

## Topic Group B

### Mathematics Learning Centres in Third Level: Providing Solid Foundations or Papering over Cracks?

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*This report stems from Topic group B who met once during the conference to discuss issues in learner support. The discussion was led by two of the managers of well-established mathematics learning centres in Ireland. The idea for the topic group arose from issues arising in such centres. One of the main aims of the session was to discuss these issues with colleagues from other institutions and indeed other countries in an attempt to highlight these challenges and, ideally, offer suggestions on how to deal with them.*

The authors began the session with a presentation on the specific facilities currently in place for adult learners in the University of Limerick and Dublin Institute of Technology, namely front-end tutorials, support tutorials, one-to-one tuition, bridging courses and so on. This was followed by a discussion on the effectiveness of these services and how this effectiveness is currently measured (through attendance and uptake).

Members of the topic group were then split into three sub-groups, in order to allow smaller group discussions on specific topics to take place. Many of those in attendance were involved in mathematics support in some shape or form, although not necessarily in maths learning centres. Each sub-group was provided with a list of discussion questions to address; following their discussion, a group leader reported the key points back to the main group for further analysis.

- Topic group undertaken while author was Manager of Students' Maths Learning Centre in Dublin Institute of Technology

The discussion questions provided were as follows:

#### **Group 1**

- Are Mathematics Learning Centres the optimum approach to tackling students' difficulties with mathematics?
- How can the centres maintain the quality of mathematics education in their institution?

## Group 2

- Are (or should) adult learners (be) treated/taught differently to other students?

## Group 3

- How can we encourage students who need assistance to make use of the centres earlier in the year?
- Are we reaching *all* at-risk students and adult learners? If not, how do we encourage all learners who need help to attend?

## Results of discussion

For the first question, it was agreed that Mathematics Learning Centres are indeed an important safety net for students who have difficulties with mathematics. It was stated that they should be integrated more into mathematics departments and there should be more communication with faculty members who teach the mathematics courses where these students are having trouble. It was even suggested that mathematics learning centres should have some influence on how material should be taught as this may avoid some of the difficulties that arise from poor teaching practice.

As regards the issue of maintaining the quality of mathematics education, members of the group emphasised that it is important not only to maintain but also to *improve* the mathematics education in our institutions. It was suggested that, three weeks prior to examinations, support centres should no longer be accessible to students who have never used the centre before, allowing only regular attendees to utilise the service or at least regular attendees should be made a priority. Again the notion of increased communication, dialogue and feedback between mathematics support centres and mathematics faculty/teaching staff was mentioned here as a way of improving the mathematics education of students in third level.

The question of adult learners of mathematics and how they should be taught was then discussed. It was interesting to note the difference between the Irish and Norwegian participants. The Norwegian participants stated that in their institution, adult learners and traditional age students are treated the same, with adult learners receiving the same attention and no extra support classes. The Irish participants agreed that adult learners in Ireland are treated differently to traditional age students. It was agreed that this is appropriate as adult learners have different learning needs, having been out of education for a long time. The work of mathematics learning centres is crucial for students such as these in filling in gaps in student knowledge and the refreshing of material learned possibly long ago.

On the issue of attracting all at-risk learners to the support centres and reaching these students early in their third level studies, there were a number of suggestions. Advertising through radio advertisements and posters on public transport was suggested. One member of the group suggested handing out flyers to prospective students quoting comments from previous satisfied users of mathematics learning centres as a way of promoting the centres. Another innovative idea was to put mathematics puzzles (without solutions) on beer mats in student bars to encourage them to attend mathematics learning centres if they could not work the puzzles out. In

addition, it was recommended that tours of support centres and even video presentations should be incorporated into tours during orientation week so that students are introduced to the service immediately and not only find out where it is situated but also what services it provides.

To reach all at-risk learners, the members thought it crucial to break any perception of “remedial help” that may exist so that students do not feel a stigma if/when they attend. A comfortable environment with approachable staff is essential for attracting learners to such centres.

It was suggested that some academic staff/mathematics lecturers may feel threatened by mathematics learning centres for various reasons. Good liaison between support centre staff and mathematics lecturers will ensure that all academic staff are aware of the facilities provided by support centres. In this way, lecturers can promote the centres to their students and will be aware that the learning centres do not pose any threat to them as teachers/lecturers.

## **Conclusion**

Recent concerns over falling levels of mathematical preparedness among students entering third level mathematics-intensive courses, in addition to increasing diversity in student populations, has led to the establishment of mathematics learning centres in many third level institutions. Numerous issues arise in the organisation and management of such centres. In this topic group, the authors organised a discussion of some of the most pertinent of these matters and many constructive opinions and suggestions were offered which can be put in operation to further the effectiveness of such centres.