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PEER TUTORING PROJECTS:
SOCIAL EDUCATION IMPROVES ACHIEVEMENT

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A remarkable study, recently published by Stanford University in California would be dynamite if policy-makers believed that educational research could be a guide to practice. The question investigated was "If you have money to spend to improve achievement in primary schools, what could you spend it on to produce the largest gain in achievement per $100 spent?" From a large number of studies the effects of four ways of spending money were estimated. Three of these ways were obvious strategies which have been frequently tried and even more frequently advocated: reducing class size, increasing the amount of time given to instruction in Mathematics and Reading, and giving drill using computers (CAI, Computer Assisted Instruction). The fourth was Peer Tutoring, a technique which many people have never heard of. It was this fourth method which won hands down. In the context of the large body of findings available on all four methods, Peer Tutoring was about twice as cost-effective as CAI. The other two interventions produced weak results and were very costly. Peer Tutoring was not only the most COST-effective, it also produced the greatest increases in achievement. That is, it was the most EFFECTIVE, regardless of cost.

The interesting point for people concerned with initiatives in social education is that Peer Tutoring meets many of the objectives of social education, and is often implemented with those social objectives in mind, rather than purely to improve achievement. The pupils acting as tutors are given real responsibilities, they have a genuine chance to help others, and they are invited to talk rather than told to be quiet. Cast in this new role they almost always respond with a dedication and maturity which surprises people.

It is important to stress here that Peer Tutoring is NOT the old pupil-teacher system nor the monitorial system. In those systems ABLE pupils were selected to teach GROUPS of younger pupils. In Peer Tutoring ALL pupils, not just the most able, are trained to TUTOR on a ONE-TO-ONE basis. Indeed Peer Tutoring has frequently been implemented by asking low achieving and/or disruptive pupils to serve as tutors to younger pupils (e.g. Bond, 1982).

Why does tutoring improve achievement?
It seems likely that the older pupils learn the work better than usual both because they have to teach, and therefore have a reason for learning and because the very process of teaching causes learning. For example the tutor has to find words to explain, has to emphasize and explain again, and has to mark the younger pupil's work. These activities all fix the work in the tutor's mind and produced better learning than normal. We all know best the subjects that we have taught. For the younger pupils there is the benefit of personalized instruction ….. and the feeling, expressed by many of them, that they can ask questions about the work more easily of a pupil-tutor than of a teacher.

An important distinction
An important distinction is between "Tutorial Service Projects" and "Learning By Tutoring" projects. In a Tutorial Service Project the main aim is to provide a service – one-to-one instruction *for tutees* Thus sixth formers m ight help with remedial reading as in a project run by Crone and Geddes in County Antrim (1978). While this kind of project can be very valuable and effective, it does raise questions about the use of the older pupil's time and the extent to which untrained persons are making up for a shortage of teachers. If, as in the Crone and Geddes project, the older pupils are volunteers and they are well trained and supervised neither of these objections should arise.

However, it is in Learning By Tutoring projects that maximum benefits can be derived because the emphasis is on the benefits to *the tutors* as much as, if not even more than, the tutees. Sometimes the tutors are teaching work which they need to practise in order to enhance their understanding and retention of this work. Thus tutors are not being "used". The study mentioned at the beginning (Levin, Glass and Meister, 1984) is just the latest in a series of research studies showing how effective Peer Tutoring can be in improving the learning of *both* tutors and tutees. For example Hartley (1977), examined 153 studies in the teaching of Mathematics; Cohen, Kulik and Kulik (1982), examined 65 studies in reading or mathematics. These were studies from the US but similar results are being obtained in the UK (Fitz-Gibbon, 1981). This research evidence is certainly strong enough to reassure anyone who is worried that tutors might be wasting their time.

Sometimes the aims of the project, while focussed on the tutors, may not be cognitive. When pupils are difficult or disruptive or truanting, or even just withdrawn and overly shy, it may be more important to change their behaviour and attitudes than to worry immediately about their learning. Lynfa Buxton, at Walbottle High School, near Newcastle University, bussed difficult, remedial, Easter-leavers to a nearby ESN-M school where they were welcomed as helpers with the mentally-handicapped pupils. They played games with each tutee, to help the child's reading skills. Though many of the tutors had been disruptive at the High School they all behaved exceptionally well in the ESN-M school and worked patiently with the pupils. Due to careful training and preparation on the part of the staff this programme has been deemed a success and is to continue next year.

At Warwick University, a project had truanting pupils act as tutors, emphasizing the effect of the tutoring role on the attendance, co-operation and motivation of the tutors (Bond, 1982). This work has been recently documented on a superbly effective videotape which was shown at the N.O.I.S.E. conference.

Whether the aims are cognitive or related to attitudes and behaviour, if the project is designed to benefit the tutors there is little danger of its being seen as a misuse of tutor's time. As for

the tutees, they are frequently involved only for 20 or 30 minutes a day and they can hardly fail to benefit from the individual attention, as indeed is found to be the case when measurements are made.

Practical advice
I find myself in some danger of over-selling Peer Tutoring because I have yet to see any other innovation which has such dramatically good effects, again and again, used in a variety of subjects by a variety of teachers with many different kinds of pupils. However, Peer Tutoring could be misused. I was told of a school in the US which bussed its pupils to a junior school and teachers simply left the pupils to "Tutor" the younger pupils, without any supervision and without there having been any preparation. Furthermore not all projects show significant gains in achievement and not all pupils respond as positively as the majority. How can failures be avoided and what advice can those who have run Peer Tutoring projects pass on to others? In the following list of the steps which you might take in setting up a Peer Tutoring project, the advice given arises from reflections on the literature and on the practical experience gained from about a dozen projects run in the north east over the last few years. (A list of the projects is available from the author.)

Suggested Steps in Setting up a Peer Tutoring Project
The suggestions may or may not apply to your own situation and are not, of course, hard and fast rules. Your own intuitions as a teacher will be your best guide and a small scale pilot study with a few pupils will be your best source of help if you can possibly arrange it before putting the entire school into a cross-age tutoring mode of operation.

1. *Identify tutors and the task they are to work on*. Having identified the tutors you will need to consider whether you wish to emphasise cognitive learning or attitudes and behaviour. If cognitive learning, select a topic which is
(a) one that they need to learn or practise
(b) well-defined and testable.
If your main concern relates to tutors' attitudes and behaviour you will still need to choose well-defined and manageable tasks for the tutors, tasks which will be clearly helpful for the tutees. Educational games are probably a good choice here. Even when the main emphasis is on academic learning it is good to include a game or two as well.
In the remaining steps, the advice relates mainly to tutoring projects which have academic, cognitive goals for the tutors and tutees.

2. *Seek out available and suitable tutees*. The tutees should generally be at least two years younger than the tutors. The most convenient arrangement for everyone is for you to use an entire class as tutees. Is there a suitable class which meets at the same time as the tutors' class? If the two classes, the tutors' and the tutee's meet five periods a week, three of these times could be for tutoring leaving two periods in which the tutors prepare materials and discuss teaching methods with you. If there are more tutees than tutors, some tutors can work with pairs of tutees rather than one-to-one. If there are more tutors than tutees, tutors can take it in turn to tutor and those not tutoring can prepare materials and plan new lessons, with your help or with the help of the teacher of the tutees.
If there is not an entire class of tutees available you will need to find a time when tutees can be pulled out from their other activities.

3. *Locate a venue.* The ideal venue for tutoring is a large room with booths around the walls (See Figure 1). Free-standing display boards make excellent partitions from which to create the booths.

Figure 1.   A room specially prepared for one-to-one tutoring
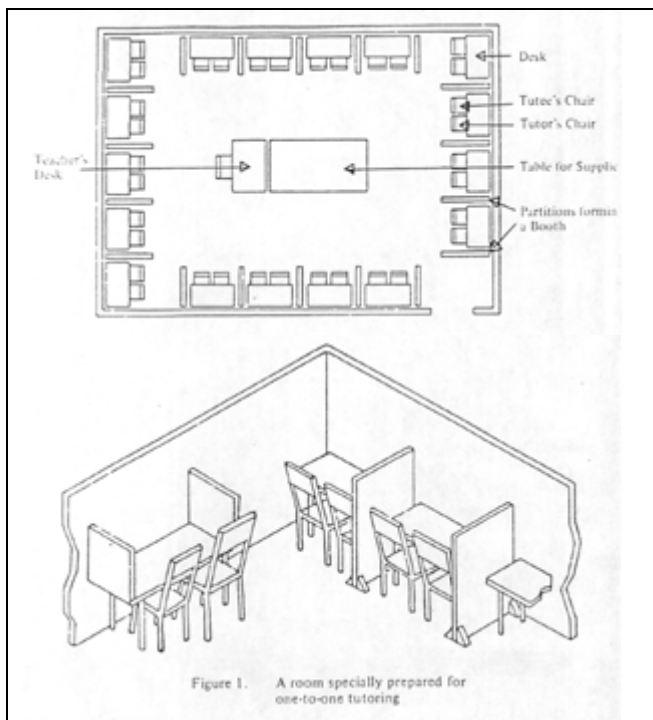
In the centre of the room is the teacher's desk and a table on which the materials and resources are kept.

If booths cannot be created, arrange the furniture so that tutors and tutees face outwards from the centre of the room and therefore disturb each other as little as possible. It is important that the tutor's attention is focussed on the tutee and he or she is not distracted by same-age friends. The arrangement of the room can be influential in achieving that situation.

NOTE: Feel triumphant if you are able to accomplish these first three steps. In a survey of over 90 tutoring projects (Fitz-Gibbon, 1977) scheduling was reported as *the* major problem. (The second major problem was "more demand for tutoring than we could accommodate ….. a rather positive problem.")

4. *Pre-test and pair up tutors and tutees.* It is important that the tutor knows more than the tutee. Some kind of assessment is therefore useful before tutors are assigned particular tutees. Teachers usually give a short pre-test, and pair the top tutor with the top tutee and so on down the list. It would be invidious to pay any attention to sex in these pairings but sometimes teachers feel they need to take personality into account. Discussion between the tutors' teacher and the teacher of the tutees may be helpful in arranging the pairs.

5. *Provide a small amount of pre-service training for the tutors.* It is essential that the tutors know exactly what they are going to do during the first few sessions, because they will be surprisingly nervous at the prospect ….. even the most brash among them. However, until they actually start tutoring the motivation level and attitudes will not usually change. It seems to be only after they have met the tutee that they develop the sense of commitment and responsibility which makes them work hard. Consequently, plan more for "in-service"

training than for pre-service training. The in-service training, consisting of planning future lessons, preparing materials and discussing teaching problems, can be undertaken in sessions between tutoring sessions, or immediately before or after each session. This raises the question as to how long the tutoring session should be. For straightforward academic work 20 minutes is sometimes long enough for the tutees to concentrate. If tutors have an hour available, the first 20 minutes might be taken up in briefing and preparation, the next 20 minutes spent on tutoring and then the last 20 minutes on discussing how the tutoring went that day and clearing up. However, if the tutoring itself is scheduled for an entire hour, tutors can undertake a variety of activities such as teaching *and* games. Your own judgement, based upon the tasks to be accomplished, your knowledge of the tutors and the tutees and the exigencies of the bell schedule, will be your guide.

6. *Prepare materials for the tutoring sessions*. Tutors may be able to help in this preparation, for example by making up flash cards, or by writing out cards with a maths problem on one side and the solution on the other.

7. *Run the tutoring sessions with a light touch but all antennae out*. The tutoring sessions must of course be supervised by a teacher. Tutors may need assistance but generally you will want to observe unobtrusively. If a tutor is teaching incorrectly it is probably better to wait till after the session to point this out.

8. *Test the tutees and share and discuss the results with the tutors*. This testing conveys to tutors the seriousness of the task they are undertaking and it allows you to check on the effectiveness of the tutoring and diagnose and prescribe activities for various tutees for the next few sessions. Tutors often evince more interest in their tutees' progress than they have been used to showing in their own.

9. *End the project and start planning the next one*. Some schools have used tutoring as a regular activity throughout the year but generally it is thought better to use it intermittently ….. say three weeks at a time to emphasise particularly important parts of the syllabus.

10. *Write a report* ….. and I would be most grateful if you could send me a copy. Furthermore, if you have data on tutoring you wish to have assistance in analysing, please phone me about this. I may be able to do it for you or suggest how you might do it.

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