Peer Support in Mathematics at the University of Leicester

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Abstract

Peer Support (PS) has been running in the Department of Mathematics and Computer Science at the University of Leicester for the past 9 years. In this scheme students from the second and third years (called leaders from now on) help first year students in their efforts to assimilate first year material. The help occurs in small timetabled groups containing up to 8 or 10 first years and 2 to 4 leaders. In its first year the scheme had 6 second year leaders and now we have typically between 15 and 20 second and third year leaders. The number of first year students taking part in the scheme has also grown from about 10% of students in the early years to around 50% of students making some use of the scheme at some stage in the year.

The Execution

Peer Support is a local name for Supplemental Instruction (SI), a peer assisted learning scheme employed in a number of Further and Higher Education institutions throughout the UK. In this case study we will discuss the implementation of this scheme in the Department of Mathematics at the University of Leicester.

Peer Support at Leicester grew from a module in which third year students who had completed the module in the previous year were used as helpers in workshops, where material was delivered via guided exercises. The central idea is that people learn best from those who are closest to them in experience, because the 'teacher' still remembers what it was like to struggle with the information and the 'learner' is not intimidated by the expertise of the 'teacher'. This module was supported by a Teaching and Learning Initiative in HE.

The Director of the Student Learning Centre, knowing of this work in the Department of Mathematics and Computer Science at Leicester then invited Jenni Wallace, the then UK coordinator of SI, to train a number of second year mathematics students (leaders) to support the learning of first year students. The training took 2 days, and consisted of instruction in the main principles of SI, in group management techniques, and in managing and promoting the scheme.

It was decided that Jeremy Levesley would receive training at the University of Kansas City at Missouri in running an SI programme, so that he could do the student training in future, and administer a programme in the Department of Mathematics and Computer Science.

Currently, two training sessions for leaders per year are organised, one in June and one in September, just before the induction programme for the new first year students. First year students are recruited for training by particular invitation, often based on the recommendation of current leaders and also by general invitation via announcement in a lecture. Students self select from this point and occasionally decide that the programme is not for them as a result of the training.

The first training day is designed to introduce students to the key ideas of the scheme:

(a) leaders are not teachers and are not responsible for the delivery of information to students;

(b) assessed questions are not to be done in sessions – this is to prevent first years blaming leaders for incorrect answers.

Students receive training in group management techniques and in how to structure a session. The current leaders also come to the training to give the fledgling leaders the benefit of their experience. Promotion of the scheme is discussed, as well as the input of the leaders into the induction programme.

The second training day is used to prepare for induction. Leaders carefully plan their two sessions with the first years. Leaders are organised into teams and assigned a group of first year students and each leader will take a subgroup of approximately five to look after in particular. One session is more social, learning names etc., and the second is used to help students with key `A' level skills, in preparation for a skills assessment all students do. As soon as students start to receive assessments from modules the focus of sessions moves to these assessments. Sessions occur at timetabled times each week, usually attended by two to four leaders.

What Support Was Needed?

The scheme primarily requires the time of a dedicated member of staff and the willingness of a group of second year students. In some institutions leaders are paid for their involvement, but not in Leicester. In the early stages it helps to have an experienced external person to guide the initial set up. The department should support the scheme. Lecturers can provide specific questions for the sessions and be available to help second year students in supporting their modules. Financial support is required from the department to send students to the annual national SI conference.

The Barriers

The main barrier to the scheme is timetabling and rooming. Because second years and first years are involved there is little space on the timetable to fit sessions. There is then the problem of finding flat rooms, which the students can use. Because the times are often unsociable, and the rooms obscure, attendance can fall off. In many ways mathematics students have come to view mathematics as a private activity so the collaborative aspect of PS can be threatening in the initial stages. This also prevents some students from engaging.

The Enablers

The key enablers are the first and second year students. Good leading as well as active participation makes a successful scheme. The PS coordinator who supports leaders and administers the scheme (trains students, books rooms, photocopies etc.) is also important. The coordinator may also have an ongoing training role in helping leaders to deal with challenging situations which arise in the sessions. It goes without saying that suitable rooms and appropriate times are also key enabling features of the scheme.

Evidence of Success

We have come to view the scheme as being a success if most students have attended a couple of sessions and about a third of the students become more habitual attenders. It has taken 8 years for the scheme to be as well attended as this. The motivation of the second year students for their own studies is also a key indicator, for the scheme should be viewed as being as valuable to them as to the first years. It is difficult to assess the success of the scheme in terms of the performance of first year students. It remains an axiom that students improve their learning through discussion of the subject matter.

How Can Other Academics Reproduce This?

To reproduce the scheme will require a dedicated staff member (DSM) (preferably an academic) to run the scheme and an experienced external person to guide the department through the first training sessions with the students and setting up the scheme for the first year. Following this, the DSM should receive some training in how to train students in group management skills and running a successful session. The department should support the scheme, with positive comments in lectures etc. by other lecturing staff. Leaders will need to be selected who have no experience of such a scheme, so the opportunity for them to meet experienced leaders might also be helpful. Second year students often feel threatened because they do not feel expert enough. Students who have experienced PS as a user will worry less about this on the whole.

Quality Assurance

The nature of the scheme is that the sessions are unattended by academics. It is therefore difficult to monitor the quality of the scheme by direct observation. In the early years of the scheme members of the university's Teaching and Learning Unit visited sessions, but it was found that too much effort was required to monitor the sessions in this way. The key measures of usefulness of the sessions are attendance by the first years, which is generally good, the ease of recruiting students to the scheme and the response of the leaders to the scheme. Students get a sense of how our scheme compares to others when they attend (as one or two students per year do) the annual national SI conference. Those who attend feed back to the other students and improvements to the scheme can be made accordingly. Also, leaders are instrumental in designing the scheme for the following year. This is a natural way of improving quality in the scheme.

Other Recommendations

My main recommendations would be:

- Make sure that the department is supportive of the idea – many academics find the idea of students teaching students threatening. They should be reassured that no teaching is taking place.
- Have a member of staff to run the scheme who is very committed to the student helping student paradigm. The scheme requires a lot of effort to set up and maintain.
- Check that timetabling and rooming are at least feasible.
- Float the idea of the scheme with current students. This way you may be able to gauge their enthusiasm for such a scheme and you might also recruit your first set of leaders.