Shared space: A pilot study of In-Class Support

Gwynneth Jansen
Westlake Boys High School[1]
New Zealand

Abstract

In New Zealand, academic support tends to operate discretely in centres often located separately from academic departments. This paper describes the development of a model of In-Class Support (ICS) which is informed by the Missouri-Kansas model of Supplemental Instruction (SI). The new ICS model provides contextualised and embedded learning support to students in the shared space of the classroom, rather than through the SI approach of tutoring led by student facilitators in supplementary workshops. However the central aspect of targeting courses which have a high risk of student failure is retained. Moreover ICS offers a unique way for academic support staff and departmental lecturers to work collaboratively in tertiary education. Focus groups of students, lecturer interviews and the analysis of a teaching log provide a range of positive viewpoints on the ICS model. The student and lecturer comments highlight the importance of professional relationships, the usefulness of culturally matching support staff with students and the impact of ICS on student motivation.

Introduction

Until recently, there was little New Zealand literature supporting the use of Supplemental Instruction (SI) as a possible model for effective academic support for students. However Prebble, Hargraves, Leach, Naidoo, Suddaby, and Zepke (2004) changed that landscape with a synthesis of the literature on effective learning support. Their review of nine articles on SI and their comment that "[t]his synthesis shows that Supplemental Instruction offers a valuable strategy to increase student outcomes across diverse groups of students and a range of subject areas" (Prebble et al., 2004, p. 76) suggests that SI may be a useful strategy for supporting student learning in New Zealand.

The aim of this paper is to describe an alternative model of SI developed at Manukau Institute of Technology and named In-Class Support (ICS). The model was developed to better meet the needs of students in a course which they found challenging and difficult to pass. In-Class Support was also an opportunity for staff from the Learning Centre to extend their practice through working collaboratively with departmental lecturers in their classrooms.

In the following sections, previous academic support strategies are described and barriers to the implementation of SI are identified. Literature which informed the development of the ICS model is explored and a description of the implementation and evaluation of the ICS model is provided. Some unexpected results are highlighted in the discussion section and critical success factors for the implementation of the ICS model are identified in the conclusion.

---

[1] Formerly Manager, Learning Centre, Manukau Institute of Technology

The Learning Centre at Manukau Institute of Technology provides academic support to students in a variety of ways. These include individual consultations with a learning specialist or a peer tutor at the centre for an hour, 'drop in' short consultations from 5 – 20 minutes, class sessions taught outside the centre in departments and workshop series integrated into departmental timetables. In the first three weeks of the semester, requests for individual consultations are for assistance in generic tertiary study skills such as time management, note taking, basic mathematical processes, academic reading, learning styles and mind mapping. In the following weeks this demand shifts to requests for subject specific assistance to address issues around course content.

When significant numbers of students register for similar kinds of assistance, support provision shifts from working one to one with individual students in the Learning Centre to working with larger numbers of students in workshops out in departments. This is a more efficient way to address high demand topics. The workshops are fully supported by departmental lecturers who arrange workshop venues and actively encourage students to attend the workshops. They are, however, an additional commitment for busy students who may have family and employment responsibilities and have difficulties accessing public transport.

Over the last few years it has become noticeable that students who enter a foundation level science course designed to assist them to staircase into the Bachelor of Health Science course find the topic of organic chemistry, taught in a six-week block, particularly challenging. Many students accessed academic assistance from the Learning Centre through individual tutoring sessions. However workshops scheduled in the department were not well attended because of the students' many other commitments outside class time. Consequently, at the end of 2004, the Centre and the department started exploring ways to provide a different form of academic support which targeted students in foundation science during the teaching of the organic chemistry topic.

Supplemental Instruction has been a successful form of academic support since the late 1970s in the United States where it was developed to improve medical students' pass rates at the University of Missouri-Kansas City (Martin, 1980, cited in Commander & Stratton, 1996, p. 1). Successful students were recruited to become SI leaders. They were trained to lead small group discussions and to model effective strategies for learning new material. The leaders attended the lectures and took notes together with their students. Following the lecture they organised and facilitated supplementary small group tutorials. These tutorial sessions focused on teaching strategies for successfully learning new material, rather than on re-teaching content (Congos & Schoeps, 1993). "The leader acts as coach and fellow student… The SI leader remains on the student side of the desk and functions as peer leader" (Commander & Stratton, 1996, p. 2).

There is agreement in the literature that SI has a positive impact on improving student grades as well as student retention (e.g., Commander & Stratton, 1996; Congos & Schoeps, 1993; Ogden, Thompson, Russell & Simons, 2003; Simpson, Hynd, Nist & Burrell, 1997; Wright, Wright & Lamb, 2002). Furthermore, "course related services, such as SI and adjunct courses … allow for the crossing of division lines since learning programs are institutionalized in the overall academic delivery system" (Commander & Stratton, 1996, p. 5). So, in addition to improving student grades and retention, SI provides a tool for integrating learning support with departmental programmes.

Two successful variations of the Missouri-Kansas model demonstrate that SI can be effectively adapted to local circumstances. In one variation, at the University of Georgia, a single professor led adjunct seminars for large groups of up to 400 students rather than using students to facilitate small groups (Simpson et al., 1997). Another variation occurred in the United Kingdom at the School of Service Industries at Bournemouth University in the Management Foundation course. Second-year students delivered a "…specialised form of mentoring … running study support sessions for first year students" (Capstick & Fleming, 2002). In this variation there was no requirement for the mentoring student to attend lectures. Attendance at the support sessions was voluntary and the content

incorporated general course survival strategies. Both variations targeted courses where students had a high risk of failure.

Adapting the Missouri-Kansas model

Supplemental Instruction was designed to target high risk courses where there was a history of student failure. Other characteristics of this model were: the use of trained students as facilitators of small tutorial groups outside the timetabled lecture times; optional attendance; and, courses with enrolments of more than a 100 were targeted for the greatest impact (see Table 1 for a summary). A key aspect of SI was that students had to commit additional time to attend SI workshops.

Key differences between our situation and that of the University of Missouri-Kansas necessitated the development of a different model of SI. It is difficult for students at Manukau Institute of Technology to attend the additional SI sessions every week due to their study, work, family, sporting or cultural commitments. There are differences in class size, and the availability of students to train as facilitators. The classes in developmental programmes at the institute are deliberately kept small, generally no more than 30 students, so that tuition can be more individualised. Unlike the United States, our students are not resident on campus for several years completing a degree qualification; rather they tend to begin at certificate level. Success in a certificate programme may lead them to move to another programme, although some choose to take time out for work or childcare and return to study later. Our student population, although hovering around 5000 EFTS (equivalent full time students), comprises 11% of student enrolments in the high EFTS category (>0.8) and 14% in the medium EFTS category (0.3 – 0.7) so the bulk of our students are not full time degree students. While we are reasonably successful with this almost transient student body in terms of recruiting peer tutors to work 1:1 with other students in the Learning Centre, there is not a large enough pool of suitably qualified students to consider using them for facilitating SI sessions.

Any model we developed needed to address those constraints. Moreover, if this pilot supporting students in a foundation level chemistry course was successful, it could be used to apply a similar strategy in other departments, thus leveraging off the success of this one.

The decision was made to adapt the Missouri-Kansas model using a member of the Learning Centre team to work in class with the departmental lecturer. This variation on SI was renamed In-Class Support (ICS) and incorporates the notion of the importance of working in classrooms to embed "support activities to assist students in those places in order to promote students involvement and in turn student learning and retention" (Tinto, 2002, p. 4). In this way we could embed support in a small classroom setting for an at risk course and offer it to all students who were enrolled in the course without encroaching on their other commitments. Table 1 summarises the differences between SI and ICS.

Table 1. *A comparison of SI and ICS characteristics*

Characteristic	SI	ICS
Targets high risk courses	3	3
Involves collaboration with colleagues	7	3
Short time frame 4-6 weeks	7	3
Used with large classes >100 students	3	7
Optional for students	3	7
Uses trained students as facilitators	3	7

Occurs outside of timetabled teaching time	3	7

Table 1 shows that we retained the aspect of targeting a high risk course from the Kansas-Missouri model. As ICS is applied in another lecturer's teaching space it is necessary to collaborate with departmental staff. We limited the support time to focus on one topic and used a Learning Centre lecturer (LCL) to provide support, rather than other students. Specifically, the LCL would attend both lecture and laboratory sessions for six weeks to provide 18 hours support for organic chemistry. In this way an at-risk course was targeted, the support was embedded and available to all students and the intervention was time limited. In total the Learning Centre would provide 18 hours of ICS for the full foundation science course of 50 hours. It was fortunate that the lecturer from the Centre who was able to teach science at the appropriate level was the Pasifika Learning Specialist as there were a number of Pasifika students on the course. She was an academic match with the departmental lecturer (DL) and a cultural match with the students.

Evaluation methods

Evaluation took place after the intervention was complete and used three qualitative measures: feedback from students in focus groups, an interview with the DL and analysis (Brookfield, 1995) of the LCL's teaching log. The DL and the focus groups were given questions to consider prior to their discussions (Appendices A & B). The focus groups were facilitated by a lecturer from the staff development unit at the institute. The responses from each group were documented in written summaries by the facilitator who aimed to keep them in the student voice.

Students were invited to a focus group to talk about their response to ICS. Starter questions were distributed to them a few days before the group met. The focus groups were held a few days after ICS finished with the group and were facilitated by a lecturer from the staff development unit. Two groups of five and six students respectively gave their responses. Each focus group may have comprised students from both classes who received ICS thus it cannot be generalised that each focus group represents one class. Both classes totalled 40 students. The relatively low response rate of 25% was recorded as the students had a major assignment due in another course the same week. All quotations in the text are from the written summaries and are not attributable to individual students.

The ICS model in action

Organic chemistry is taught over a six week block with one lecture and one laboratory session both of 1.5 hours weekly. In 2005 there was a two week mid semester break between the first and second weeks. Two classes taught by the same lecturer, who fully supported the concept, were selected for the project. As the LCL had a liaison role with the department there was an initial professional relationship. This developed further in the weeks leading up to the introduction of the topic when the two lecturers discussed by phone the general climate of each class. These preparatory conversations identified how many students had found the introductory work challenging and identified which aspects they found difficult. It was useful to know prior to the intervention which students were likely to require more learning support with organic chemistry concepts.

At this initial stage the focus of the conversations was on the course content and the students, rather than on the detail of how they might work together in the shared space to support them. There was however, a shared understanding about their respective functions. The DL would teach the content to the whole group and the LCL would work with individual students, prompting and questioning them to develop their understanding. In this way students would be taught strategies to process new information and have the opportunity to immediately put them into practice.

After the first session the LCL and the DL reviewed the session to reflect on their practice. It took until the third session for the two lecturers to work out how to function in a way that they thought

would be clear to students. The first 15 minutes of each theory lecture were spent in a lecturer-driven written revision activity. Students were not permitted to work with each other but they could ask for assistance from the LCL. After this activity which focused the class the DL would teach new material and then pause while the students applied what had been taught. At this point both lecturers would be free to move in the space to assist students. When new material was being taught by the DL, the LCL sat at the back of the class. When the students were applying the new material both lecturers were equally involved in supporting them.

Those who required assistance were identified in three ways. Firstly, those who self identified by putting their hand up, secondly those whose body language indicated that they were uncomfortable with the task and would benefit from offered help (LCL identified), or thirdly students that the DL knew were struggling from the results of their written review activity (DL identified). The DL was the person who was always at the front of the room in control of the content while the LCL was seated with students; both staff members would then move around the room assisting students. There were also times where the DL was able to keep teaching, while those students who were struggling worked with the LCL, rather than having to stop the whole class.

In the laboratory sessions the DL would explain the procedures before the class then worked through lab sheets. Both the DL and LCL were mobile from then on, questioning and prompting as well as ensuring that students were behaving safely in the laboratory environment.

So what did the students think?

Both focus groups said that ICS increased their understanding of the subject and that their motivation increased. They felt that this happened because the subject was "put in context", there were "opportunities to discuss" and they had "help with pronunciation of jargon words". Difficulties with the discourse were addressed more readily as points were "rephrased in layman's terms" and "scientific explanation and formulas were explained clearer" which made concepts easier to understand. Pasifika students felt that they benefited from the LCL being bilingual and having the capability to explain concepts in their first language. They linked increased understanding with increased motivation as they "aren't confused" and "want to work harder to get somewhere."

Having another lecturer in the class resulted in "better service – improved response to learning needs" and they felt that there was more opportunity for different learning styles to be accommodated. One focus group experienced "initial surprise" and felt "that it was important that the support role was explained", while the other group felt comfortable that it had been explained sufficiently. The students liked the way the two lecturers seemed to have a good working relationship and "complemented each other". Both groups were clear that there was "no confusion between lecturer and support tutor". One group remarked that they thought it was "good to have a close working relationship" between the DL and the LCL.

What they liked best about ICS was the immediacy of the support, that more individualised support was available in the classroom and that they were exposed to different points of view. One group particularly remarked on having a "close working relationship with the in-class support tutor". Just knowing that extra support was there helped them feel more confident in class. Conversely, one comment suggested that confidence could be affected when students were not given immediate answers: "Just give me an answer. Don't ask me the question I asked you". Some students from one of the groups found ICS could be intrusive and irritating, especially if students felt that they did not require additional assistance.

Overall, students were enthusiastic about ICS, they would have liked ICS to begin earlier and "come in for the whole of the chemistry course". They felt that it would be useful in other aspects of their programme and gave communications, research and writing as examples of topics which would benefit. They also suggested alternating ICS tutors. Two students, however, pointed out that ICS

must be unobtrusive. There was a preference expressed for ICS because it was less intimidating than going to the Learning Centre for 1:1 appointments.

The Departmental Lecturer's perspective

The DL observed that students became more confident about asking questions. She felt that ICS had a positive impact on her teaching load as it was shared, although there was no change to the preparation time. Another gain was that the ICS lecturer could convey student concerns around content and enable further clarification to take place. The DL noted that students who were repeating the course required a lot of support and their needs impacted on the LCL's time to work with other students. She questioned the viability of having these students in the class. She said that she enjoyed having another lecturer in the class and "learned a lot – the openness of it, different ways of looking at things, additional knowledge/information and cultural perspectives". She commented that the boundaries between lecturing and support roles were always adhered to "although unwritten and unstated". She also liked the immediacy of ICS but noted that it could be disturbing where the assistance is prolonged beyond five minutes, while the DL is teaching the class as a whole. She thought that it was critical that the support person knew the subject and that the two lecturers involved complemented each other's skill sets.

The Learning Centre Lecturer's view

The LCL reflected that as time went on she was able to establish an effective relationship with the students, particularly those who were more used to keeping a lower profile and struggling in silence. The two week break after the second week of the topic resulted in some students feeling that they had forgotten so much that they were back at the beginning. There were some affirming teaching moments when students started implementing or recalling strategies. She expressed frustration that absenteeism on the Friday theory session impeded student progress and successfully negotiated a change so that the Friday session became the laboratory session. Attendance improved and the students saw the session as "a more fun way to finish the week". She too felt that students would benefit from ICS beginning earlier on in the course. There were two other comments of note: Firstly, it was the more able students who responded to the support more positively and the less able who tended to want answers. Secondly, there was a change in the students' perception of the teaching and support roles from "…lecturer as expert and mine as a helper similar to a teacher's aide. However this changed as the weeks progressed until I was seen as being the content lecturer's equal".

Discussion

The development and introduction of ICS had two unanticipated consequences. The first was the importance of professional relationships to underpin the intervention. While the focus of the development of this ICS model was to develop a different and workable approach to supporting students in the classroom, the success of it seemed to depend on two key relationships. These relationships were between the two lecturers in the shared space and between lecturers and students. All three participants, the students the DL and the LCL, commented on these relationships. This kind of professional collaboration is not a characteristic of SI so this aspect was not investigated in the development of ICS. Although ICS took place in a shared environment, both teaching partners were clear about their respective roles and there was no boundary crossing. Each partner respected the other's competence and the students noticed how they complemented one another and their comments made it clear that this mattered to them.

The second unanticipated consequence was the establishment of a link between ICS and improved student motivation because of its immediacy and because new content could be explained in the students' home language. Student comments identified that a key difficulty for them appeared to be with understanding the discourse of science. They saw this as a barrier to their conceptual understanding of the subject, which then impacted on their motivation to engage with it. They welcomed the opportunities to immediately improve their understanding which ICS provided within

the classroom. They saw the LCL role as a mediating one, negotiating between the new content and their previous learning. This was emphasised when the LCL sometimes took on the role of interpreter explaining the new content in the students' home language. The students linked their increased understanding with improved motivation to engage with new and challenging material. The choice of the Pasifika Learning Specialist to provide ICS was determined initially by her expertise in science and her skills with other languages and cultures were an additional benefit.

It seemed that this collaboration did not require explicit protocols for communication between the participants. The DL and the LCL were focused on the outcome of providing an effective learning environment and this shared focus drove their interactions. However the teaching space was clearly demarcated and the DL was the only one who occupied the traditional teaching space at the front of the room. This clarified and reinforced the LCL's role as supporting the DL and the students. The LCL seemed to occupy an intermediate space between the DL and the students and moved easily between them. This ease of shifting between groups was enhanced by the support lecturer's capabilities with both content and language.

Conclusions

There were four critical requirements in this study which underpinned the use of ICS. The first was a shared desire to develop and trial an innovative way to improve student outcomes. The second requirement was a robust student management system which could provide information about pass rates over time for particular courses and statistics on students' access to Learning Centre services. This information enabled the right target for ICS to be chosen. Another requirement is for effective working relationships between the learning support lecturer and the departmental lecturer. The final requirement is to select a learning support lecturer with appropriate academic and cultural skills.

There was an issue about ICS being seen by a few students as more intrusive than helpful. This viewpoint may come from those students who are repeating the course. They are likely to be the least confident students in the class who may feel singled out and regards ICS as a threat. Composition of classes may impact on the success of ICS. Another issue is that some departmental staff may find it more difficult to share their teaching space with another lecturer and this could become a barrier to more widespread use of ICS to support students.

This variation of SI could provide a useful model, particularly for polytechnics, in that it can target both high risk courses and high risk students. While some aspects of the SI model were adhered to, this variation was more integrated, contextualised and manageable in the polytechnic setting where students are not usually enrolled in three to four year programmes of study and are less available to work as SI instructors. An added benefit is that it does not demand a further time commitment from students in conflict with their commitments outside the classroom. Using a lecturer from the Learning Centre to work with students and academic colleagues in a classroom to deliver timely learning support is a more effective and efficient use of learning support resources. From an institutional perspective this kind of collaboration in shared space to support students may be the way of the future and offers a way to integrate learning support.

In future it would be useful to have quantitative as well as qualitative evidence of any improvement in the results of any groups who are involved in ICS to comprehensively evaluate this kind of intervention. It would also be fruitful to document other variations of ICS which are underway in other departments at the institution and compare them with any other national variations of SI. Another direction to pursue would be an investigation into the efficacy of matching academic and cultural skills between ICS partners for student success. Finally, documenting the relationships between teaching partners in their shared spaces could provide rich comparative data. This could contribute to further work describing how collaborative partnerships develop and how they function in tertiary education teaching practice.

References

Brookfield, S. (1995). *Becoming a critically reflective teacher.* California: Jossey-Bass.

Capstick, S., & Fleming, H. (2002). Peer assisted learning in an undergraduate hospitality course: Second year students supporting first year students in group learning. *Journal of Hospitality, Leisure, Sport & Tourism Education, 1*(1), 69-73.

Commander, N., & Stratton, C. (1996). A learning assistance model for expanding academic support. *Journal of Developmental Education, 20*(2), 1-8. Retrieved June 4, 2004, from EBSCOhost database.

Congos, D., & Schoeps, N. (1993). Does Supplemental Instruction really work and what is it anyway? *Studies in Higher Education, 18*(2), 1-10. Retrieved June 4, 2004 from EBSCOhost database.

Ogden, P., Thompson, P., Russell, A., & Simons, C. (2003). Supplemental Instruction: Short and long term impact. *Journal of Developmental Education, 26*(3), 2-7. Retrieved September 16, 2004, from EBSCOhost database.

Prebble, T., Hargraves, H., Leach, L., Naidoo, K., Suddaby, G., & Zepke, N. (2004). *Impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study: A synthesis of the research.* New Zealand: Ministry of Education.

Simpson, M., Hynd, C., Nist, S., & Burrell, K. (1997). College academic assistance programs and practices. *Educational Psychology Review, 9*(1), 39-87.

Tinto, V. (2002). *Establishing conditions for student success.* Paper presented at the 11th Annual Conference of the European Access Network, Prato, Italy. Retrieved June 6, 2004, from: http://www.ean-edu.org/news/tinto-pratoconf.pdf

Wright, G., Wright, R., & Lamb, C. (2002). Developmental mathematics education and Supplemental Instruction: Pondering the potential. *Journal of Developmental Education, 26*(1), 30-35. Retrieved September 16, 2004, from EBSCOhost database.

Appendix A: Starter questions - Questionnaire for lecturers

1. How did in-class support affect your teaching? (you could refer to student grades, collaboration, workload)

2. How did you feel about having an extra lecturer in the class?

3. What did you like **best** about in-class support?

4. What did you like **least** about in-class support?

5. How could in-class support be improved?

6. Anything else?

Appendix B: Starter questions – Handout for students

1. How did in-class support affect your learning? (you could refer to grades, motivation for learning, confidence about the subject)

2. How did you feel about having an extra lecturer in the class?

3. What did you like **best** about in-class support?

4.   What did you like **least** about in-class support?

5. How could in-class support be improved?

6. Anything else?