

STANDARDISATION AND INDIVIDUALISATION IN ADULT NUMERACY

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In this paper we outline the policies that have created parallels between numeracy work in schools and with adults. A 'one size fits all' pedagogical and curriculum stance has led to an adult numeracy curriculum which is very largely based on the national numeracy strategy; we discuss potentially contradictory issues in the field of adult education.

THE ADULT NUMERACY POLICY CONTEXT IN ENGLAND

Adult numeracy courses in England are now organised through the *Skills for Life* framework. This includes standards from Entry Level 1 to Level 2 (QCA, March 2000) with associated curricular, examination, teacher qualification (to Level 4) and funding arrangements – and targets (<http://www.dfes.gov.uk/readwriteplus>). The *Skills for Life* survey suggests that 15 million adults (47%) in England have numeracy skills below the government's target level (DfES, 2003). However, it also found that adults' own assessment of their numeracy did not match the test results. 67% of those with Entry 1 or lower level numeracy (that is, assessed as weaker in numeracy than the students whose work is discussed here) felt that they were very or fairly good at number work. The survey writers propose that many people do not realise the negative effect this has on their lives; have found jobs that demand only the appropriate level of skills; or 'have developed coping strategies so their limitations are not exposed'. Those limitations are exposed through testing. As well as increasing provision and advertising provision (for example, through the 'gremlins' TV advertising), 'conditionality' policies have been introduced. Thus the government has trialled, for example, the use of benefit restrictions and probation conditions to support 'motivation'. The government measures achievement of its targets through national tests (<http://www.dfes.gov.uk/readwriteplus/learning>); funding is linked to students' achievement of targets set in their individual learning plans (ILPs), which may or may not include success in examinations. There have been hints however that the national tests too may be linked to funding, to encourage education and training providers to enter their students for them.

The adult numeracy core curriculum (ANCC) is a slimmed down version of the national numeracy strategy (DfES & Basic Skills Agency, 2001a), focusing on those skills deemed to be appropriate to adults. Thus although Level 2 is equivalent, in the terms of the national qualifications framework, to the top levels of GCSE, colleges suggest at least one and often two years' study for students to progress from L2 to GCSE.

¹ This paper also draws on work by teacher-researchers Elizabeth Baker, Mark Baxter, Debbie Holder, Eamonn Leddy, Barbara Newmarch, Liz Richards and Topo Wresniwiro.

The three day training programme to introduce the new policies to teachers strongly reflected the curriculum's roots in the national numeracy strategy, promoting lesson plans with mental and oral starters, whole class teaching and a plenary (DfES & Basic Skills Agency, 2001b). This is a new pedagogical culture for most adult numeracy teachers. Until around 1990 teachers had considerable freedom to set the curriculum (consulting students as they wished), and many courses (perhaps the majority) were organised as roll-on, roll-off, individualised programmes. From 1990 funding for the majority of provision was linked to achievement, but much teaching remained individualised.

Meanwhile there may be further changes in adult numeracy policy, with the Smith report arguing that progress in adult numeracy may be undermined by uncertainties about the teaching and assessment of mathematics in general, the limited pool of teachers and the lack of employer engagement (Smith, 2004).

One element of the sea change that has engulfed adult numeracy work is the government's establishment of the National Research and Development Centre for adult literacy and numeracy (<http://www.nrdc.org.uk>): there has been comparatively little research in adult numeracy but this is now shifting, with the NRDC prioritising numeracy within its programmes. The first numeracy project to be completed is a review of research (Coben & with contributions by Colwell, 2003), and the two teacher-research projects on which we draw in this paper are funded by the NRDC

We have said that the ANCC is based on the national numeracy strategy, but it is also to be geared to adults' contexts:

[The] adult numeracy core curriculum provides the skills framework, the learner provides the context, and the teacher needs to bring them together in a learning programme using relevant materials at the appropriate level, to support learners in achieving their goals. (DfES & Basic Skills Agency, 2001a)

In the rest of this paper we look at some of the contradictions and difficulties in this view of adult numeracy work. In the terms of the Inspectorate,

In too many colleges ... the initial assessment is not being used effectively to inform the individual learning plan, and the learning targets do not match closely enough the needs, interests and aspirations of individuals. (Adult Learning Inspectorate & Office for Standards in Education, 2003; Ofsted, September 2003)

STUDENTS' CONTEXTS AND MOTIVATIONS

Two adult numeracy teacher-research projects are based at King's College London: *Making numeracy teaching meaningful to adult learners and Teaching and learning common measures, especially at entry levels*. The first is concerned with learners' identities within and outside the classroom, the relationship between learners' numerate practices and their experience of numeracy education, and teachers' ways of relating their teaching to students' contexts. The second aims to investigate the effective learning of measures, identify and trial teaching strategies and produce

learning materials. Our data sources include participant observation, teacher reflection, individual and group interviews, critical comment by students on emerging data and materials (in the case of the *Measures* project), student numeracy diaries and photographs taken by students. Here we draw on interview data from both projects.

First, a snapshot of adult numeracy 'education' in a prison. Ade spoke to the researcher as he waited for others to arrive for an examination, his third in six weeks (Entry 1, Entry 2 and now Entry 3). They were getting harder and harder each week. He described the first examination as

really easy ... I haven't had a maths class, I just started straight on exams. I put in for IT and maths - maybe after you cope with the exams they'll put you into different groups.

An informal 'go-slow' by prison officers meant prisoners were often not escorted to classes. Ade went straight to accreditation and took tests every 2-3 weeks; his 'achievement' contributed to the prison education service's achievement of its targets, and he was paid to enter national tests (£3 for Entry levels or Level 1, £5 for L2). This prison was perhaps *buying* its own achievement - an extreme example of funding for achievement leading the 'education' process, rather than students' interests or engagement. We don't suggest this is typical, and we understand that the situation in that prison has since improved. But the funding regime has an impact on numeracy in quite different contexts, too: the staff of a London FE college were directed to make sure the ILP was written in such a way that assessment of students' work against 'their' targets was straightforward and achievement was guaranteed.

Next we turn to data from the *Common Measures* project. Geraldine, a former seamstress, values new learning in metric measurement as a way to save money and prevent shop-keepers cheating her:

When I went to buy material to do my work, the man behind the counter ... was using a yard stick on metre measurements. I said, 'What are you doing?' He said, 'I'm just using my finger to give you a little bit more'. And I said, 'You are supposed to use the right measurement ... You are cheating me.' And so I'm [in the classes] for them to teach me - if they don't, people easily can rob you. If I know, I can shout out and say, 'You are cheating the people in the shop' [In the supermarket] they just slap on a price on the lettuce and the cucumber and I'll stand there and weigh all of them and I take the biggest one, I get more for my money. I apply [what I learn in the class] when I go out, anytime.

Geraldine is the kind of student we believe the government has in mind. However, she is the only student we have interviewed who fits the government model. No-one has told us that measurement should be omitted from the curriculum, but their reasons for working on it are not that it is of direct practical benefit, but rather it is included in both their own examinations and their children's. Most students say they have all the measurement skills they need for everyday life outside the classroom. In some cases that's because they do little formal measurement; in others, it's because they are already highly skilled (beyond 'their level' of the curriculum). Elizabeth is in the first of those groups:

We went over painting a room, the area of a wall and then working out how many pots of paint you'd need, but in reality you just get some paint and if it runs out you go to Homebase and get some more. So although the lessons are valuable I don't think I'd ever use it in my life. But I can see how a painter and decorator would, to cut down his costs, because he'd have less wastage.

Simon is a carpet layer, and has some numeracy skills well beyond his supposed level (Entry 3). He told the interviewer how to find the area of a circle:

You square it off from the widest point. It's about seven eighths of the total area. No, four fifths, round about 80%.

He said a carpet layer needs to know 'how to charge up the biggest area you can'. The ANCC does not include work on area at Simon's level (or indeed fractions and percentages at this level); and it assumes throughout that students are buyers rather than sellers. Simon has developed the skills he needs without (until prison) going to adult numeracy courses. He has a 'spiky profile' (DfES & Basic Skills Agency, 2001b) – but we haven't met anyone with a 'flat' profile.

We turn now to the *Making Numeracy Teaching Meaningful* project. Students' motivations may be more subtle and complex than is envisaged in government discourses. They want to prove to themselves that they have the intellectual capacity; almost without exception, they want to understand the mathematical system, its principles and underlying relationships. They also want to show that they have the durability to succeed:

I'm not really sure that I can use maths but I just want to learn it for me, it's just something that I want to achieve for myself, that I can do things. ... I want to be able to have some sort of qualification that shows me that I've done that because in my life I don't think that I've done anything, apart from growing up and having two babies.
(Selena)

A few students say that the mathematics they have learnt in their numeracy classes has really helped them in their lives outside the classroom. Some used to be embarrassed at their lack of mathematical knowledge and skills:

Beryl: I tell you the most embarrassing thing is when I had to send my children to the shop, or they came with me, and I used to say to them (whispering)... Yeah, how much have I got to give them? I had to ask them and that's embarrassing for a mother, let alone an adult, asking a 7 to 8 year old how much money do I give them, how much change do I get back? I'm not so bad now, I can near enough do it but it was very embarrassing

But improving numeracy does not only have 'practical' outcomes:

Nisha: Because maths has had the label of being hard and complicated, if a person feels like - oh I'm stupid - or anything like that, and you sit them down and get them to do an algebra problem and they realise - 'Oh wow, I can do it'. It will make a person feel really good about themselves.

Nisha shares with other students, in both projects, an interest in exploring mathematics beyond the limitations of the curriculum. Manman argues for algebra from a different perspective:

They should teach us what we need to survive on a day to day basis. Algebra, decimals, fractions – if you leave here [prison] and you want business or you have an interview, they give you a maths test.

But ... the focus of the ANCC on what are declared to be ‘practical’ and ‘everyday’ skills means it doesn’t include algebra.

CONCLUSION

The ‘one size fits all’ curriculum fits few of the students whom we have interviewed. The notion of a ‘spiky profile’ suggests that somewhere there is a flat-profiled ‘normal’ student, but we haven’t met her. The ANCC shapes accreditation, teacher training and records of work, both in the classroom and in terms of meeting government targets, and there is little doubt that the teachers and students whose work is reflected here will contribute to the success of the *Skills for Life* strategy. But students’ ambitions, both for success in mathematics itself and for other goals to which numeracy is subsidiary, reach far beyond those ILPs on which their programmes of work are based, and the development of adults’ numeracy skills is not easily categorised and measured in the terms adopted in government policy. We return, then, to the *Skills for Life* survey, based on the ANCC standards, and the gap between the survey’s findings and self assessment. It seems that students may have both skills and aspirations which are different from those expected in the survey, the national tests or the curriculum. We noted above the Inspectorate view that too often students’ aspirations are ignored. Bringing together students’ aspirations and the ANCC in a learning programme is indeed a difficult task.

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