring in the model: *emotional and psychological support; direct assistance with professional development; and role modelling*. These benefits influenced their decision to continue their participation, which in turn enabled the impact of the support.

A deprivation-satiation effect influenced the effectiveness of mentoring. In the development of the model it was predicted that the need for the supports
provided by mentoring would decrease as it was satisfied, and this satiation may have come from the mentor or some other source. This was one way to explain the decreasing frequency of mentoring posts later into each implementation. Participant and institutional contexts may have influenced a deprivation-satiation effect. When mentees were isolated from all other supports their need was higher and this could also be interpreted as a deprivation-satiation effect, as isolated mentees were more likely to be deprived of supports available to other SILs. Therefore the supports may have been more valuable to them.

Mentoring differed from the community in terms of cost-benefit as both members of a mentoring dyad needed to be involved to enable the impact of mentoring for either member.

**User profiles**

Profiles were included in the model partly because of input from the SILs who informed its design. They said that they wanted to establish a personal connection, and wanted the other SILs online to be more than just a name or a number. Although the profile facility was available to SILs, not all of them used it. SILs commented that more participants filling out their profiles would have helped them establish a personal connection, which would have improved effectiveness.

**The structure of the community**

Each time a new topic was posted to the community by the moderator, participants would receive an email, and many SILs mentioned the semi-weekly discussion prompts as contributing to setting up role modelling opportunities. This reinforces findings by Aviv, Erlich, Ravid and Geva (2003, in Johnson, 2006) that indicate structured asynchronous CMC to be associated with high levels of complex and critical thinking. The contents of the prompts were regarded as helpful as well, and the moderator’s emails to participants seen as encouraging them to participate.
**Academic years**

In the second implementation, participants were from various continents and both hemispheres, which meant that there were several academic years in progress throughout the community timeline. In contrast to this, there were few differences among the academic calendars of the institutions involved in implementation one. Staggering dates during the second implementation meant that participants were being exposed to discussions at different times in their semesters, however this was not mentioned as a problem by any SILs.

**Participant and institutional contexts in the community**

Being geographically isolated from all other SILs appeared to have a positive influence on the effectiveness of the community. Those SILs who were at a location that didn’t have any experienced SILs may have benefited from access to them. The experienced SILs provided opinions that were not put forward by SILs from inexperienced-only locations. The type of institution (university or community college) was not observed to have an impact on effectiveness of the community.

**Personal characteristics in the community**

Participants who reported a high level of Information Technology (IT) proficiency experienced the impact of the community more than those who reported a low level of IT proficiency. Personal communication style was also related to experiences in the community. The SILs who self-identified as extroverts claimed that this made the community effective for them by allowing them to post ideas and thoughts.

**Personal characteristics in mentoring**

Personal characteristics of a SIL influenced the effectiveness of the model for both members of their dyad. For a relationship to be effective, the mentee needed to indicate the areas they would like help with. In some relationships this did not happen, and those relationships were much less communicative. IT
proficiency and extroversion impacted on mentoring relationships in the same way that they did in the community.

Information technology in the community

Information Technology had both positive and negative influences on the effectiveness of the community. One negative factor was the implementation of the session evaluation and leader evaluation forms. This was criticised by some SILs as they thought the forms were too long. Some SILs used these forms to post content, which was meant to start a discussion, but their content ended up at the bottom of a long form.

The asynchronous-only nature of the technology was a positive factor in the effectiveness of the community. SILs said that they appreciated being able to log in when they wanted to, and the technology accommodated their irregular posting. This is consistent with the benefits of asynchronous CMC described by Johnson (2006). The technology used by the community was reliable as all of its features were available for the entirety of both implementations.

Information technology in mentoring

One mentoring dyad attempted to use the asynchronous tools provided to have synchronous discussions. The tools were not designed for this and their discussions were stilted, with their contributions separated by minutes of waiting. The asynchronous-only nature of the tools provided acted as a barrier for some mentoring relationships. Other mentoring relationships took advantage of the asynchronous technology and their members commented that they appreciated that they could post when they had the time. As in the community, the experienced benefits of the technology are consistent with Johnson’s (2006) comparisons of asynchronous and synchronous CMC.

There were some technical problems with access to the mentoring space for some SILs. Although these were fixed quickly, usually within a day, they acted as a barrier to mentoring. Even a brief lack of access was frustrating and stalled the development of relationships. Sometimes participants would experience
difficulties and just give up. In these cases the technical glitches may have prevented any mentoring relationship from developing.

**Summary**

Research Question 2 seeks to understand the ways that participation impacts on mentors, mentees and community members. The question was discussed in three parts: an identification of the impacts; an investigation of the processes that produced these impacts; and an identification of external factors and preconditions to these processes. These have been incorporated into Figure 8-2, which is an adaptation of Figure 8-1.
Figure 8-2. Summary of the Preconditions and External Factors, Processes, and Impacts of Participation in an Online Support Program for SILs
As detailed in Figure 8-2, there were preconditions and external factors, such as cost-benefit ratio and Information Technology that influenced or enabled the processes that happened in the support program. These processes are summarised as reading and contributing, and modelling of behaviours. They produced impacts, which were learning new strategies and skills; psychosocial support; and information and understanding.

There were many relationships between preconditions and external factors, as indicated in the lines between them in Figure 8-2. As an example, cost-benefit, Information Technology and personal characteristics were related. For some participants, the cost-benefit of using Information Technology was adjusted significantly by personal characteristics of extroversion and an affinity for the Internet. Another set of relationships exists between academic years, the structure of the community, and participant and institutional contexts. There were multiple academic calendars combining in the community, which was related to the multitude of institutional contexts that participants were from. These academic calendars influenced participation in particular community discussions.

Figure 8-2 also demonstrates a link between the processes of reading and contributing, and modelling of behaviours. SILs often contributed by role modelling behaviours. When reading, SILs were often acting as observers of modelled behaviour, which was mainly presented as text. Sometimes only one of these processes would be functioning, as was the case when SILs were transmitting information that was not related to SI behaviours.

**Research Question 1: What models are appropriate for mentoring geographically-dispersed Supplemental Instruction Leaders?**

The online mentoring model was developed with input from the research literature, SILs, supervisors, online mentoring practitioners and educational
technology specialists. In Chapter 4 the model was specified in terms of design variables that were identified from these sources, as well as a definition of mentoring and a theoretical framework. Decisions were made with respect to each of those design variables based on that dataset. In addressing this research question the discussion is structured around the definition, theoretical framework and design variables, and the adjustments to be made to each. The completeness of the set of design variables is also considered.

**Definition of mentoring**

Based on the analysis presented in the previous chapters, the model's definition of mentoring is being altered. The new definition is:

1. **Mentoring relationships are helping relationships usually focused on achievement.** The primary dynamic of the mentoring relationship is the assistance and support provided to the protégé by the mentor. Further the mentor does not necessarily carry the formal authority of a supervisor or teacher.

2. **Mentoring includes any or all of three broad components:** (a) emotional and psychological support, (b) direct assistance with career and professional development, and (c) role modelling.

3. **Mentoring relationships are reciprocal relationships.** To differentiate the mentoring relationship from that of a client-based relationship, it might be added here that the benefits are other than fee-for-service.

4. **Mentoring relationships are personal.**

5. **Relative to their protégés, mentors show greater experience, influence, and achievement within a particular organization or environment.**

The definition of mentoring used in the model was that based on Jacobi (1991). The mention of career support in point two as a component of mentoring in the original definition required removal. For SILs, career support was not present in
their experience, and they did not want it to be. The SIL’s role is part-time, short-term, and most leave their SI program to pursue employment in an unrelated field when they graduate. Although they were dedicated to their role, SILs did not express a desire for career support with respect to SI.

Point five mentioned the mentor’s level of experience, influence and achievement in an organisation that they and their mentee are both part of. Some dyads contained a mentor and mentee who were part of the same university, however the level of experience, influence or achievement of the mentor in that university or SI program was not found to impact on the relationship. Most mentoring dyads were between members of different organisations, but they shared a common environment: SI. Point five of the definition was adjusted to reflect this.

**Theoretical framework**

The role of the theoretical framework in this model was to inform its design and assist in understanding what was happening when the model was studied. The combination of Social Learning Theory and Social Exchange Theory used in the new model fulfilled this role more comprehensively than either theory would have done in isolation. The theoretical framework of the model is not being changed.

**Variables from model**

1. **Objectives**

The broad, high-level objective of the model was to support SILs who were both geographically-dispersed and inexperienced. In the original specification of the model this was written as:

> This model’s objectives are to support geographically-dispersed and inexperienced SIL’s by:

- assisting with skills development, and
• providing psychosocial support

with the intended outcome that the leaders have the potential to conduct higher quality SI sessions.

This initial objective was met to some extent. Those SILs who were part of the target group (both geographically-dispersed and inexperienced) reported receiving skills development and psychosocial support from the model. There were, however, instances of some participants desiring benefits that they did not experience, and that were not part of the model. There is a need to either communicate the objectives of the model to SILs and supervisors more effectively, or broaden the objectives of the model.

Some SILs reported that they did not know why they were part of the community. They had volunteered to be a part of it, possibly with some encouragement from their supervisors, but it was apparent that the objectives of the model had not been communicated effectively to them. Generally these SILs had little involvement with the model; this further supports the findings of Ehrich, et al. (2001) regarding the need for clear communication of the “aims, roles, rules and expectations” (p. 13) of mentoring. This is further addressed when discussing issues of training and the information and consent package provided to participants.

There was evidence of supervisors and experienced, co-located SILs desiring support from the model that was not part of the objectives of the model. There is little evidence that supervisors received the support that they desired, but there is much evidence of experienced, co-located SILs receiving the support that they desired.

Changing the objectives of the model to include support for supervisors would not necessarily result in their receiving the support that they desire as that would require a significant redevelopment of the model. Changing the objectives of the model to include supporting all SILs will better reflect the objectives
participants had that were met. The objectives of the model have been modified to include this:

This model’s objectives are to support SILs, particularly those who are geographically-dispersed and inexperienced, by:

• assisting with skills development, and

• providing psychosocial support

with the intended outcome that the leaders have the potential to conduct higher-quality SI sessions.

This statement of objectives does not address supervisors. Their understanding of the objectives of the model will be covered when discussing training, and their role will be discussed when discussing roles.

2. Roles

Five roles were identified in the design of the model: mentor, mentee, community member, supervisor and moderator. These roles were affirmed by the data in three ways:

• No new roles were identified in the analysis of the data, except for one participant mentioning a role for students. Due to privacy and confidentiality concerns for student and SIL participants a student role will not be added.

• Each participant identified as taking at least one of the roles.

• Each role had at least one participant

This set of roles is accepted as being a complete set for this model. The observed role of supervisors was different to what was specified in the model and is discussed below.
Supervisors

The role of the supervisor members was originally vague. They were treated the same as SIL community members by the moderator, receiving the same prompts any other community member did. The reason for having them as part of the community was to provide them with an insight into what was happening there. In the first implementation there was only one supervisor member and he participated in this way. In Study 2 there were multiple supervisor members and they indicated that they had expectations that were beyond that role.

Sometimes the expanded role that supervisors assumed in Study 2 influenced the contributions of SILs positively. In one instance a supervisor encouraged one of her SILs to provide the community with expertise that she knew he had. In some other discussions it is possible that the supervisors had a negative effect on the level of participation. Sometimes supervisors would be the first and only contributors to a discussion.

When considering an expanded role for supervisors the initial objectives of the model need to be considered. Viewed in this way, the benefits for supervisors are inconsequential unless they in some way contribute to the supervisor supporting their SILs. The benefits that supervisors wanted from the community were sometimes related to supporting their SILs, so it could be argued that an expanded supervisor role would help meet the objectives of the model.

Supervisors have access to existing supports including their own professional networks. They also have access to an international email list, SI NET run by the University of Missouri – Kansas City, and in some cases regional email networks, such as PASS_LIST run from the University of Wollongong. In the period that the supervisors were part of Study 2, the international email list received more than 150 emails.

The presence of existing online and face-to-face supports, as well as the different and less-understood support needs of supervisors provides some justification for not redefining the role of supervisors in the community. The
model's objectives focus on supporting SILs, rather than supervisors, and in line with these objectives the role of the supervisor members is not being adjusted.

3. Relationships

Cardinality and tie strength

Analysis of data reinforced a predicted link between relationship cardinality and tie strength. In the community, relationships were of a many-to-many cardinality, and had weak tie strength. When asked whom they were communicating with in the community, participants rarely identified a particular member, instead saying that they were communicating with the whole community. They rarely mentioned other community members by name online or in interviews. If tie strength is indicated by “level of emotional affect, reciprocity and frequency of communication” (Higgins & Kram, 2001, p. 269), these community relationships are weakly tied. Participants said that the community was a valuable resource and that the large number of people involved gave them access to more ideas.

In mentoring relationships that progressed beyond a single communication the cardinality was one-to-one and the tie strength was stronger. Mentors and mentees often appreciated the closer relationship they developed with each other. As the participating SILs' time was limited, there was a trade-off between close tie strength in mentoring relationships or a larger cardinality in the community.

In mentoring relationships in which there was little or no contact from one member the strong tie did not develop. The low cardinality provided low reliability; if the mentor or mentee made no contact the relationship could not progress. This contrasted with the community, in which environment participants were more likely to have someone write back to them, compared with an unreliable mentor or mentee. Despite many SILs never contributing, most topics or questions were addressed in some way because there were enough SILs who did contribute. By incorporating dyadic mentoring and a community, the model had a type of redundancy that Single and Single (Single
& Single, 2005) describe as a “safety net” (p. 316) for when mentoring pairs are unsuccessful.

Some mentors were not active beyond an initial communication with their mentee. Ensher, et al. (2003) noted a trend in mentoring research towards a ‘constellation of mentors’ approach, in which mentees have a variety of mentoring relationships of various tie strength and purpose. This approach could have alleviated some difficulties for mentees who had mentors who were not willing or able to commit much time to their relationship. A constellation of mentors approach would not have helped in situations in which there was a willing mentor but their mentee would not communicate. In those circumstances multiple mentees might have been helpful.

Some active members of inactive mentoring dyads suggested that their experience would have been improved if there were more than one mentor and more than one mentee. This sort of group mentoring might address both the problems of inactive mentors and inactive mentees to an extent. Those mentors and mentees who were active might be more likely to have someone else in their group who was also active.

Results reinforce a need for two types of relationships: the community and mentoring relationships. Participants who were engaged in both sorts of relationship said that they benefited differently from each. The presence of both also provided redundancy; if one type of relationship was not working then the other might provide a backup. Mentoring relationships in which the mentee was isolated from other types of supports were particularly valuable. Mentoring relationships and the community will stay as part of the model, but there might be a need to reconsider the number of members of each type in mentoring relationships.

4. Time

Almost every participant reported spending less time than expected in both mentoring and the community, both when viewed separately and combined.
The modal commitment in total to both mentoring and community was around 20 minutes per week per participant spread across the entire implementation. As predicted, the time commitment started larger then decreased throughout the course of the semester. The recommended time commitment in the model is being changed to 20 minutes per week to more accurately reflect the actual time spent by participants. Compared with the studies reviewed in the development of the model, this is a relatively low amount of time. One factor that might impact on this is the part-time nature of the SIL's role, which represents a time commitment of less than one-quarter of a full-time role.

The model did not require participants to log in at a fixed day and time, and most participants were not fixed with their time commitments. Some participants attempted to set up a regular meeting time with each other and this was sometimes successful. Given the geographic dispersal of the SILs across multiple time zones a synchronous meeting time was not mandated and will not become part of the model. Issues relating to the synchronicity of the technology are discussed further in the Tools variable.

There was a phased addition and removal of participants in the second implementation due to the differences in academic years between universities. This was necessary for the model to work with participants from such diverse contexts.

5. Selection

Given the limited resources available to the model, selection of participants is important to the model’s success if it is to be expanded. The model’s initial selection criteria were limited to participants being current supervisors or SILs, with mentors also being required to have a recommendation from their supervisors. A new set of selection criteria has been developed based on analysis of participant-reported benefits from the model.

The initial selection criteria are still required, however preference will be given to those SILs who (in order of preference):
• Contact the researcher or moderator directly, rather than through their supervisor

• Are not co-located with any other SILs

From a Social Exchange Theory perspective, these criteria indicate more valuable expected benefits. Those SILs who contact the researcher or moderator directly may be more motivated by anticipated benefits than those whose supervisor initiates the contact. A deprivation-satiation effect may increase the value of support from an online mentor for those SILs who are not co-located with other SILs.

6. Matching

Analysis of data indicates that some mentors and mentees showed significant differences in terms of the amount of time they thought mentoring would take. There is a need to incorporate the expectations of each potential mentor and mentee when assigning them to dyads. The model’s existing matching criteria were:

• Approval by both mentor and mentee of the match

• Similarity of academic major studied

• Similarity of SIL subjects

Some mentoring relationships began with a mentor and a mentee who had very different expectations of each other. This was usually a different expectation of the amount of time that they devoted to the relationship, or how often they communicated. Based on this, a fourth criterion is being added to the model’s matching criteria: expectations in terms of time.

7. Activities

Two activities were common in the community: addressing the regular discussion topics initiated by the moderator, and addressing other community members’ questions. Some regular discussion topics were well received by the
participants. Those topics received many comments and were mentioned in interviews as particularly useful. Other topics, such as exam preparation, received no comments in either implementation and were not mentioned as useful in interviews. The value of regular discussion topics as a community activity was reinforced by the data, echoing the findings of Johnson (2006) on the value of structured asynchronous discussion over unstructured discussion. The specific topics chosen need to be revised.

Single and Single (2005) propose features for successful online mentoring and community models, some of which relate to activities. This model reinforces their suggestion that activities be topic-based and facilitated, as those features have been identified as contributing to the success of this model and other models described by online mentoring practitioners.

8. Tools
The model contained four technology tools that were provided in the community and mentoring dyads:

- Session and SIL evaluation tools
- Video and audio upload and display tools
- Asynchronous discussion forum
- Anonymous discussion forum

These were implemented as modules in a content management system, which provided participants with access to each tool and a quick overview of the content other users had contributed.

The most used tool was the asynchronous discussion forum. Almost all the communication that occurred between any types of participants was through this tool. The access controls that were used to implement privacy for mentoring dyads were effective, as participants did report a feeling of confidentiality in mentoring dyads. This tool was used for all activities, including the regular discussion topics and addressing other participants’ questions.
The asynchronous nature of the discussion board was advantageous for many participants. They were able to log in whenever they wanted and contribute when it suited them. In Study 2 when participants were from multiple continents, each with different time zones, the asynchronous nature of the tool allowed participants to communicate with each other at a time of day that suited them. The messages written by all participants appeared carefully constructed; some even incorporated sophisticated symbolic role-modelling stimuli. These results reinforce the review of the CMC literature by Johnson (2006), which found asynchronous discussion was associated with “higher level thinking skills” (p. 51).

Although most participants used the discussion forum as an asynchronous tool, some mentoring dyads attempted to use it as a synchronous tool. In this respect it functioned poorly, as participants needed to refresh their browsers regularly to see if their mentor or mentee had posted. There was a significant time gap between posts, usually a few minutes, which made the discussion inefficient. To allow those participants who wish to engage in synchronous discussion to do so, a synchronous text discussion tool is being added to the model.

The session evaluation tool and the SIL evaluation tool were both intended to promote discussion between SILs. Those SILs who did use those tools to attempt to start a discussion were unsuccessful, as they received no comments. In contrast to this, SILs made many successful attempts to start discussion using the asynchronous discussion forum. This problem could be related to the implementation of the tools, as the discussion component of the tools was not presented until after the participant scrolled through the evaluation component first. These tools are being kept as part of the model, but their implementation needs to be clearer. Specifically, the tool needs to present the discussion component more prominently, and allow participants to skip over any components of the questionnaire section that they want to. Additionally, uploaded session preparation materials attached to this form need to be searchable and presentable in a gallery format for higher visibility and reuse.
The remaining two types of tools, video/audio uploading and display, and anonymous posting, were never used. No participant reported having difficulty using these tools. The video/audio uploading and display tools may have been unnecessary to the participants, or they may have been deemed too time-consuming. The time required to create media to upload would have been significant. Although no participant reported that they would have liked to upload their own video, many participants reported that they would have liked to have watched videos of other SILs’ sessions, particularly those of their mentee. Video and audio upload and display facilities are being kept as part of the model to allow participants who might want to use them to do so. Further development of the model could include the use of pre-prepared exemplar videos. This would allow SILs the benefit of viewing role model sessions or behaviours without the cost of developing the videos themselves. It would also act as a model for SILs of potential uses of uploaded video.

Anonymous posting tools are being kept in the model. Although no participants used these tools, some did report that their presence was a support. They were aware that if they wanted to communicate anonymously they could, and this awareness was a support for them.

9. Role of technology

In this model, technology was the only means of communication between participants. Using the categories of Ensher, et al. (2003), the role of technology in the model was ‘CMC-only’. The other categories are: CMC-primary, CMC-supplementary and non-CMC. CMC was necessarily the primary means of communication as all mentors and mentees were separated by significant distance that prevented any face-to-face contact. Some participants mentioned that a face-to-face meeting at some point in their relationship would have been preferable. During the development of the model, online mentoring practitioners also identified this. If face-to-face meetings were possible they would be encouraged, but the model was designed specifically for those circumstances in
which the distance between participants precludes this. The CMC-only nature of the model is not being adjusted.

10. Training

Most participants viewed the training as either a positive contribution to the model or as a non-issue. One participant took issue with what he saw as an excessive amount of training that used too much text. Although participant attitudes towards the training do not indicate a need for significant change to the training materials, some outcomes of the training were not met. During the development of the model, three training modules were designed:

- Using the system
- Community
- Mentoring

Some problems arose for some participants that were addressed in the training; for example, some SILs reported having difficulty using the technology. One SIL wrote that she did not know why she was involved in the community, even though this was explained in both the participant information and consent package, as well as in the training. At some stage the training had failed to communicate this information with these participants in a way that was engaging and would be retained. The model is being modified to include a quick summary of the training in addition to the more detailed training.

11. Marketing

The marketing used was successful in recruiting many participants, but they were not necessarily all informed and enthusiastic. Some participants never communicated online despite having volunteered their involvement. A lack of interview data from these participants makes it difficult to know if they understood what they were volunteering for. The key marketing material that was used was the information and consent package, but possibly
supplementary materials, such as a short video, could be used to better inform potential participants.

12. Resources

Participants used the resources provided; however they indicated that they would have appreciated more. One participant mentioned that the addition of an FAQ about mentoring and the community would have been helpful. Multiple participants mentioned that having the SI manuals present in an online searchable format would have been helpful. These resources are being added to the model.

The community produced thousands of words of discussion about SI that is in the words of SILs. With all identifying information removed, this archive of discussions could be useful for future training of SILs. One of the participants in the development of the model said that when he searches for information about how to solve a problem, the first thing he does is search existing online discussions; future SILs may benefit from the community’s archives in a similar way.

13. Expectations

Participant expectations varied. Mentoring dyads typically spent little time negotiating their expectations. Part of the expectation negotiation process between mentoring dyads was their time commitment, and this has been moved into the matching criteria. Expectation management has also been discussed in the marketing design variable.

14. Rewards

In discussing rewards, the analysis of desired benefits performed in the previous chapters is contrasted with the rewards provided by the model. Rewards such as appreciation, learning new strategies and improving online communication skills were part of the model. They were desired by the SILs and experienced. Some more specific desired rewards, such as learning a new strategy for a particular scenario, were not always experienced. An example of
this is the SIL who desired help for his very large sessions. Other SILs discussed strategies for what they thought were large sessions, but his sessions were even larger.

Payment as a reward was not part of the model and was not described as an unmet potential benefit. There were, however, some rewards that participants desired that were not part of the model and were not experienced. These included support for supervisors, such as the development of a new SIL observation tool. Another unmet reward that was not part of the model was a searchable gallery of session preparation materials. This is being added to the model.

15. Policy

No participants raised any issues about the policy in interviews, and there were no breaches of it. Those participants who read the policy and commented on it said that they thought it was normal. Many more participants said that they didn’t read the policy because they weren’t interested in it and didn’t expect there would be any problems. The moderator never needed to intervene, nor contact a participant’s supervisor.

On larger, commercially-run communities and Social Networking Services (SNSs) privacy is an issue of contention among researchers (Boyd, 2007). As privacy is a changing concept, there is a need to continually review the policy aspect of the model as it relates to other comparable online services.

Given that there were no breaches of the policy and that the participants didn’t have any problems with it, no alteration will be made to policy within the model.

16. Interaction with context

The model was intended to supplement the existing supports that SILs had access to in their contexts. There were no reports of the model conflicting with the SILs’ existing supports. There was evidence that in addition to different institutional contexts, SILs were part of programs that had different interpretations of SI. This led to some debate over concepts like re-teaching,
which resulted in challenging even experienced SILs who thought they might have become complacent. Those SILs who discussed diversity of interpretations of SI in the community regarded it as a positive feature. In most mentoring relationships the interpretation of SI was similar, but in one that spanned two continents there were significant differences. Although the mentor found that this required more work on his part, he found the diversity to be advantageous. The model is being modified to include the SILs’ institutions’ interpretation of SI as part of their context.

SIILs who were isolated from all other SILs reported that support from the model was the largest support they received in their role. For them, the support was more than supplemental as it was regarded as more useful than existing supports.

17. Monitoring

Nothing destructive happened in mentoring or the community, so the effectiveness of monitoring in that respect was not tested. Monitoring was necessary for when nothing happened at all, such as in some discussions or mentoring relationships. Through monitoring the moderator was able to identify when there was a need to provide further prompts. This was sometimes successful in getting users to log in and contribute.

18. Boundaries

No participants reported that they felt the boundaries of their relationships were violated. There were no instances in which the moderator needed to intervene because of a breach of relationship boundaries. On analysis of the data there were no instances in which relationship boundaries needed to be better maintained. No modification is being made to the boundaries section of the relationships variable.

19. Termination

The model contained a no-fault exit clause for terminating relationships, however this was not used. When a member of a mentoring relationship
withdrew from it they would not do this in a formal manner, so they did not use the no-fault exit clause. Instead their withdrawal was gradual and informal; they just reduced their involvement or stopped being involved.

There is a need for mentoring relationships to terminate more explicitly and openly. Active members of dyads with inactive members indicated that they were frustrated and disappointed by the other member. They said that they would have preferred to know that the other member was no longer interested. The model is being adjusted to further emphasize the no-fault exit clause, and to encourage the moderator to formally end abandoned mentoring relationships earlier.

20. Evaluation

All participants were asked to participate in an interview at the end of each study that they were part of. Participants were offered the choice between a face-to-face interview, an email interview or a telephone interview. Most participants did not respond to the request for an interview, and the participants who contributed less online were less represented in the interviews. Although the data from the interviews was useful in evaluating the model, it does not represent the experiences of all of the participants. Taking a Social Exchange Theory perspective, it is possible that the interview was perceived as being potentially too costly an exercise in terms of time, or embarrassment for not being an active participant. The existence of either of these costs could introduce an unfortunate selection bias in the evaluation of the model. A short, anonymous online form is being added to the model with the goal that it will elicit more responses.

Comprehensiveness of the set of design variables

This list of design variables represents all of the higher-level descriptions necessary to specify the model. No other specification is necessary to describe the model. This set of variables was comprehensive.
Summary
This question addressed the need for an appropriate model for mentoring SILs. Adaptations to the model developed in Chapter 4 were presented based on analysis of the findings from Chapters 6 and 7. This model was developed around a set of design variables identified from the literature in Chapter 3. The set of design variables was found to be comprehensive for this study as it addressed all conceptual choices or attributes necessary to specify the model. This model represents one design for mentoring geographically-dispersed SILs who are inexperienced with SI.

Conclusions and recommendations for future research
This thesis documents a research study into the support of geographically-dispersed SILs through online mentoring. The four most important contributions to online mentoring research made by this thesis are:

- A model for mentoring geographically-dispersed SILs was developed
- The impacts of participating in an online support program for SILs was investigated
- A set of mentoring model design variables was identified from the literature
- A theoretical framework for understanding mentoring was synthesised from two existing frameworks

Each of these is discussed separately along with recommendations for further research work in the field.
A model for mentoring geographically-dispersed Supplemental Instruction Leaders

This research designed, implemented and analysed an online mentoring model for the support of geographically-dispersed SILs. This group of participants is a non-traditional group of mentees; most research in mentoring relates to career employees or students. SILs undertake their role as a small, fixed-term part-time commitment; it is neither their study nor their career. The design, implementation and analysis of a model of mentoring for this non-traditional group expands a theoretical understanding of mentoring beyond traditional participants.

Supplemental Instruction Leaders are a valuable group to provide mentoring opportunities to. They support around 250,000 students each year through their sessions (Arendale, 2002) and facilitate an important First Year Experience initiative (Tinto, 1998). This research was motivated by the desire to support SILs who are geographically isolated from the supports that their peers receive. Geographic isolation and fragmentation pose difficulties for Australian multi-campus institutions (Winchester & Sterk, 2006) that this model sought to address for SI. Elements of this model might be applicable outside of an SI context, such as to the support of casual teaching staff at isolated rural or regional locations. The study of CMC interactions between teachers is an under-researched field (Hrastinski & Keller, 2007), however for rural and regional teachers, CMC might be a particularly useful tool to access support from colleagues. Future research could investigate the applicability of this model, or other online mentoring models, in addressing issues of geographic dispersal in higher education.

The impacts of participating in an online support program for SILs

This thesis represents the first attempt to place the support of SILs through mentoring within a theoretical framework. This framework helped to understand
what impact participation in mentoring and the community had on SILs. The benefits of mentoring predicted in the research literature applied to SILs, with the exception of career support. As a set of non-traditional mentees with diverse post-SI career options, they were not interested in career support. Exposure and advocacy (Kram, 1983) within their SI program or the international SI community was not described as a desired benefit. Another component of career support, more rapid career advancement (Burke, et al., 1994; Schulz, 1995; Whitely, et al., 1991) was not desired either as there are few roles for SILs to advance to in SI. Role-modelling was an important process that was efficiently performed by SILs, contrary to predictions made by Ensher, et al. (2003). Many external factors and preconditions influenced the processes of SIL support, including costs and benefits.

Understanding the impact of mentoring and the community is important to organisations considering implementing the model. The preconditions and external factors that influenced the processes of the support have been identified, and could be addressed by an organisation wishing to implement this or other models. Communicating this information to potential participants in mentoring should assist them to make an informed decision about their involvement.

**Identification of a set of design variables for mentoring models**

This research identified 20 variables for consideration when designing a mentoring model. Those variables were developed from the literature and discussed with educational technologists, online mentoring practitioners, SILs and SI supervisors. The completeness of the set of variables was considered, and in relation to this research they represented all conceptual decisions that were required in the design of the model. The 20 variables are described, justified, and grounded in the research literature in Chapter 3 and their comprehensiveness is affirmed in this chapter in response to Research Question 1.
The identification of theoretical design variables might assist online mentoring practitioners in the design of their models. This set of variables might also provide researchers and practitioners with an abstract method of expressing and communicating mentoring models. This research also provides an example of the design, specification, implementation and analysis of a model using that set of variables.

Some mentoring researchers (for example, Jacobi, 1991; Merriam, 1983; Wrightsman, 1981) have expressed concern about the need for formal definitions of mentoring. This research has responded to their arguments with a framework for specifying mentoring models that is more detailed than a definition, but less detailed than an implementation, which would be context-dependent. Future research could consider these design variables within other contexts.

**A new theoretical framework**

The combination of Bandura’s (1977) Social Learning Theory and Homans’ (1958) Social Exchange Theory, used in this thesis as a theoretical framework for understanding mentoring, is novel. Previous studies have considered each theory in isolation but none has synthesised the two into one framework. Combining the two theories facilitates a more comprehensive understanding of mentoring.

Social Learning Theory provides an understanding of how learning happens in mentoring, but it does not explain all the preconditions that are required for that learning to occur. Social Learning Theory’s proposition that observational learning happens most effectively when the model holds admired status and is similar to the observer was reinforced by the data. Further preconditions existed that prevented some mentoring relationships from flourishing; some of these could be explained by Social Exchange Theory. At each step in the mentoring process, all participants performed what can be considered a cost-benefit analysis to determine whether they would participate. A positive cost-benefit was required for observational learning to occur.
Social Exchange Theory can inform an understanding of why people participate in mentoring. One reason SILs participated in online mentoring and the community was to learn new strategies. Social Learning Theory can inform an understanding of how these strategies are learned and communicated as behaviours. When discussing behaviours with each other, SILs expressed them descriptively and symbolically, and also emphasised their outcomes. A solely Social Exchange Theory perspective would not provide this understanding of how modelling occurs in mentoring. This framework provides a more comprehensive understanding of mentoring than either of its components in isolation.

This thesis also addresses two theoretical issues of concern from the research literature. Firstly, the issue of a lack of theoretical grounding for mentoring studies, identified by Ehrich, et al. (2001) was confirmed with respect to the SI mentoring research literature. This issue is addressed in this study by incorporating theory. The presentation of the more comprehensive theoretical framework used in this study might provide some motivation for increased use of theory in other studies. A similar issue in the CMC literature, identified by Hrastinski and Keller (2007) is also addressed: the lack of studies that contribute to theory. The final theoretical issue of concern that this research addresses is role-modelling in computer-mediated settings. Contrary to the proposition of Ensher, et al. (2003), role-modelling was performed efficiently in this online mentoring model. Mentors, mentees and community members used symbolic and descriptive modelling in situations when more overt modelling was difficult. Although they were provided with tools for video-based role-modelling, they opted for the less-time-intensive text-based tools when modelling. Role-modelling was an efficient way to learn new SI strategies. Further research work into online role-modelling could consider video-based or virtual-world role models in mentoring relationships.
References


Ashwin, P. (2003). Peer support: Relations between the context, process and outcomes for the students who are supported. Instructional Science, 31(3), 159-173.


Price, R. Weber & D. E. Willis (Eds.), *Proceedings of the 18th International Conference, Society for Information Technology & Teacher Education* (pp. 2342 - 2350). San Antonio, Texas: Association for the Advancement of Computing in Education (AACE).


Appendices

1. Interview schedules used in the development of the detailed model

2. University of Wollongong Human Research Ethics Committee Approval HE07/185

3. Supplemental Instruction Leader Observation Tool

4. Development of a SIL self-efficacy scale

5. SIL Self-Efficacy Scale

6. Interview schedule used in the review of the detailed model

7. Paper-based presentation used in the review of the detailed model

8. Information and consent package, including privacy policy, for online mentors, mentees, community members and supervisor members

9. University of Wollongong Human Research Ethics Committee Approval HE07/359
10. Interview schedules used with online mentoring and community participants

11. Information and Consent Package for Interviews with Mentoring and Community Members
Appendix 1. Interview schedules used in the development of the detailed model
Supplemental Instruction Leader Interview

Introduction

Thank you for taking the time to participate in this interview. The interview should take approximately one hour.

I am presently in the process of designing an online mentoring program to support PASS/SI Leaders – particularly those who are geographically dispersed. Your input will help shape this program. As the goal of this research is to better support PASS/SI Leaders, it will be most helpful if you can share both the positive and negative aspects of the support that you currently receive. I’m also interested in your ideas about how support could be enhanced.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

Ok, lets get started by discussing your experiences as a PASS/SI Leader.

Their experiences

1. Tell me about your history as a PASS/SI Leader
   1. When did you train?
   2. What subjects have you supported?
   3. Any other roles performed for PASS?
2. What has been the most difficult skill or responsibility for you in your role?
   1. How have you developed it?
      1. What materials did you consult?
      2. Who have you talked with about this skill?
      3. (If there was no-one to talk to) What did you do?
3. Tell me about the most challenging situation you have found yourself in as a PASS/SI Leader?
   1. When did it happen?
   2. What did you do?
   3. What support did you receive?
   4. Who has supported you?
4. What support do you receive in your role as a PASS/SI Leader?
   1. Supervision?
   2. Formal mentoring?
3. Informal support?

Roles

5. What do you see is the role of a PASS/SI Leader?
6. Why do you choose to be a PASS/SI Leader?
   1. What benefits do you receive from being a PASS/SI Leader?
     1. (Probe for) Experience, skills, knowledge, self satisfaction
7. Describe in as much detail as possible the ideal person to help you in your role as a PASS/SI Leader
   1. Academic discipline
   2. Experience as a PASS/SI Leader
   3. Personal qualities
8. Describe the ideal supportive relationship for you as a PASS/SI Leader
   1. When would the relationship happen?
   2. What would happen in the relationship?

Now, let’s think about a different type of support for PASS/SI leaders. Imagine, a program where someone with experience (let’s call them a mentor) provided support to PASS/SI Leaders (let’s call them mentees).

Costs and benefits

9. As a potential mentee, how much time would you want to commit to an online mentoring relationship, and how often?
   1. Training?
   2. What time of the day/week would suit best?
10. As a potential mentor, how much time would you want to commit to an online mentoring relationship, and how often?
    1. Training?
    2. What time of the day/week would suit best?
11. What benefits would be required to make an online mentoring scheme worth the time and effort of participation?
    1. As a mentee?
    2. As a mentor?
       1. Payment?
       2. Official recognition? (in the form of a certificate or other?)
12. What barriers exist that would prevent you or other PASS/SI Leaders from participating in online mentoring?

Technology

13. Tell me about the online communities that you participate in, what was their focus?
    1. Social?
    2. Academic?
14. What systems did they use?
1. WebCT
2. Myspace, Blogs, Discussion forums

15. What experience do you have with viewing or creating digital video?
1. Creating, eg. video camera, mobile phone, digital camera
2. Editing
3. Uploading to video sharing website
4. Emailing
5. YouTube

That's all the questions I have. Is there anything about PASS/SL Leader support that we haven't covered that you would like to add? Do you have anything you'd like to ask me?

I'll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I've understood what you said and haven't missed anything. Also, if there's anything else you'd like to add feel free to do so. I'd like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Supplemental Instruction Supervisor Interview

Introduction

Thank you for taking the time to participate in this interview. The interview should take approximately 45 minutes.

I am presently in the process of designing an online mentoring program to support PASS/SI Leaders – particularly those who are geographically dispersed. Your input will help shape this program. As the goal of this research is to better support PASS/SI Leaders, it will be most helpful if you can share both positive and negative experiences supporting your PASS/SI Leaders. I’m also interested in your ideas about how support could be enhanced.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

Ok, let’s get started by discussing your experiences as a PASS/SI Supervisor.

Their experiences

- Tell me about your history with PASS/SI
  - What training have you received?
  - What is your current role?
    - Full/part time
    - Academic/general staff
    - Is PASS/SI the main focus of your job?
  - Any other roles performed for PASS?
- From your experiences, what skills do PASS/SI Leaders have the most trouble with
- How do they develop these skills?
  - What support do they receive in developing these skills?
    - What support do you provide to them?
    - What other resources do they have access to?
- What supports do your PASS/SI Leaders have access to?
  - Supervision?
  - Formal mentoring?
  - Informal support?
Roles

- What do you see is the role of a PASS/SI Supervisor?
- What do you see is the role of a PASS/SI Leader?
- Why do you think your PASS/SI Leaders choose to take on that role?
  - What benefits do they receive from being a PASS/SI Leader?
    - (Probe for) Experience, skills, knowledge, self satisfaction
- From your experience, why do some PASS/SI Leaders choose to discontinue their involvement?
- Describe in as much detail as possible the ideal person to help your PASS/SI Leaders
  - Academic discipline
  - Experience as a PASS/SI Leader
  - Personal qualities
- Describe the ideal supportive relationship for your PASS/SI Leaders
  - When would the relationship happen?
  - What would happen in the relationship?

Now, let’s think about a different type of support for PASS/SI leaders. Imagine, a program where someone with experience (let’s call them a mentor) provided support to PASS/SI Leaders (let’s call them mentees).

Costs and benefits

- How much time would you anticipate your PASS/SI Leaders would be willing to commit to an online mentoring relationship?
  - Training?
  - What time of the day/week would suit best?
- What benefits would be required to make an online mentoring scheme worth the time and effort of participation for your PASS/SI Leaders?
  - As a mentee?
  - As a mentor?
    - Payment?
    - Official recognition? (in the form of a certificate or other?)
- What barriers exist that would prevent your PASS/SI Leaders from participating in online mentoring?
- What barriers exist that may prevent your organisation from supporting an online mentoring program?

Technology

- What computing facilities do your PASS/SI Leaders have access to on campus?
That's all the questions I have. Is there anything about PASS/SI Leader support that we haven't covered that you would like to add? Do you have anything you'd like to ask me?

I'll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I've understood what you said and haven't missed anything. Also, if there's anything else you'd like to add feel free to do so. I'd like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Educational Technology Specialist Interview

Introduction

Thank you for taking the time to participate in this interview. The interview should take approximately 45 minutes.

I am presently in the process of designing an online mentoring program to support PASS/SI Leaders – particularly those who are geographically dispersed. PASS stands for Peer Assisted Study Sessions, and it is what an American program called Supplemental Instruction is known as in Australia. PASS Leaders are experienced students who are employed by the University to facilitate peer learning sessions on “high-risk” subjects, usually first and second year courses with high failure rates and/or perception of difficulty. Your input will help shape a program to support them.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

Ok, let’s get started by discussing your experiences supporting teaching staff with educational technology.

1. Tell me about your experiences with using educational technologies to support staff professional development?
   1. Who were the users of the system?
   2. What was the aim of the system or program?
   3. What sort of technology was used?
      1. How appropriate was that technology?
   4. What did the users do with the technology?
   5. What sort of time commitment was required of its users?
   6. What training was provided?
2. What do you see as being the main factors that contribute to the success of online programs to support teaching staff?
3. What steps have you taken to improve the quality and quantity of contact in online supportive relationships?
Now I'd like to talk with you about how you would apply particular sorts of technologies to online mentoring. Imagine a support program where more experienced PASS/SI Leaders act as mentors to less experienced PASS/SI Leaders, who I'll call mentees. The mentors and mentees are not located at the same campus, and might not even be part of the same university.

4. What sort of technology would you use to remotely model teaching skills?
   1. Why that sort of technology?
5. What sort of technology would you use to remotely assess teaching skills?
   1. Why that sort of technology?
6. How would you apply technology to enable the mentor to provide emotional or social support to the mentee?
7. Mentoring relationships also contain an element of career or informational support; how would you use technology to help the mentor provide this to the mentee?

That's all the questions I have. Is there anything about technology to support PASS/SI Leaders that we haven't covered that you would like to add? Do you have anything you'd like to ask me?

I'll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I've understood what you said and haven't missed anything. Also, if there's anything else you'd like to add feel free to do so. I'd like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Appendix 2. University of Wollongong Human Research Ethics Committee Approval HE07/185
13 June 2007

Mr Phillip Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that the Human Research Ethics application referred to below has been approved subject to the following conditions:

(i) Please advise the names of the research assistants that may conduct the interviews.

(ii) Please include the following additions to the Participant Consent Forms:

   a. Reference to the fact that the participant has read the information sheet and has had the opportunity to ask any questions.

   b. A tick box for the participant to tick if they are willing to be audio taped.

(iii) Please forward your response including the revised Consent Form within 10 working days, and before research commences.

Ethics Number: 103/07/185
Project Title: Examining how an online mentoring model may support new Supplemental Instruction Leaders.

Name of Researchers: Mr Phillip Dawson, A/Prof Lori Lockyer

Approval Date: 31 May 2007
Expiry Date: 30 May 2008

The University of Wollongong SESIAHS Health and Medical HREC is constituted and functions in accordance with the NHMRC National Statement on the Ethical Conduct in Research Involving Humans. The HREC has reviewed the research proposal for compliance with the National Statement and approval of this project is conditional upon continuing compliance with this document. As evidence of continuing compliance, the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

Yours Sincerely,

A/Professor Garry Hohan
Chairperson
Human Research Ethics Committee
INITIAL APPLICATION APPROVAL.
In reply please quote: HE07/185
Further Enquiries Phone: 4221 4837

28 June 2007

Mr Phillip Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

Thank you for your letter dated 20 June 2007 responding to the HREC conditional approval letter dated 13 June 2007. I am pleased to advise that the conditions have been met.

Ethics Number: HE07/185
Project Title: Examining how an online mentoring model may support new Supplemental Instruction Leaders.
Name of Researchers: Mr Phillip Dawson, A/Prof Lori Lockyer, Ms Lisa Carrington
Approval Date: 31 May 2007
Expiry Date: 30 May 2008

The University of Wollongong/SESIAHS Health and Medical HREC is constituted and functions in accordance with the NHMRC National Statement on the Ethical Conduct in Research Involving Humans. The HREC has reviewed the research proposal for compliance with the National Statement and approval of this project is conditional upon your continuing compliance with this document. As evidence of continuing compliance, the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

Yours Sincerely,

A/Professor Garry Hohan
Chairperson
Human Research Ethics Committee

Research Services Office - University of Wollongong NSW 2522 Australia
Telephone: +61 2 4221 3396 - Faxnumber: +61 2 4221 4838
research_services@uow.edu.au - www.uow.edu.au/research
AMENDMENT APPROVAL

In reply please quote: H07/185
Further Enquiries Phone: 4221 4457

24 October 2007

Mr Phillip Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that the amendments dated 13 October 2007 to the following Human Research Ethics application have been approved.

Ethics Number: H07/185
Project Title: Examining how an online mentoring model may support new Supplemental Instruction Leaders.
Name of Researchers: Mr Phillip Dawson, A/Prof Lori Lockyer, Ms Lisa Carrington
Amendment(s): Additional interview protocol – Online Mentoring Model Interview.
Amendment Approval Date: 17 October 2007
Expiry Date: 30 May 2008

Please remember that in addition to reporting proposed changes to your research protocol the HREC requires that researchers immediately report:
• serious or unexpected adverse effects on participants
• unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

The University of Wollongong/Sydney and Illawarra Area Health Service Humanities, Social Science and Behavioural HREC is constituted and functions in accordance with the NHMRC National Statement on the Ethical Conduct in Research Involving Humans.

Yours Sincerely,

[Signature]

Professor Garry Hoban
Chairperson
Human Research Ethics Committee

cc: A/Prof Lori Lockyer, Faculty of Education
RENEWAL APPROVAL
In reply please quote: HE07/185
Further Enquiries Phone: 4221 4457

19 May 2008

Mr Phillip Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that renewal of the following Human Research Ethics application has been approved. This certificate relates to the research protocol submitted in your original application and all approved amendments to date.

Ethics Number: HE07/185
Project Title: Examining how an online mentoring model may support new Supplemental Instruction Leaders.
Name of Researchers: Mr Phillip Dawson, A/Prof Lori Lockyer, Ms Lisa Carrington
Approval Date: 31 May 2008
Expiry Date: 30 May 2009

Please remember that in addition to completing an annual report the Human Research Ethics Committee requires that researchers immediately report:
• proposed changes to the protocol including changes to investigators involved
• serious or unexpected adverse effects on participants
• unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete a monitoring report at the end of your project. This report will be sent out approximately 6 weeks prior to the date your ethics approval expires. The report must be completed, signed by the appropriate Head of School, and returned to the Research Services Office.

Yours sincerely

A/Professor Garry Hoban
Chairperson
Human Research Ethics Committee

cc: A/Prof Lori Lockyer, Faculty of Education
Appendix 3. **Supplemental Instruction Leader Observation Tool**

Reproduced from Dawson, et al. (2006)
**PASS Observation Record**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Satisfactory</th>
<th>Need for Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room arranged for group work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session beginning on time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attendance sheets filled in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader is adequately prepared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session opened effectively (review of previous sessions, students’ concerns shaping agenda)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students doing most of the talking (helping each other)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If available, were the worksheets helpful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students referring to text books and notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader involves all students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader addresses students’ needs and questions appropriately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader knowledgeable of content material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader set appropriate tone: supportive, productive, positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader promotes appropriate task focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time managed efficiently during session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summary and closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader establishes an effective peer learning environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader knows and consistently uses students’ names</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study skills integrated with course content</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments/Suggestions:**

---

**Leader:**

**Signed:**

**QA by:**

**Signed:**

**Supervisor:**

**Signed:**
Appendix 4. Development of a SIL self-efficacy scale

This study used a SIL-specific self-efficacy tool primarily as a way of promoting discussion and self-reflection on the online system. Although the tool was not used to gather statistical data on the effectiveness of the intervention, participant responses, discussion and self-reflection did form part of the data used for the mentoring and community case studies.

As there wasn’t an existing SIL-specific self-efficacy tool, one was created using the short form of the Teachers’ Sense of Efficacy Scale (TSES, also known as Ohio State Teacher Efficacy Scale – Tschannen-Moran & Woolfolk Hoy, 2001) as a base. The scale consists of 12 items that the respondent teacher is asked to rate on a scale of 1 to 9. The items are:

1. How much can you do to control disruptive behaviour in the classroom?
2. How much can you do to motivate students who show low interest in school work?
3. How much can you do to get students to believe they can do well in school work?
4. How much can you do to help your students value learning?
5. To what extent can you craft good questions for your students?
6. How much can you do to get children to follow classroom rules?
7. How much can you do to calm a student who is disruptive or noisy?
8. How well can you establish a classroom management system with each group of students?
9. How much can you use a variety of assessment strategies?
10. To what extent can you provide an alternative explanation or example when students are confused?

11. How much can you assist families in helping their children do well in school?

12. How well can you implement alternative strategies in your classroom?

Self-efficacy tools are most useful if they are domain-specific (Bandura, 2006), and most of the items on the TSES scale are relevant to SILs. From these individual items, Tschannen-Moran, et al. claim that three moderately-correlated sub-scores consistently emerge: Efficacy in Student Engagement, Efficacy in Instructional Practices and Efficacy in Classroom Management. Ten of these are also of interest as they relate directly to issues of leader and supervisor concern identified in interviews. The 2 items that have been deleted relate to controlling disruptive classroom behaviour and dealing with parents of students; these are not usually a significant part of the SIL role. The TSES items are restated in Table A-1 along with adjustments that have been made to suit the context and language of SILs.
<table>
<thead>
<tr>
<th>Original item</th>
<th>Adapted item</th>
<th>Reasons for changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How much can you do to control disruptive behaviour in the classroom?</td>
<td>Controlling disruptive behaviour is a very minimal part of the SIL role, so this question has been deleted</td>
</tr>
<tr>
<td>2</td>
<td>How much can you do to motivate students who show low interest in their university work?</td>
<td>Context</td>
</tr>
<tr>
<td>3</td>
<td>How much can you do to get students to believe they can do well at university?</td>
<td>Context</td>
</tr>
<tr>
<td>4</td>
<td>How much can you do to help your students value learning?</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>To what extent can you craft good questions for your students?</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>How much can you do to get students to follow your session's rules?</td>
<td>Language</td>
</tr>
<tr>
<td>7</td>
<td>How much can you do to involve a student who is disruptive or noisy?</td>
<td>SILs mostly deal with adults and are encouraged to involve disruptive or noisy group members rather than concentrating on trying to</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Category</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>8</td>
<td>How well can you establish a classroom management system with each session?</td>
<td>Language</td>
</tr>
<tr>
<td>9</td>
<td>How much can you use a variety of strategies to assess student progress?</td>
<td>SILs don't conduct formal assessment, however they should attempt to gauge student progress</td>
</tr>
<tr>
<td>10</td>
<td>To what extent can you clarify requirements and objectives when students are confused?</td>
<td>SILs are discouraged from explaining content to students but do need to deal with confusion</td>
</tr>
<tr>
<td>11</td>
<td>How much can you assist families in helping their children do well in school?</td>
<td>SILs are not responsible for dealing with students' parents, so this question has been deleted.</td>
</tr>
<tr>
<td>12</td>
<td>How well can you implement alternative strategies in your sessions?</td>
<td>Language</td>
</tr>
</tbody>
</table>

To achieve domain specificity, some additional items have been added to reflect behaviours and skills that were identified as important for SILs but not covered by TSES. Table A-2 shows these with rationale for their inclusion.
### Table A-2. Additional Questions Added to TSES for Domain Specificity

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Reason for addition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How much can you do to prepare for uncertainty in your sessions?</td>
<td>SILs need to prepare session plans that aren't overly rigid</td>
</tr>
<tr>
<td>2</td>
<td>How well can you integrate study skills and course content in your session preparation?</td>
<td>Integration of course content and study skills is a core part of the SI model</td>
</tr>
<tr>
<td>3</td>
<td>How well can you manage time in your sessions?</td>
<td>Time management within sessions was a common concern of SILs and supervisors</td>
</tr>
<tr>
<td>4</td>
<td>How well can you manage your SI workload around your other commitments?</td>
<td>Personal time management was a common concern of SILs and supervisors</td>
</tr>
</tbody>
</table>

The questions outlined in Table A-2 were added to the TSES items and compiled into version 1 of the SIL Self-Efficacy Scale, which is shown below:
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for leaders in their SI activities. Please indicate your opinion about each of the statements below. Your answers are confidential.

<table>
<thead>
<tr>
<th>How much can you do?</th>
<th>Nothing</th>
<th>Some influence</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much can you do to motivate students who show low interest in their university work?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to get students to believe they can do well at university?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to help your students value learning?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent can you craft good questions for your students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to get students to follow your session's rules?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to involve a student who is disruptive or noisy?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you establish a classroom management system with each session?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you use a variety of</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategies to Assess Student Progress?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To What Extent Can You Clarify Requirements and Objectives When Students Are Confused?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Well Can You Implement Alternative Strategies in Your Sessions?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Much Can You Do to Prepare for Uncertainty in Your Sessions?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Well Can You Integrate Study Skills and Course Content in Your Session Preparation?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Well Can You Manage Time in Your Sessions?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Well Can You Manage Your SI Workload Around Your Other Commitments?</td>
<td>1) 2) 3) 4) 5) 6) 7) 8) 9)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Version 1 of the SIL Self-Efficacy Scale was then discussed with three academics with expertise in self-efficacy scales, two of whom were from an education background and one from a psychology background. The most common feedback related to clarity of the response scale, questions and introduction, with other feedback relating to specific questions.

The response scale, initially from 1 to 9 was raised as a concern by all those consulted about the tool. Although the range from 1 to 9 may have been useful for TSES, the value of 9 options rather than a lesser number of options was not clear within the SI context. Those consulted encouraged the researcher to think about the difference in meaning between two adjacent responses, for example 7 and 8. As no useful differentiation could be identified a decision was made to reduce the response scale range to from 1 to 5. The prompts for the response scales were also modified to suit the particular questions better, and the questions reorganised to suit these prompts.

The tool's introduction mentioned “difficulties” that respondents have with SI; this was perceived by one of the people helping with the tool as leading. The introduction was rewritten mentioning “strengths” as well as “difficulties”. The new introduction also explicitly mentions that responses to the tool should be helpful to discuss with “another SI leader, your mentor, or your supervisor”.

The clarity of the questions was raised as an issue, particularly concerning the terms “variety of strategies” and “alternative strategies”. These terms were removed and replaced with longer explanations. Another question that mentioned “classroom management” was raised, as the term’s meaning to SILs was not clear. This question was removed as within the SIL context classroom management was not a term used often, and its intended meaning overlapped with language used in questions 5 and 6.

The observation was made that some questions are about interpersonal relationships while others are about skills. The person helping suggested that the importance of each in terms of the research study should be considered. Discussions with SILs and supervisors during the development of the model
outlined a SIL role that required both SI-specific skills and interpersonal skills. This tool is intended to promote discussion around SIL development, which encompasses both of these areas; therefore both sorts of questions are necessary.

One question was added from feedback about version 1 of the tool. The new question relates to adjusting session plans to suit students of different academic backgrounds, which is a feature of the SIL role but was not covered in version 1. The new question was initially suggested to deal with “knowledge backgrounds” but was broadened to promote discussion on the academic backgrounds of students, which also includes concepts like academic tradition and prior studies.

The role of the tool as a stimulus for discussion within mentoring dyads and the community led to a recommendation that intended topics of discussion for each question be considered. After version 2 of the tool was recompiled, the list in Table A-3 was constructed, which relates each question to desired discussion topics.
<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How much can you do to get students to believe they can do well at university?</td>
<td>Student self-efficacy; role-modelling; feedback; positive reinforcement</td>
</tr>
<tr>
<td>2</td>
<td>How much can you do to get students to follow your session's rules?</td>
<td>Expectation of students in SI; expectation management; group control</td>
</tr>
<tr>
<td>3</td>
<td>How much can you do to help your students value learning?</td>
<td>Role-modelling</td>
</tr>
<tr>
<td>4</td>
<td>How much can you do to involve a student who is disruptive or noisy?</td>
<td>Group-management; difficult students</td>
</tr>
<tr>
<td>5</td>
<td>How much can you do to motivate students?</td>
<td>Motivation; rapport</td>
</tr>
<tr>
<td>6</td>
<td>How much can you do to prepare for uncertainty in your sessions?</td>
<td>Preparation; uncertainty; flexibility; control of the session</td>
</tr>
<tr>
<td>7</td>
<td>How well can you assess student progress?</td>
<td>Assessment; preparation</td>
</tr>
<tr>
<td>8</td>
<td>How well can you integrate study skills and course content in your session preparation?</td>
<td>Integration of study skills and course content; preparation</td>
</tr>
<tr>
<td>9</td>
<td>How well can you manage time in your sessions?</td>
<td>Time-management; student-expectation-management</td>
</tr>
<tr>
<td>10</td>
<td>How well can you manage your SI workload around your other commitments?</td>
<td>Time-management</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Relevant Skills</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>11</td>
<td>To what extent can you clarify requirements and objectives when students are confused?</td>
<td>Activity-design; preparation; flexibility; uncertainty</td>
</tr>
<tr>
<td>12</td>
<td>To what extent can you craft good questions for your students?</td>
<td>Questioning; preparation; flexibility</td>
</tr>
<tr>
<td>13</td>
<td>To what extent can you adjust your session plans to suit students of different academic backgrounds?</td>
<td>Student-diversity; preparation</td>
</tr>
</tbody>
</table>

The tool was trialled individually with three beginning-PASS-leaders face-to-face after their sessions were observed. No single discussion covered all of the topics identified; however the sum of all the discussions did address all of the intended topics. Their feedback on the clarity of the questions was also sought and resulted in no further changes to the tool. The final version of the scale is in Appendix 5. This version was adapted into a web form for use in the model.
Appendix 5. **SIL Self-Efficacy Scale**
Directions: This questionnaire is designed to help you reflect on your strengths as an SI leader and the kind of things that create difficulties for you. Please indicate your opinion about each of the statements below. Your answers are confidential, although you might find it helpful to discuss them with another SI leader, your mentor, or your supervisor.

<table>
<thead>
<tr>
<th>How much can you do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
</tr>
<tr>
<td>1 How much can you do to get students to believe they can do well at university?</td>
</tr>
<tr>
<td>2 How much can you do to get students to follow your session's rules</td>
</tr>
<tr>
<td>3 How much can you do to help your students value learning?</td>
</tr>
<tr>
<td>4 How much can you do to involve a student who is disruptive or noisy?</td>
</tr>
<tr>
<td>5 How much can you do to motivate students?</td>
</tr>
<tr>
<td>6 How much can you do to prepare for uncertainty in your sessions?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How well?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not well</td>
</tr>
<tr>
<td>7 How well can you assess student progress?</td>
</tr>
<tr>
<td>8 How well can you integrate study skills and course content in your session preparation?</td>
</tr>
<tr>
<td>9 How well can you manage time in your sessions?</td>
</tr>
<tr>
<td>10 How well can you manage your SI workload around your other commitments?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>13</td>
</tr>
</tbody>
</table>
Appendix 6. Interview schedule used in the review of the detailed model
Online Mentoring Model Interview

Introduction

Thank you for taking the time to participate in this interview. The interview should take no more than an hour.

I am presently in the process of designing an online mentoring program to support PASS/Sl Leaders – particularly those who are geographically dispersed. Your input will help shape this program. Today I would like to discuss a prototype online mentoring model with you. It will be most helpful if you can provide me with honest feedback on the model, both positive and negative.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

The online mentoring model consists of two components: online mentoring dyads and an online learning community of PASS Leaders. Let's start by discussing the online mentoring dyad part of the online mentoring model.

[show online mentoring dyad paper model]

Online mentoring dyads

- What are your first reactions to the model I have shown you?
- Imagine you were a mentor or a mentee in an online mentoring dyad. How would you use the model to discuss preparation for your sessions?
  - Which existing tools would you use?
  - Are there any extra features you would use if they were there?
- How would you use the model for observation of sessions and providing feedback?
  - Which existing tools would you use?
  - Are there any extra features you would use if they were there?
- How would you use the model for self assessment of your sessions and your PASS skills?
  - Which existing tools would you use?
  - Are there any extra features you would use if they were there?
• The online mentoring model includes a sample timeline for a dyad. Imagine you were a beginning PASS Leader. What would you want to include in your timeline?

Now let’s discuss the online learning community of PASS Leaders.

[now show online learning community paper model]

**Online PASS Leader community**

• What are your first reactions to the model I have shown you?
• Imagine you were a member of the online PASS Leader community. How would you use the model to discuss difficult situations you and other PASS Leaders had encountered?
• How would you use the model to build shared resources with the community?
• What value would an anonymous posting tool have?

Now let’s discuss some more general elements of online PASS Leader support.

[now show the “where do I go for help with this?” flowchart]

**Online PASS Leader support**

• Can you think of any situation you’ve encountered as a PASS Leader that you think wouldn’t be handled appropriately by this flowchart?
• The online mentoring dyads and community will need to adhere to a privacy policy. Confidentiality of members’ postings to the community or their dyad may need to be broken under certain circumstances, such as if the coordinator thinks that someone is at risk of harm. How do you feel about this potential breach of confidentiality?
• How would you feel about your supervisor being a member of the online PASS Leader community? What about if they were able to view what happened in your online mentoring dyad?

That’s all the questions I have. Is there anything about the model or online PASS/SI Leader support in general that we haven’t covered that you would like to add? Do you have anything you’d like to ask me?
I'll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I've understood what you said and haven't missed anything. Also, if there's anything else you'd like to add feel free to do so. I'd like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Appendix 7. Paper-based presentation used in the review of the detailed model
Figure A-0-1. Home Screen
Figure A-0-2. Forum Listing
Figure A-0-3. Online Mentoring Agreement
Figure A-0-4. Posting a Comment
Figure A-0-5. User Profile
Figure A-0-6. Discussion Topic Listing
Figure A-0-7. List of Community Member Profiles
Figure A-0-8. Anonymous Discussion Posting
PASS Leader Manual Excerpt

Introduction

What is PASS

The Peer Assisted Study Sessions (PASS) program is an initiative currently in operation within various faculties across the University of Wollongong, targeting traditionally difficult first year subjects.

PASS sessions are voluntary and open to all students within the course. Sessions usually consist of between 5 and 20 students. A Peer Leader, typically a more experienced student who has previously studied the subject, conducts the weekly one-hour sessions. The leader has undergone training in facilitation of the sessions, and importantly, in methods to avoid re-teaching.

PASS sessions are not tutorials and therefore the leader does not offer answers to problems, but promotes a coordinated group effort to find the solution.

PASS Programs conducted previously within the university and elsewhere have shown decreased failure rates and improved results for students with regular attendance.

Objectives of the PASS Program

PASS sessions are offered within a particular subject with a number of goals. These include:

To provide a comfortable environment where students can assist one another to revise and discuss coursework and therefore, achieve better results.

To promote deeper understanding and learning of subject concepts.

To allow students to build a network of friends, including the leader, whom they can turn to for support.

To offer students extra support to aid in the successful transition from high school to university (particularly relevant in first semester subjects) and;

To demonstrate to students effective learning and study techniques that can be extended to private study and other subjects and promote the development of students as independent learners.

Role of the Leader
Figure A-0-10. Where to go for Help with PASS

Where to go for help
You can get help from your supervisor, your online mentor or the online community, but when should you use each support?

Supervisor
You should consult with your supervisor:
- If you have an administrative request (eg. payroll, paperwork, classroom resources)
- If someone is at risk of harm
- If you need help immediately

Online Mentor
You should consult with your online mentor:
- If you’d like help from someone who has experience as a PASS Leader
- To get help with preparation
- To debrief after a session
- For feedback about your sessions

Online Community
You should consult with the online community:
- If you want to talk with other new and experienced PASS Leaders and supervisors
- To share resources with other PASS Leaders

You can post in the online community anonymously if you would prefer.
If you’d like help with the PASS Online Mentoring & Community site then please contact:
Philip Dawson - pdawson@ucw.edu.au

Powered by Drupal 5.3. Operated by Philip Dawson. Privacy Policy.
Appendix 8. Information and consent package, including privacy policy, for online mentors, mentees, community members and supervisor members
Information Sheet for PASS Leaders and supervisors

Dear PASS Leader or Supervisor,

You have been asked to participate in the research study “Examining how an online mentoring model may support new Supplemental Instruction Leaders” by Mr Phillip Dawson from the Faculty of Education at the University of Wollongong with support from the PASS Program. The aim of this phase in the study is to explore how more experienced PASS Leader “mentors” can support less experienced PASS Leader “mentees” through online mentoring and the development of an online learning community of PASS Leaders.

There are two components of this research: an online learning community of PASS Leaders and Supervisors; and online mentoring dyads. All participants will be given access to the online learning community, and those PASS Leader participants who request it will be also be placed in an online mentoring dyad.

If you choose to participate in the online mentoring component of this research, you will be designated as a mentor if you have two or more semesters of experience with PASS and designated as a mentee if you have one or less semesters of experience. Mentors and mentees will be expected to negotiate the terms of their relationship with each other; some possible aspects of the relationship include:

- Providing a “peer review” of session plans and preparation
- Building a shared library of resources for use in sessions
- Discussing strategies to engage students
- Sharing information about working at the university

Pairing of Mentors and Mentees
Each mentee will be paired with a mentor by the researcher. The researcher will ask for approval from both members of each mentor-mentee pair before the research commences, and if either member is unhappy with the pairing, both
members will be re-paired where possible.

Training
If you choose to participate as a mentor or mentee then you will be required to undertake an hour of training with your mentor/mentee in using the online mentoring system. During the training you will be encouraged to discuss and define the expectations you and your mentor/mentee have of your relationship. The training will take less than an hour and may be conducted via a videoconference link if you cannot get to the Wollongong campus of the University of Wollongong.

The PASS Online Mentoring and Community System
The researcher has developed a WWW-based system to facilitate the online mentoring process. This system will be accessible to you via a web link made available only to participants in this research, and will require you to enter a username and password. This system will allow participants to communicate in text, voice and video, and also upload resources such as activities and plans for their PASS sessions. If you are a member of a mentoring dyad you will have access to a private discussion space only accessible by you, the other member of your dyad and the site’s moderator. All participants will have access to the PASS Online Learning Community which is a space that is only accessible to other participants in this study.

Anonymous Posting in the Community
All participants will have access to the anonymous posting tool within the online learning community. Posts made with this tool will be anonymous to all users of the system, including the moderator. The moderator will have facilities to find out the identity the poster of an anonymous post and will use them only in the case where they are required to intervene as described in the privacy policy section “When Community privacy may need to be broken”.

Time Commitment – Mentor-Mentee Dyads
The time commitment required of participants in a mentoring dyad on a week-by-week basis will be negotiated by each mentor/mentee pair. As a guide, the following would be a likely time commitment for each mentor/mentee:

- 1 hour of initial training (held in orientation week or week 1 of semester)
- 20-30 minutes of weekly mentoring (weeks 2-13 of semester)

Discussion with current PASS Leaders and Supervisors indicates that mentees' need for support will be greater in the initial weeks of semester and lesser in the later weeks; this is expected to impact on the time commitment required of both mentor and mentee.

Time Commitment – Online Learning Community
There is no minimum or maximum commitment required for membership in the online learning community, however it is anticipated that members will spend
around 20-30 minutes per week on it.

**Intended Benefits**
This research is being conducted primarily to benefit PASS Leaders as mentors, mentees and members of the learning community. Intended benefits of this research include:

- Improved quality of PASS Sessions
- Improved efficiency with preparing for PASS Sessions
- Greater self satisfaction with ability as a PASS Leader
- Personal development
- Greater sense of belonging and identity as a PASS Leader

**No-Fault Exit Clause**
Any participant may choose to end their involvement with this research at any time, and on request all data collected in any form relating to themselves and their mentoring dyad may be destroyed. Choosing to not participate or ending participation in this research at any time will have no effect on your relationship with PASS, the Faculty of Education or the research team.

**Data Collection**
All communication with the system will be de-identified and will form data for the researcher’s PhD thesis and associated publications. You may choose to have all or part of your data removed prior to analysis by notifying the researcher. The researcher will ensure that you are not identifiable when writing or speaking about this research. The attached privacy policy explains the de-identification process and your rights regarding your data.

**The Researcher’s Role**
The researcher is employed by the PASS Program at the University of Wollongong in a role that includes training and quality assurance of PASS Leaders. The researcher will not have access to your data in the online mentoring and community system for the duration of second semester 2008. After the end of second semester 2008 the researcher will have access to de-identified data from the system. The other members of the research team are the researcher’s supervisors from the Faculty of Education.

**The Moderator’s Role**
The moderator will be someone who is not employed by the PASS Program at the University of Wollongong and will be responsible for maintaining the quality of discussion on the online mentoring and community system.

**Privacy**
To maintain privacy and protect your identity we will ensure:
- The online system will be physically located within the Faculty of Education and securely administered by qualified employees
• Your user account will be protected by a username and password that will only be told to you
• Any notes and copies of data relating to you will be stored in a locked filing cabinet within the Faculty of Education
Please read the attached privacy policy for further information.

Your participation in this research is voluntary. You are free to refuse to participate and may withdraw from the research at any time. Your refusal to participate or withdrawal of consent will in no way affect your relationship with the University of Wollongong, the PASS Program or the Faculty of Education.

If you have any questions about the research, you can contact the researcher Phillip Dawson by email at pdawson@uow.edu.au. If you have any concerns or complaints regarding the way the research is or has been conducted, you can contact the researcher’s supervisors, Lori Lockyer on 4221 5511 or email at lori_lockyer@uow.edu.au or Brian Ferry on 4221 3571 or email at brian_ferry@uow.edu.au or the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 4221 4457.
Examining how an online mentoring model may support new Supplemental Instruction Leaders

Mr Phillip Dawson
PhD Candidate
Faculty of Education, University of Wollongong

Consent form for PASS Leaders and Supervisors

I have been told about the research project “Examining how an online mentoring model may support new Supplemental Instruction Leaders”.

I understand that my participation the research project is voluntary.

I understand that if I choose to participate in this research there is no minimum or maximum time requirement, however it is suggested that I spend around 20-30 minutes per week in the online learning community.

I understand that if I choose to be part of an online mentoring dyad this research will require approximately one hour of my time for training, and 20-30 minutes of mentoring per week during weeks 2-13 of the semester.

I understand that any communication I have through the online mentoring and community system will form part of the data for the research project, and that I
can contact the researcher if I wish to have any part of my communications removed from the data.

I agree to keep all communications between my mentor/mentee and myself confidential within our dyad. I agree to keep all communications within the online learning community confidential within the community.

I understand that I may choose not to participate in the study, and may withdraw my consent to participate at any time. My refusal to participate or withdrawal of consent will in no way affect my relationship with the University of Wollongong, the PASS Program, the Faculty of Education or the research team.

I understand that confidentiality within the online mentoring and community system may need to be broken in the case that the moderator finds evidence that someone is at risk of harm.

I understand that the researcher won’t use my name or other identifying information when writing or talking about the project.

If I have any questions I can ask the researcher.

I agree to be part of the research study.

I have read the information sheet and privacy policy, and have had the opportunity to ask questions
Please tick this box if you would like to be matched up with a mentor/mentee.

My name: ________________________________

Signature: ________________________________

Date: __________
Privacy Policy – PASS Online Mentoring and Community System

The roles of the researcher and the research team

The researcher, Phillip Dawson, is employed by the PASS Program at the University of Wollongong in a role that includes training and quality assurance of PASS Leaders. The researcher will not have access to your data for the duration of second semester 2008. After the end of second semester 2008 the researcher will have access to de-identified data from the system. The other members of the research team are the researcher’s supervisors from the Faculty of Education.

The role of the moderator

The moderator will be someone who is not employed by the PASS Program at the University of Wollongong and will be responsible for maintaining the quality of discussion on the online mentoring and community system.

Data that will be collected

The system records all communications you have with it, such as postings to discussion boards, uploaded files, user profile information and comments. Normal server logs will also be collected; these will contain information such as the IP addresses of the computers used to access the site and the date and times that certain pages were accessed.

Security of your data

The online system will be physically located within the Faculty of Education and will be administered by qualified employees. You will be provided with a user name and password that will only be revealed to you. Any notes and copies of data relating to you will be stored in a locked filing cabinet within the Faculty of Education.
Removing your data from the system

You may request to have some or all of your data removed from the system by notifying the researcher. Requesting to have a particular piece of data removed will result in that data being deleted. Requesting to have all of your data removed will result in your user account being removed from the system.

Accessing your data and ensuring its accuracy

You may request to have access to all of the data related to you. You will then be contacted by the researcher to arrange secure access to all of your data. If you find any inaccuracies in your data you may notify the researcher who will make steps to rectify the situation.

Publishing and sharing your data

The research team will publish analysis of your de-identified data in the researcher’s thesis and other locations such as journals. Your data will not be shared with any person or organisation outside of the research team.

De-Identification of your data

To protect your privacy your data will be de-identified before it is analysed by the researcher. References to names of people, locations and anything else that could be used to identify you or any other person will be removed. All of your contributions to the site will be associated with one number that will act as a pseudonym for you, and the research team will not be able to derive your personal identity from the pseudonym. De-identification will be initially performed by a computer program then verified for de-identification by a research assistant.

Mentor-Mentee Privacy

If you are a member of a mentor-mentee dyad then you will have a private discussion space that is only accessible by you, the other member of your
mentor-mentee dyad, and the site’s moderator. You agree to keep all materials and discussion between you and the other member of your mentoring dyad private and confidential. The other member of your dyad and the site’s moderator agree to keep all materials and discussion private and confidential. If you and the other member of your dyad agree, you may opt to share some part of your private discussion with other people. Specific examples of what would not be allowed by this privacy policy include:

- Telling someone other than the other member of your dyad or the moderator about something you read in your private discussion space without the other dyad member’s approval
- Distributing a material provided by the other member of your dyad to other people, such as students in your PASS session or someone within the online learning community, without the other member’s approval

**When Mentor-Mentee privacy may need to be broken**

Your privacy within a mentor-mentee dyad may need to be broken if the moderator needs to intervene. The moderator will need to intervene if there is evidence that someone, such as a student, staff member or member of the public is at risk of harm. If time permits you will be notified before the moderator intervenes and given an opportunity to clarify the situation. When the moderator intervenes they will notify your supervisor and any organizations they are legally required to notify.

**Community Privacy**

If you are a member of the online community of PASS Leaders then you will have a private discussion space that is only accessible by you, other members of the community, and the site’s moderator. The other members of the community will be PASS Leaders and PASS Supervisors, and may include your supervisor. You agree to keep all materials and discussion between you and the other member of the community private and confidential. The other member of the community and the site’s moderator agree to keep all materials and discussion private and confidential. Members may give permission to others to
use materials or discussion they have placed on the system outside of the system. Specific examples of what would not be allowed by this privacy policy include:

- Telling someone other than the other member of your dyad or the moderator about something you read in your private discussion space without the other dyad member’s approval
- Distributing a material provided by the other member of your dyad to other people, such as students in your PASS session, without the other member’s approval

**Anonymous Posting within the Community**

All community members will have access to the anonymous posting tool within the online learning community. Posts made with this tool will be anonymous to all users of the system, including the moderator. The moderator will have facilities to find out the identity the poster of an anonymous post and will use them only in the case where they are required to intervene as described in the section “When Community privacy may need to be broken”.

**When Community privacy may need to be broken**

Your privacy within the community may need to be broken if the moderator needs to intervene. The moderator will need to intervene if there is evidence that someone, such as a student, staff member or member of the public is at risk of harm. If time permits you will be notified before the moderator intervenes and given an opportunity to clarify the situation. When the moderator intervenes they will notify your supervisor and any organizations they are legally required to notify.

**Concerns or Complaints regarding your Privacy**

If you have any concerns or complaints regarding the way your privacy is or has been handled, you can contact the researcher’s supervisors, Lori Lockyer on +61 2 4221 5511 or email at lori_lockyer@uow.edu.au or Brian Ferry on +61 2 4221 3571 or email at brian_ferry@uow.edu.au or the Ethics Officer, Human
Research Ethics Committee, Office of Research, University of Wollongong on +61 2 4221 4457.
Appendix 9. University of Wollongong Human Research Ethics Committee Approval HE07/359
INITIAL APPLICATION APPROVAL
In reply please quote: HE07/359
Further Enquiries Phone: 4221 4407

17 December 2007

Mr Phillip Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that the Human Research Ethics application referred to below has been approved.

Ethics Number: HE07/359
Project Title: Examining how an online mentoring model may support new Supplement Instruction Leaders
Researchers: Mr Phillip Dawson, A/Prof Lori Lockyer
Approval Date: 13 December 2007
Expiry Date: 12 December 2008

This certificate relates to the research protocol submitted in your original application. The University of Wollongong/SESA/AHHS Health and Medical HREC is constituted and functions in accordance with the NHMRC National Statement on the Ethical Conduct in Research Involving Humans. The HREC has reviewed the research proposal for compliance with the National Statement and approval of this project is conditional upon your continuing compliance with this document. As evidence of continuing compliance, the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

Yours Sincerely,

A/Professor Garry Hoban
Chairperson
Human Research Ethics Committee

cc: A/Prof Lori Lockyer, Faculty of Education
AMENDMENT APPROVAL
In reply please quote: HE07/359
Further Enquiries Phone: 4221 4417

22 April 2008

Mr P Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that the amendment request dated 25 March 2008 to the following Human Research Ethics application has been approved. Please be aware of the University’s Telephone Interviewing Policy at http://www.uow.edu.au/research/rce/ethics/UOW9093R1.html. If telephone interviews are to be conducted a script will need to be submitted to the HREC Executive prior to conducting the interviews.

Ethics Number: HE07/359
Project Title: Examining how an online mentoring model may support new Supplement Instruction Leaders
Name of Researchers: Mr Phillip Dawson, A/Professor Lori Lockyer
Amendment/s: Additional interview protocol
Amendment Approval Date: 17 April 2008
Expiry Date: 12 December 2008

Please remember that in addition to reporting proposed changes to your research protocol the HREC requires that researchers immediately report:
• serious or unexpected adverse effects on participants
• unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

The University of Wollongong/SE Sydney and Illawarra Area Health Service Humanities, Social Science and Behavioural HREC is constituted and functions in accordance with the NHMRC National Statement on Ethical Conduct in Human Research.

Yours sincerely,

[Signature]
A/Professor Gary Hoban
Chairperson
Human Research Ethics Committee

cc: A/Professor Lori Lockyer, Faculty of Education
4 June 2008

Mr P Dawson
Student Services
University of Wollongong

Dear Mr Dawson,

I am pleased to advise that the amendment request dated 28 March 2008 to the following Human Research Ethics application has been approved. The University of Wollongong/Sydney and Illawarra Area Health Service Humanities, Social Sciences and Behavioural HREC is constituted and functions in accordance with the NHMRC National Statement on Ethical Conduct in Human Research.

Ethics Number: HE07/359

Project Title: Examining how an online mentoring model may support new Supplement Instruction Leaders

Name of Researchers: Mr Phillip Dawson, A/Professor Lorri Lockyer

Amendment(s): Telephone interview script and additional Participant Information Sheet

Amendment Approval Date: 3 June 2008

Expiry Date: 12 December 2008

Please remember that in addition to reporting proposed changes to your research protocol the HREC requires that researchers immediately report:

- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

Yours sincerely,

Dr Nadia Critenden
Acting Chairperson
Human Research Ethics Committee

c: A/Professor Lorri Lockyer, Faculty of Education
Appendix 10.  User profile fields
Public:

Name:

University:

Campus:

Photograph:

Experience with PASS: (This is my first semester; 1-2 semesters; 3+ semesters)

Degree:

Majors:

Private:

Internet use: (Daily; A few times per week; Rarely)

Home internet connection: (Broadband; Dial up; None)

Study load: (Full-time; Part-time)

Employment outside of PASS: (Full-time; Part-time 15 hour or more per week; Part-time less than 15 hours per week; None)
Appendix 11. Interview schedules used with online mentoring and community participants
Face-to-face interview schedule

Thank you for taking the time to participate in this interview. The interview should take approximately 45 minutes.

Today I’d like to talk with you about your experiences with PASS Online Mentoring and Community. I’d like you to share both positive and negative aspects of your involvement. I’m also interested in your ideas about how it could be enhanced. As we are talking, feel free to show me any part of the site you want me to look at on this computer.

We are going to start off by talking about your involvement with PASS this semester and in the past, then move on to talking about your experiences with online mentoring and the online community. After that we’ll talk about your development as a leader this semester, then we’ll discuss the effectiveness of PASS Online Mentoring and Community.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

1. First off I’d like to talk with you about PASS. Tell me about your general involvement with PASS

   • Tell me about PASS this semester
     o What subjects
     o How many sessions
     o How many students
   • (if they are a mentor or supervisor) Tell me about PASS in previous semesters
   • Apart from being a leader, have you had any other involvement with PASS? (eg. As a student, as a mentor to other leaders)
2. Now I’d like to talk about PASS Online Mentoring and Community specifically. Tell me the “story” of your involvement over the semester.

- How often, for how long and when did you get involved?
- (if they are a mentor or mentee) Tell me about your experience in your mentoring relationship
  - How did your mentoring relationship start?
  - What happened in your mentoring relationship?
  - Did it change over the course of the session?
- Tell me about your experience in the community
  - How did your involvement start?
  - What did you do in the community?
  - What did other people do in the community?
  - Who did you participate in discussions with?
  - How did the community change over the course of the session?

3. How do you think participation in PASS Online Mentoring and Community supported your development as a leader?

- What did you learn?
  - PASS Skills
  - Academic skills
  - Personal qualities
  - Understanding of the role
  - Anything else
- Who helped you?
  - Mentor/Mentee/Leaders/Own supervisor/Other supervisor/Moderator
  - Why did you get help from them?
• How did you develop your skills?
  o What techniques did you use?
  o What techniques did other people use to help you?
  o How was feedback given?
  o What resources did you use?
• How were areas for improvement identified?
  o How did you identify areas for self-improvement?
  o How did your mentor, mentee or fellow community members identify areas for improvement?
  o How did self evaluation and session evaluation forms help identify areas for improvement?
  o How were areas for improvement communicated?
• How much was role modelling part of your experience?
  o What was role modelled?
  o How was role modelling done?
• How much was emotional or social support part of your experience?
  o How much did you do to support others?
  o How much emotional and social support did you receive from others?
  o How was emotional or social support provided?
  o What sort of emotional support?
  o What was the support related to?
    i. PASS/Uni/Non-uni?
• How much was career support a part of your experience?
  o What sort of career support?
  o Was this for your PASS career or your graduate career?
  o How was career support provided?
• What sort of information did you find out?
o From your mentor/mentee?
- How much help with session preparation did you give and receive?
  - How often?
  - What sort of help?
  - What tools did you use?
- Tell me about how problems in sessions were discussed
  - Who started the discussions?
  - What sorts of problems were discussed?
  - Who did you discuss them with?
4. How else could your development as a PASS leader have been supported?
- What other parts of your development could have been supported?
- What other methods of development could have been used?
5. What do you think contributed to the effectiveness of PASS Online Mentoring and Community?
- What does effectiveness mean to you?
- Tell me about some things that positively contributed to effectiveness
- Tell me about some things that negatively contributed to effectiveness
- (Prompt for these things if they haven’t mentioned them already)
  a. Time
    i. Own usage expectations vs expectations mentioned in training materials vs what actually happened
    ii. Own time commitments
    iii. Time delay between posting and getting a response
  b. Structure
    i. Dyadic mentoring relationships
ii. Community

c. Context
   i. Leader’s own context
   ii. Mentor/mentee’s context
   iii. What other things were happening in your life that impacted on effectiveness?

d. Relationships
   i. With mentor/mentee
   ii. With other community members
   iii. With supervisor

e. Personal

f. Policy
   i. Including online mentoring agreement

g. Feedback

h. Training
   i. Including other training, such as leader training

6. What else could be done to improve the effectiveness of PASS Online Mentoring and Community?

That is all the questions that I have to ask you. Is there anything else you’d like to add about PASS Online Mentoring and Community? Is there anything you’d like to ask me?

I'll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I've understood what you said and haven't missed anything. Also, if there’s anything else you'd like to add feel free to do so. I'd like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Telephone interview schedule

Hello. My name is Phillip Dawson and I’m calling from the University of Wollongong. I would like to speak to <name> regarding a letter we sent to <him/her> about PASS Online Mentoring and Community.

Did you receive the information letter? (If they didn’t receive it then tell them that another copy will be sent and another time can be arranged for the interview)

Would you like to participate in the interview?

Thank you for taking the time to participate in this interview. The interview should take approximately 45 minutes.

Today I’d like to talk with you about your experiences with PASS Online Mentoring and Community. I’d like you to share both positive and negative aspects of your involvement. I’m also interested in your ideas about how it could be enhanced. As we are talking, feel free to refer me to any part of the site and I will look at it on a computer.

We are going to start off by talking about your involvement with PASS this semester and in the past, then move on to talking about your experiences with online mentoring and the online community. After that we’ll talk about your development as a leader this semester, then we’ll discuss the effectiveness of PASS Online Mentoring and Community.

To ensure that I accurately capture all the information in our discussion I will be recording it. Are you comfortable with that?

[turn on recording device]

[turn on stop watch. Every 5 minutes wait for interviewee to finish their sentence then ask them “Would you like to continue the interview?”]

1. First off I’d like to talk with you about PASS. Tell me about your general involvement with PASS
• Tell me about PASS this semester
  o What subjects
  o How many sessions
  o How many students
• (if they are a mentor or supervisor) Tell me about PASS in previous semesters
• Apart from being a leader, have you had any other involvement with PASS? (eg. As a student, as a mentor to other leaders)

2. Now I’d like to talk about PASS Online Mentoring and Community specifically. Tell me the “story” of your involvement over the semester.

• How often, for how long and when did you get involved?
• (if they are a mentor or mentee) Tell me about your experience in your mentoring relationship
  o How did your mentoring relationship start?
  o What happened in your mentoring relationship?
  o Did it change over the course of the session?
• Tell me about your experience in the community
  o How did your involvement start?
  o What did you do in the community?
  o What did other people do in the community?
  o Who did you participate in discussions with?
  o How did the community change over the course of the session?

3. How do you think participation in PASS Online Mentoring and Community supported your development as a leader?

• What did you learn?
  o PASS Skills
- Academic skills
- Personal qualities
- Understanding of the role
- Anything else

- Who helped you?
  - Mentor/Mentee/Leaders/Own supervisor/Other supervisor/Moderator
  - Why did you get help from them?

- How did you develop your skills?
  - What techniques did you use?
  - What techniques did other people use to help you?

- How was feedback given?

- What resources did you use?

- How were areas for improvement identified?
  - How did you identify areas for self-improvement?
  - How did your mentor, mentee or fellow community members identify areas for improvement?
  - How did self evaluation and session evaluation forms help identify areas for improvement?
  - How were areas for improvement communicated?

- How much was role modelling part of your experience?
  - What was role modelled?
  - How was role modelling done?

- How much was emotional or social support part of your experience?
  - How much did you do to support others?
  - How much emotional and social support did you receive from others?
  - How was emotional or social support provided?
  - What sort of emotional support?
What was the support related to?

ii. PASS/Uni/Non-uni?

- How much was career support a part of your experience?
  - What sort of career support?
  - Was this for your PASS career or your graduate career?
  - How was career support provided?

- What sort of information did you find out?
  - From your mentor/mentee?
  - From the community?

- How much help with session preparation did you give and receive?
  - How often?
  - What sort of help?
  - What tools did you use?

- Tell me about how problems in sessions were discussed
  - Who started the discussions?
  - What sorts of problems were discussed?
  - Who did you discuss them with?

4. How else could your development as a PASS leader have been supported?

- What other parts of your development could have been supported?
- What other methods of development could have been used?

5. What do you think contributed to the effectiveness of PASS Online Mentoring and Community?

- What does effectiveness mean to you?
- Tell me about some things that positively contributed to effectiveness
- Tell me about some things that negatively contributed to effectiveness
- (Prompt for these things if they haven’t mentioned them already)
6. What else could be done to improve the effectiveness of PASS Online Mentoring and Community?
That is all the questions that I have to ask you. Is there anything else you’d like to add about PASS Online Mentoring and Community? Is there anything you’d like to ask me?

I’ll go and listen to my recording of this interview and will make notes. I will email you my notes to make sure that I’ve understood what you said and haven’t missed anything. Also, if there’s anything else you’d like to add feel free to do so. I’d like to you email those notes back to me with those clarifications and/or additions.

Thank you very much for your time.
Appendix 12.  Information and Consent Package for Interviews with Mentoring and Community Members
Information Sheet for Online mentoring and community participants

Dear Online Mentoring and Community Participant,

You have been asked to participate in an interview relating to PASS Online Mentoring and Community by Mr Phillip Dawson from the Faculty of Education at the University of Wollongong. The aim of this interview will be to get your perspective on your involvement with mentoring and community.

The interview is an optional addition to your existing involvement with the research study. You may choose to not participate in part or all of the interview and this will not impact on your relationship with the research project, the research team, the university, or the PASS Program.

If you choose to participate in this part of the research study, the researcher will arrange to meet with you for an interview at a mutually convenient time. The interview will be held at a location such as the researcher's office at the University of Wollongong, or another convenient location. The interview will take approximately 45 minutes.

During the interview the researcher will ask you a series of pre-prepared questions, and may also ask you to further explain or clarify your responses. With your consent, the researcher will keep an audio recording of the interview, listen to the audio recording at a later time, take notes, and email these notes to you so that you can check them for accuracy and completeness. You may choose to not participate in all or part of the interview, or choose to not have the interview recorded, and this will not impact on your relationship with the research team, the Faculty of Education, or the
PASS Program.

If you are outside the Wollongong area, the researcher may choose to conduct a telephone interview, at a time of your choosing. You may choose to not participate in all or part of the telephone interview and this will not impact on your relationship with the research team, the Faculty of Education, or the PASS Program.

The researcher is employed by the PASS Program in a role that includes administration, training and quality assurance, but does not include supervision of PASS Leaders. If you would like to participate in the interview, but would prefer to be interviewed by someone other than the researcher, the Faculty of Education can arrange for a research assistant to conduct the interview instead; please contact the researcher or his supervisors for more information about this. If you participate in an interview conducted this way, the researcher will have access to notes and recordings made.

To maintain privacy and protect your identity we will ensure:
• recordings and notes made during the interview will be stored securely in a locked filing cabinet in the Faculty of Education, and will only be accessed by the researcher
• any details that identify you, such as your name, will be removed from notes made from recordings prior to data analysis
• any details that identify you will be removed from any data used when the researcher writes or speaks about the study

Your participation in this research is voluntary. You are free to refuse to participate and may withdraw from the research at any time. Your refusal to participate or withdrawal of consent will in no way affect your relationship with the University of Wollongong, the PASS Program or the Faculty of Education.

If you have any questions about the research, you can contact the researcher Phillip Dawson by email at pdawson@uow.edu.au. If you have any concerns or complaints regarding the way the research is or has been conducted, you can contact the researcher's supervisor, Associate Professor Lori Lockyer on 4221 5511 or email at lori_lockyer@uow.edu.au or the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 4221 4457.
Consent form for PASS/SI Leaders

I have been told about the research project “Examining how an online mentoring model may support new Supplemental Instruction Leaders” and this interview.

I understand that my participation in this interview is voluntary.

I understand that participation in this interview will require around 45 minutes of my time.

If I am located outside the Wollongong area, the researcher will arrange a telephone interview. I understand that I may choose to not participate in any or all of the telephone interview.

I understand that I may choose not to participate in the interview, and may withdraw my consent to participate at any time. My refusal to participate or withdrawal of
consent will in no way affect my relationship with the University of Wollongong, the PASS Program or the Faculty of Education.

I understand that the researcher won’t use my name or other identifying information when writing or talking about the project.

If I have any questions I can ask the researcher.

I agree to be part of the research study.

I have read the information sheet and have had the opportunity to ask questions

☐ Please tick this box if you are willing to have the interview audio recorded

My name: ____________________________________

Signature: ________________________________

Date: ___________