

AN INNOVATIVE TUTOR TRAINING MODULE

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Abstract

During the first three months of this year, a Numeracy/Mathematics Working Group in Birmingham has been looking into the needs of employers within the city and setting these needs against current provision and accreditation.

At the same time, but divorced from the working group, a new ten-hour numeracy training module for Basic Skills Tutors was designed and presented. The module contained aspects of teaching and learning not included in previous training.

The poster will show how the content of the tutor training module began to bridge some of the gaps identified by the working group. The poster will also contain the results of a questionnaire sent to all the tutors who participated in the training showing which activities had been used in groups, how they had been used and how successful they were felt to be.

Summary

The poster displayed showed the results of a Numeracy/Mathematics Research Group in Birmingham and linked these results with the content of a tutor training module which I devised and presented during the time that the research group was meeting.

The research group met between January and March 1997. Membership was drawn from the City Adult Education Service, The City Economic Development Department, Fircroft College and the City Basic Skills Service. The work was part of the city's Core Skills Development Project and was linked with Birmingham TEC.

The aims of the group were fourfold:- to identify the gaps between numeracy and mathematics in existing accreditation; to focus on the numerical/mathematical knowledge and skills needed by selected industries; to identify the maths curriculum that should be offered to adults to enable them to access progression routes and increase their employability; to recommend further learning, teaching and curriculum developments.

The research group found that current teaching was still built almost entirely around numerical and mathematical "skills" with resources almost wholly paper-based. Accreditation schemes tended to assess "skills" only, e.g. number sense, statistics, geometry etc. as opposed to "intellectual development", e.g. problem-solving, cooperative learning, flexibility of application etc. Although industries needed a base level of numerical knowledge they were increasingly looking for the above "intellectual" skills. Tutor training was focused down on the teaching of number skills and lacked the vision of wider issues.

The research group concluded that the curriculum must:- be relevant, both to the adult learner and to the employer; offer appropriate accreditation; provide a variety of teaching methods; offer a structure of progression from basic numeracy through to the equivalent of GCSE and beyond; provide the skills and knowledge for practical application in everyday life; increase the adult learner's self-confidence in analytical and numerical thinking and in problem solving; provide hands-on practical activities; address the curriculum needs above.

The research group recommended that closer links should be developed between Adult Education provision and key sector employer organisations. Research projects should be initiated aiming to implement strategies which meet the needs of employers. Resources should be upgraded to provide a central resource bank for training purposes and a minimum level of diverse materials (paper-based, games, hands-on etc.) at each main teaching site in the city. Tutor links also need to be developed through self-help groups. The provision of resource workshops around the city was recommended which would enable tutors to view a wide range of materials and to experience directly multi-method and multi-resource teaching. Finally the research group recommended that ways to accredit areas such as problem solving, working cooperatively, describing and analysing personal learning experiences, social mathematics, flexible application of skills etc. should be investigated.

The tutor training module, which I designed and presented, was developed, by coincidence, at the same time as the research group was meeting. I had been teaching numeracy through an "intellectual" approach, as described above, for many years and felt that this was the best and, most meaningful way to present numerical and mathematical ideas to adults, with emphasis placed on understanding, contextual learning, problem solving and peer-group activities. The module aimed to present this approach to tutors, who, in the main, worked in isolation and in traditional modes. My inspiration came in part from ideas presented at ALM 3 which included the US model of "intellectual" standards as quoted by FitzSimons (1996:186) and from activities described in ARIS publications (Marr and Helme: 1991). The recent poor statistics in numeracy surveys (1997), both national and international, provided the stimulus necessary for development.

The module aimed to take tutors beyond the content of the City and Guilds Initial Certificate (9283) and provide evidence towards the City and Guilds Certificate in Teaching Basic Communication Skills (9285). The aims of the module were:- to cover problem areas specified by numeracy tutors and experienced in my own teaching practice; to promote peer group teaching and learning and group investigation techniques; to promote activities which developed logical thinking and problem solving techniques; to provide ideas that could be adapted for a variety of levels; to make the learning of numeracy skills and mathematical ideas fun for adults.

The module was delivered in two five-hour sessions, with time allowed between the sessions for the participants to develop and use a learning aid of their own. The approach was in the form of a workshop, practically based with hands-on materials and activities for tutors to experience for themselves. An active approach was used which encouraged peer discussion and discovery of extension ideas to the activities undertaken.

The first session began with awareness raising activities on overcoming maths anxiety and on the recent numeracy surveys. Practical activities included using games (card games, number games, dominoes etc.), modelling place value, using everyday items to investigate numerical content and the use of calculators. Problem solving skills were explored through puzzles (the Tower of Hanoi, Frogs and the Painted Cube). Cooperative learning activities included logic puzzles from "Breaking the Maths Barrier" (Marr and Helme: 1991) and a tangram building exercise which promoted the learning of geometric terms.

Feedback from the participants showed that practical activities and hands-on materials were of primary importance for immediate use in classes. Tutors obviously felt isolated and starved of ideas. The philosophy underpinning the module and awareness of wider issues were very much of secondary importance and there was obviously a long way to go in the promotion and acceptance of the unfamiliar activities. A follow-up of participants a few weeks later showed that the practical sessions, games, use of supermarket items and metric activities were the ones most often used and were successful.

In conclusion, although it was entirely accidental that these two activities happened simultaneously, it nevertheless meant that some of the recommendations of the research group were being met immediately. As the title states, the tutor training module is only a first step but, together, these two activities have raised awareness of the issues in the city and further initiatives are planned. Numeracy may, at last, be promoted as a vital element of basic skills, one which can no longer be ignored.

Bibliography

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