

Fast Track Summer Mathematics Course at South Bank University

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Abstract

The first summer mathematics course ran during July and August of 1997, financed by South Bank University (SBU). In subsequent years the course became HEFCE funded. The Fast Track mathematics course was a specifically designed free summer course to help equip the students with those skills required to enter a degree of Higher National Diploma in science or technology. SBU established the six week daytime course, which helped students identify gaps in their knowledge and provided a tailor made mathematics learning programme. This course now runs every summer to equip new students with the mathematical skills required for a smooth transition into university.

The Execution

The pilot Fast Track Summer Mathematics course at SBU first ran during the summer of 1997 and was considered a success, by both students and staff alike. The idea for the course came from discussions about the difficulties of recruiting students to our courses in engineering, science and the built environment. The greatest obstacle is often the lack of mathematical skills and the fear students have of repeating past failure at mathematics. Our idea was to offer potential students the chance to improve their mathematics in a friendly environment, which would build confidence, and also provide advice about the opportunities for further study at the university. This was our first attempt to promote community access to university courses in science and technology by enabling mature students with few formal qualifications to gain the necessary skills to progress.

The course was designed with the university's commitment to 'widening provision' in mind and had the aim of enabling progression for local people. Southwark, Lambeth and Lewisham are working class boroughs which have some of the lowest progression rates to HE in the country. Few people have backgrounds with any experience of HE at all and many adults lack formal qualifications.

For this reason, and because it was envisaged that many would be in low income groups or on state benefits, the course was offered free of charge. SBU funded the first course and subsequent courses are now HEFCE funded. To cater for those claiming benefit or who might be working part-time, the course offered 15 hours of taught/tutorial classes a week through morning sessions. Participants were also offered the option of extra 'drop in' sessions on a 'workshop' basis in the afternoons. This format is still in use for the course.

For the first course in 1997 an administrator was appointed on a part-time basis i.e. 12 hours per week from April till August to deal with marketing, publicity and general administrative duties during this time period. Also a SBU academic member of staff was appointed to be responsible for the course development, collection and production of suitable material, assessment procedures and the general academic well being of the course. The course now comes under the umbrella of the Mathematics Support at SBU and hence part of the Learning and Development Centre's portfolio of courses. Course material has been collected over the last five years and is updated and modified as and when required.

The course has more than trebled in size (the first intake was just 60 students with 6 tutors) but we still only have a part time administrator, one full time academic member of SBU staff and 20 part-time tutors.

Publicity for the course is sent to local libraries and colleges. Responses come from a wide cross section of the community. Over half the applicants are on benefit. Most of the applicants are male; in spite of offering places to as many women as possible we felt met the criteria, they comprised only one fifth of the people enrolled on the course. The course has become very popular and heavily oversubscribed. More than 1000 applicants each year request places, some people even requesting their place a year in advance.

What Support Was Needed?

The Centre, since its inception in 1997, has been managed by an experienced university teacher (the course leader), who has prior first-hand experience of the difficulties mature students have in mathematics. The only staff training that is available is a short induction given by the course leader. For subsequent cohorts an experienced tutor of this course is teamed up with any new member of the teaching team to give support and guidance. For this reason it was vital, for its success, that SBU employed experienced, student friendly tutors to teach on this course. Some of these tutors now help out in the Learning and Development Centre support classes and hence can go on any of SBU staff development activities/courses. The tutors must be fully committed to the course and have a great deal of experience in teaching adults.

The Barriers

The first barrier that we encountered at SBU was the initial reluctance of admission tutors to recognise this course as being a useful mechanism to bring the potential student's mathematical ability up to the level required to study at the university. Other barriers included:

- Convincing university staff that the students on this course would attend every day for the six weeks and that the final assessment would be rigorous enough for the entry level required.
- The university funded the first course from central funds and this caused resentment from some faculties/departments who were not going to benefit from this course.

The Enablers

A great deal of ground work was done, especially in the early days, to promote the course around SBU and to the libraries and colleges in our local catchment area. The university's website promoted the course in the early years but now there appears to be no need since the reputation of the course has spread and we are oversubscribed. We are very fortunate in having recruited and retained committed knowledgeable staff with experience of FE/HE transition. The experience they have in syllabus content and required levels and teaching pedagogy has been, and still is, invaluable. Admissions tutors who looked 'favourably' on this venture were a real bonus and in turn have spread the word of how successful the course is to other admissions tutors. An academic member of staff who would be available during the summer months is also a requirement.

Adequate funding is a must and we were fortunate that our VC decided to pilot this course and hence we put in and were successful for HEFCE funding under widening participation. Appropriate accommodation in which to run the course is also an essential feature. This course has priority over room bookings during the summer period – hence we are able to book the same rooms for the whole six week period.

A 'Fast Track to Higher Education' leaflet is produced by SBU and is available to all interested parties and a one page A4 flyer/information sheet is sent to all admissions tutors in the February before the course starts.

Evidence of Success

The most important source of evidence for this course is successful students. We keep attendance registers to show to admissions tutors, who are not only interested in results but in the general attendance of the students on the course. We ask Course Directors to give us updates of students' progress and progression so that we can track successful students. Some of the students do not attain the required level and we refer them to FE colleges to do further study. It is reassuring to see these students two or three years later entering higher education. We keep records of entrance and exit results so that we can see how much a student has progressed in their mathematical ability from start to finish.

In addition to academic results we also use student evaluation questionnaires. Comments such as 'I loved and enjoyed the course which has really taken me a step further in mathematics' or 'Everything I learned was useful' provide a real boost to the tutors teaching on the course.

How Can Other Academics Reproduce This?

The setting up and running of this course takes a great deal of time and effort. A fully committed member of academic staff with appropriate experience is a must. One would need to set up and have in place the following:

- Funding to employ appropriate teaching staff and any resources that need to be purchased. (In our case this was mainly the photocopying budget).
- Good tutors with relevant experience of FE/HE transition.
- Useful text books or other paper based teaching materials.

- Providing taught classes and extra 'drop in' sessions for all students.
- The classrooms used need to be modern, well furnished with appropriate computer resources on hand or available when required.
- Guidance from admissions tutors on possible courses.
- Advice and guidance from tutors on further courses available for those students who have not yet acquired the appropriate level to enter the university.
- Administrative backup to support the course.
- A well organised and committed academic member of staff who will keep material for future courses, academic results, evaluation questionnaires and other associated resources.

Quality Assurance

The course has now undergone an internal validation process. The Fast Track provides all students with a course guide and mathematics unit guide. The course evaluation report is in line with the university's monitoring procedures.

Other Recommendations

My main recommendations would be, that if a HE institution wants to run a summer mathematics programme of this type the following issues need to be addressed and suitable procedures are in place before the course starts:

- Adequate funding is available to run the course.
- Ensure that adequate administrative and technical help is in place.
- State what type and level of students you wish to go on the course and what progression is open to them.
- Make sure that admissions tutors are in agreement with this course and its subsequent progression.
- Experienced tutors/teaching staff are available to teach on this course.
- Appropriate teaching material is available at the correct level for the teaching sessions along with additional material for the workshops.
- Diagnostic tests and final assessments need to be available or produced.
- If you use your existing full-time academic staff – this work is part of their contractual teaching duties and that they can have their holidays at other times in the academic year.
- It should be made clear to your establishment that this course alone cannot solve the admissions tutors' problems of recruitment to science and technology based courses. Also this is not a panacea that will resolve the many problems caused by an inadequate mathematics education system.

References

Making Mathematics Popular, *Adults Learning*, 9(4), Paczuska, A. & Starkings, S., (1997).

Learning & Development Centre; <http://www.sbu.ac.uk/caxton/>; (13-09-02).

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