

The Cultural Historical Mediation of a Professional Identity

Abstract: This paper will trace the cultural historical mediation of professional identities of mathematics teachers and relations to their distinct professional and pedagogical practices. The cultural-historical data is drawn from narrative accounts of (sometimes co-constructed dialogically from interviews with) teachers, whereas the 'consequences' for pedagogical practice are drawn from observational and case study work in their classrooms. While it is known that pedagogical practice is mediated by many 'systemic' factors, there nevertheless remains grounds for believing that the personal history of the individual teacher's 'professional identity' is a significant 'instrument' that the teacher can draw on in their practice. In this sense we argue that even in strictly controlled teaching-learning systems, pedagogical practice can allow agency and provide some space for professional self-authoring.

Introduction

In this paper I will outline two teachers' pedagogies and note how these are mediated by the institutional and subject cultures, *inter alia* (for more on this see Williams et al., ISCAR 2008 symposium on pedagogy). However, it will become clear that there are many individual differences between the two teachers that are not easily ascribed to the mediating systemic conditions in which they are working. In order to understand these personal differences, one can construct notions of different professional 'beliefs' or 'dispositions'. The notion of habitus is relevant, but here we are interested in particular in the 'teacherly' habitus – field relationship, and its history, that we might call a 'professional identity'.

What is professional identity and how is it constructed?

We assume that professional identity is an 'object' has been constructed through activity of at least two kinds: first it draws on a personal history of discourses about the profession of teaching, cultural models, or social representations that have been made available to the teachers over the years in their discourses about teaching with others (family, friends, schooling/learning, training, and in service teaching experiences). This talk about teaching involves narratives about teaching and different kinds of teachers. The personal reflexive stories that individual teachers come to tell of themselves may position them, i.e. their identities, in relation to this landscape of cultural models (what Holland et al, 1998, call a figured world).

Second it draws on their practical life experiences of engagement with teaching – and – learning in its many diverse forms. These are not just reducible to narrative and discourse, but these experiences offer resources / opportunities for reflective work. In general we can say that these experience 'position' the person in ways that they may then internalise in some way via reflection. Thus the institutional, the subject and the community cultures that they work in find their way into the professional identity of the teacher; but though these may be important they are not determining. There is further space for self-authoring. It is this space that this paper seeks to explore.

Experiences of teacher-educators lead some to believe that the novice teacher-in-training may attach themselves to a school mentor and more or less mimic their teaching style. But also, it has often been suggested for instance that the teachers' own

experiences of teaching, by their own teachers, may be important in providing models of ‘good’ (or ‘bad’) teaching that they may use to position themselves. In principle it seems that the whole of a person’s life history might be relevant to the professional identity they come to construct.

Therefore in this study we have added ‘life history’ to our usual analysis (drawing on observations of teachers and their accounts of their practice, and those of their students and managers). This life history consists of the teachers’ narrative of their life story as they see fit, i.t. as they see relevant to the answer to the question « how did you come to be the type of teacher that you think you are? »

Theoretical and methodological framing

We follow the CHAT perspective on activity in the manner of Engestrom, Cole, etc after Leont’ev, Vygotsky, but also Bakhtin. The main integrations of these traditions are Holland et al. (1998 : this integrates Vygotsky, Bakhtin, and Bourdieu) Wells (1999 : Bakhtin, Halliday, Vygotsky) and Engestrom R. et al. (1997 : integrates Engestrom Y., and Bakhtin). Our own view on ‘identity’ from a CHAT perspective is summarised in Williams et al. (Eds.) (2007).

The two types of activity implicit in the above account position ‘identity’ in distinct places. First, the activity of reflecting on or reflexively narrating one’s identity places the professional identity in question as the ‘object’ of activity. One has to be careful here about the social context of this narration : the interviewee may be being held to account in some way by the interviewer (Roth et al., also the corpus of work on DA/CDA, Potter, Weatherall etc.) As Churchill noted : he was confident of his place in history because he intended to write it – and in one of our cases we did manage to persuade the subject to write their own biographical account ! Still, the context of our study defines us as the addressees and must be relevant to the narrative construction we obtained (Williams, Corbin, & McNamara, 2007).

Second, what is the function of the teachers ‘identity’ in the activity of teaching itself? We argue that it is best thought of in the role of ‘instrument’ of activity (after Marx who had ‘the body’ as the first instrument of labour, e.g. in picking fruit, etc). This encompasses Bourdieu’s notion of habitus, that is mostly to be understood as operating below the conscious level. But it may also become at moments part of the consciously used apparatus of pedagogy, used in the ‘flow’ of decision-making (I’d like to correct this but I need to be ‘democratic’) as well as in reflection (e.g. ‘what went wrong there?’) and in planning (e.g. knowing your own ‘strengths and weaknesses’ etc).

Leont’ev’s account of how work at the operational level becomes the object of reflection at breakdown moments is relevant here (Leont’ev 1978 ; see also Williams et al., 2007). We might expect ‘events’ from the classroom (and elsewhere) to provide fuel for the narrative construction of identity in just this way, e.g. when the type of teacher one thought one was/would be is challenged by practical events (e.g. I thought I was a democratic teacher but then I lost my temper and ...).

Thus the cultural-historical formation of identity implies a CHAT perspective on identity as the instrument and object of joint activity. However, it also implies the social formation of models of what it means to be a professional teacher, and that this social

formation needs to be thought of as a cultural-historical construct. Thus this paper plays its small part in revealing the process of narrating (perhaps becoming) a professional, jointly constructed with two particular professionals. We therefore address the questions, what do they have in common, and what tells them apart?

Professional Identities observed in practice and accounted for in interview

Here I summarise from data told explicitly in another paper (see Williams et al., in press with Sense books, and Williams et al., ISCAR symposium organized by Williams).

Both Sally and John are effective teachers: they have high reputations in their Colleges for getting good results. It is over simplistic but not unfair to describe them as 'traditional' and 'connectionist' respectively (as they ascribe themselves to these description).

In John's case, 'traditional' implies a leading presentation of new material, techniques and so on 'from the front' (this may involve them in using their 'whiteboards' to show what they know at key moments - he finds that very useful) followed by getting students active as soon as possible, during which time he will oversee what they are doing and help them out, giving them quick feedback, setting lots of examples and practice for homework. He refers frequently to the problem of time – « time is the enemy » - « I'd like to prove this to you, but we haven't time – so believe me, its true» and he bemoans the fact that he doesn't have time to teach 'what you would call properly'.

This moment by moment description of traditional teaching is very much related to the need as he sees it to finish the syllabus in good time, so that there is room for a mock test paper and hopefully some revision before the exam. This involves continual rush, as he has so much material to get through. The problem of not having time to generate understanding of the concepts is a real worry – he tends to teach them 'tricks' instead – e.g. learn the formula or rule rather than the understanding of what lies behind the rules. He realises that this can be a problem when they get to harder work where they may be presented with problems that can't just be solved without some understanding, but his priority is to get them ready for the next module test – there are many of these arriving fast and furiously throughout the course.

If students start to get a bit behind, then he recommends them to do extra work, and puts on plenty of extra classes at lunch times etc to help those willing to work. « Extra hours » are recommended to those on the edge. It is crucial also however, for those in danger of failing that they be advised early enough to drop maths and do another easier course before it is too late. This is in the interests of the student (to optimise their university entrance points) and the College (for their reputation and even funding depend on a clean record with high pass rates).

Sally rather emphasises that students need to understand the key concepts, and makes sure there is plenty of time for conceptual development. The techniques and practice come later. She argues that her students need to start to think like mathematicians, and makes this explicit in the classroom: she will be more likely to set a harder task to begin with before slipping back to an easier one later, for instance. A

significant part of this effort involves having fun - she has lots of techniques of her own to help the learners enjoy mathematics – games, discussions, posters etc. We saw learners responding to this, but at the same time we also saw the ‘deeper’ story of the guided construction of new concepts through problem-solving in her classes. (See e.g. Wake et al., in Williams’ ISCAR 2008 symposium.)

Sally recognises that exams and grades are important of course, because after all that’s what the students are working towards. But she believes particularly for the kind of student community the College serves - which is very ‘isolated and working class’ - it is important to build confidence and if the whole syllabus is not ‘covered’ she is not too concerned as long as the students understand what has been. The success of some students, even if they have failed and repeated years or modules en route, seems of more importance.

Both teachers seem very much in control of the classroom activity, and both encourage the learners to be active in doing mathematics. Sally emphasises understanding, discussion, making connections, and explaining (e.g. on posters). John emphasises short-cuts, practice, and fluency. John never has enough time for investigations and problem solving, while Sally always has time for this but may run out of time to finish the syllabus.

The Colleges are situated in similarly poor communities, both perceive weaknesses in their students’ previous experience of teaching, and both operate some kind of ‘open access’ policy of recruitment of students to study even if they have poor previous grades. Sally’s College is situated socially and geographically such that they do not feel much pressure from competition, drawing on a stable white working class community that move through the educational system with few choices. John’s College is highly competitive and faces competitor institutions locally that would challenge them if their results were not so extremely successful, it is situated in a multi-ethnic inner city community and aspires to the highest academic status.

To a degree, John ascribes the relentless pressure of exams and grades to the institution and his role as head of department in this context, and to a degree it is due to the students themselves: if he doesn’t cover the syllabus he expects to be sued by the students or parents, but if they don’t get the grades in September ‘my head’s on the block.’ He is between a rock and a hard place. On the other hand Sally appears to have more ‘space’, having rewritten the rules for her department so that they have the time she feels is necessary, having developed her own practice as she wished in her own way while proving successful by the standard criteria, and having persuaded the principal that she knows what she is doing.

Now let’s look at the two biographies. In the first I have synthesised a biographical interview (see appendix) into a narrative, in the second the narrative is autobiographical.

John’s story

John’s first memory of his relationship with maths was about age 12 when his parents were going through a difficult time and he started acting up at school, having

problems with fractions and truanting from maths class, for instance. His parents got him a tutor and he says he 'couldn't hide':

He'd say I'm not going to tell you what to do, because he'd sit there with a cup of tea and a biscuit, and he'd say I'm going to eat my biscuit and you're going to do that. And he'd make me do it. And there was nowhere to hide, and I couldn't sort of say oh, I don't know what I'm doing. I tried it on a couple of times, because I used to be able to do that with my parents, just say, oh I can't do this, you know. And because they were my parents, I knew how to twist them round my little finger, but because he was somebody I didn't know, I couldn't do that.

That tutor rescued him - saved his life, because otherwise he wouldn't have done what he did. Suddenly he was doing pages and pages of fraction sums in his school and loving it - you wouldn't get the kids doing that today. John believes fractions are important to maths, to this day, ..this tutor helped him throughout school and when he trained to become a teacher he spent some time in this tutor's Primary school (where Mr R. had become a head teacher by then).

But I always fondly remember him and I think he's the, although my parents paid for him to come in and do it, you know, he was a person that I could look up to, you know, and he gave me confidence that I could do algebra. He got me doing fractions, because I was useless at fractions and things like that. And a lot of people say, well you don't really need it.

As he progressed through High School he found himself attracted by maths and physics, because he 'could do it' - he just 'loved it .. when he could do it'. He would pester teachers for help, get books out of the library as well as try to get help from his tutor (who claimed increasingly not to be able to help).

After he took his O-levels (exams at age 16) then he had M*** (a maths teacher) for 3 weeks and discovered mechanics: he found this mind blowing, that you could calculate the time of flight etc.

"I could lock myself in the room for the night, and I'd have a Physics book or a Maths book. And I used to love doing mechanics problems"

Also, he was struck by M***'s personality 'a real hard case, you had to be', but also quite a character and a role model of a quite traditional teacher. John found himself to be unusual, because he could do the mechanics even the further maths students couldn't do as easily as he could, but wasn't so good comparatively at pure maths (this refers to university).

I felt very confident about doing it. You know, nothing fazed me with the old mechanics problems. I felt I could really do them. And I used to be quite proud of the fact that I could, I used to impress the further mathematicians that I could do the mechanics problems better than them. I could do them faster and I could do them better than they could. And it was almost like a game, in a way. It was very competitive.

I wouldn't call myself a natural mathematician. I'm somebody who has to work at things. But I'm just happy that I can do the problems.

He did well in Maths (A) and Physics (B) (failed geography - as he hated it) and got onto a top university to do maths.

And I'm eternally grateful in a way, but I do worry now, you know, that it was a sign that I couldn't cope with so much work. And particularly because I was behind, I'd not done the Further Maths. And that summer I tried to do as much of the Further Maths that I'd not done, as possible, particularly mechanics, you know, vectors.

This unusual feature carried through into university: the fact that he hadn't got Further Maths meant he was a bit behind some of the others, but he got the books out and studied over the summer before the course started. He managed quite well over the first year at uni but then went off the rails a bit in second year, and was in danger of failing. By choosing easier options based on numerical methods he was able to get back on track and finish with a good enough degree.

So I did mainly lower tier courses and I tried to pick the numerical ones, ones that I knew that I could learn the technique and I could pass the exam at the end of it. And I thought well I've reached the end of my, I'm not going to go in it. I'm not good enough. I knew I'd reached my limits in a way. Maybe if I'd done more mechanics I would have been better, and more numerical stuff.

However, he feels he learnt by tricks and never really understood a lot of the work until later. He does not regard himself as a top 'mathematician' but a slightly unlikely survivor of the maths education system.

He then drifted into teaching because he lacked an alternative pull, but also because he felt he could be a good A level teacher, and recalled his A level maths with affection, especially under M**** and his physics teacher.

when I came to .. the PGCE, I felt like I was, I didn't really know what I wanted to do. In a way I was putting off the inevitable of having to get a job when I came on .. PGCE course, but I really wanted to teach A level, because that's what had inspired me.

His experience as a student he recalls being chaotic and unsupportive, but one mentor – a very traditional 'kill em with worksheets' teacher – got him organised and that's how he survived his first post in a High school:

although you might call him a very traditional teacher, with a kind of clientele he had down there, at least he gave me a structure. He used to, it was death by worksheet down there, but it did work, you know, he kept their heads down, because you had to do with some of those kids down there. I mean, you might see, you know, if you had a more investigational approach, but equally, there were some tough kids down at that school

He went from there to a school where he could teach some A-level and tried to be experimental in his teaching, drawing on ideas that were foreign to the School that he had met in training:

And I tried to use some (investigations), like, you know, the thing with the broom handle and the weight, the scales, to get them to draw force diagrams. And I never felt as though I'd got, the head of maths was like, oh what's all this new fangled stuff, you know, what's he doing, what's the point of all this. And I more or less gave up in the end, because I thought nobody's really bothered. [...] And I tried to do that, but I sort of

felt as though I wasn't getting anywhere and it was just a waste of time. So I ended up just falling in line with the traditional exam factory type thing.

He got no encouragement from the staff at that school, but then went to a 6th form College where they were looking for a teacher willing to innovate. He had happy years teaching using investigations and course work etc and really believed it helped learners. (He is fully aware that I, his interviewer and addressee, was heavily involved in this progressive curriculum, particularly regarding his love - mechanics.) .

It used to be called the Mickey Mouse course. You know, and we had to defend it, and obviously the kids got a lot of stick for it as well. Why are you doing that Mickey Mouse course? What's happened to proper maths – where's that gone? And we used to have big fights with the physics department and say, look, the kids actually understand this better at the end of it. They've got a better understanding, and they can stand on their own two feet. It's not just us spoon feeding them a load of tricks. You know, these people can actually do some decent problem solving at the end. They've got a way into this.

Coming to his present College, however, that curriculum was clearly on its way out, though he did opt for a syllabus that allowed coursework to begin with. He has over the years here now got rid of coursework (they found some students just would not 'play the game') and, though he does try to do some problem solving and investigation, it has lower priority these days.

He relished the role of Head of department as a challenge and threw himself into this, reorganising the syllabus etc to try to get the best results. His style of teaching is not that of all the teachers in his department and he is happy that each does their own thing, as long as they get the results. Regarding problem solving and so on, he feels ground down over the years and says he feels he has reverted to traditional styles that were successful for him when he was a student and that his teachers and mentors M*** and B*** had success with; thus he has in part become the 'character' and adopted the style of his two models, his A\ level teacher and his school mentor in training all those years ago.

I feel like Alex Ferguson really. I'm just here to produce results, by whatever means, you know, I'll face disciplinaries or whatever, but we'll get results at the end of the day. You know, whatever it takes to get results. And in some ways I have sort of become a, you know, a servant to that, and when I go in and teach now it like, you don't need to know why this happens, but at the end of the day you're going to lose ten marks if you don't do it, so for goodness sake let's learn how to use it to [to answer] this question.

He himself got good results at A-level without feeling he understood the concepts, and survived with tricks, he says. But still, he worries continually about whether the students can continue to get the required grades, and wonders about moving to find a new challenge, before he goes insane (this said with a grin).

Sally's story

The following is Sally's own account: after quite a few interviews I persuaded her to write her own account of 'how I became the teacher I think I am now ». This was an interesting development because when we first made contact Sally said she was prepared to be involved in the research as long as she wasn't asked to write anything. However, she came to the point in our discussions where she appeared to feel the need to reflect a bit on her professional career. She had told us that she had once thought that 'everyone taught like me', and it is likely that being repeatedly confronted with the fact that connectionist teaching (which is what we came to agree to call her approach) was in fact quite rare helped lead her to this reflection. She here accounts herself directly for her 'philosophy' of teaching by elements of her history, key events and experiences that tell of her as an unusual learner of mathematics, with a deep commitment to her students and their local community.

At School

The only part of school that I enjoyed was the extra-curricular activities – particularly sport – I just did as much as I could of that and was captain of all the teams. I found all lessons boring or unintelligible including maths. However I loved solving mathematical problems. I used to go through the text book or sets of past paper questions trying to find interesting and challenging problems to solve – for fun. I tried to invent problems to solve but had no access to literature that would suggest problems, and investigations were unheard of. I can remember spending ages trying to find a way to trisect an angle after we had done angle bisection at school. . I can remember being taught differentiation from first principles by rote as part of O level and taking it home and working at it until I completely understood the concept. I found that fascinating because I realised that the idea could be applied to any graph even though we had only been shown it on 2 or 3 functions. It never occurred to me to discuss this with any of my teachers. They never knew about it. When I was applying to Cambridge there was one teacher who actually lent me 'Men of Mathematics' and 'Mathematicians Delight'.

I understood little that was said in A-level maths lessons – I just copied down the endless sets of notes, took them home and made sense of them myself. I used to 'discuss' them with myself – sort of carrying on a two way conversation with myself until they were 100% clear and I could solve the problems. I could never leave anything until I had completely understood it. We were not encouraged to discuss things together and it was just assumed that we understood everything that we copied down in notes. Looking back later in life I realised that I was doing with myself what I was trying to get my students to do with each other – make the connections, making sense of the maths, understanding the whole, asking questions such as "what if?"... You need to discuss maths with someone to make sense of it but that someone can be yourself!

I assumed that everyone did this and could not understand why my classmates could not answer the questions we were set – they all made so much sense to me once I had sorted out the theory. It was even more of a shock when I started teaching and I found that not all teachers had a grade A in A level maths and they did not always fully understand the connections

and reasons behind the concepts they were teaching. I had found my A level maths and further maths exams very easy and straightforward.

Home

My Mum and Dad were both primary teachers and neither had been to university – my Dad went to training college and my Mum was emergency trained after the war. They both enjoyed literature and language and music. Neither enjoyed or really understood maths. Although I had a very good relationship with them in general, they considered me weird for enjoying maths and they showed no interest in any of the maths that fascinated me. Being a girl I should have enjoyed languages etc! This was typified when one Christmas when I was about 14 or 15 I really wanted a Chemistry set. They bought one and gave it to my brother who did not even like Chemistry – they thought that they could not give one to the girl before they gave one to the boy. He never used it and in later life I never let Mum and Dad forget about it! A few years ago my Mum actually said to one of my sons ‘ I realise now that your Mum must have been very good at Maths t have got into Cambridge’

When the school suggested Cambridge they were a bit shocked but said I could apply. After I got a place, I could not wait to go. I counted the days. I wanted to escape - I was not sure what I was escaping from but my life had been very insular. Both Mum and Dad were from XXX. We had our holidays in (the locality) at the same farm every year. I had never been away on my own. Life was very predictable with the same patterns every day and every week.

University

Cambridge was an enormous influence on me. I felt like a duck out of water at first. Everyone seemed so posh, well spoken and articulate. But more importantly than that, their lifestyle was so different. They were worldly – they had travelled. They had far more clothes and money than I had. Their schools were so different – even those that came from a grammar school like me seemed to come from a grammar school with more tradition etc. They had a university tradition in their family – they knew other people at Cambridge e.g. lots of others from their school. Their parents brought them in cars – I came on the train with my hockey stick tied onto my suitcase. They read the Times - I had never opened that in my life. Some (probably many) came from families who voted Conservative - I had hardly ever met anyone who did that. Everyone was socialist at home. Eating food was different as well. Not only did they eat a wider variety of food but we always a cooked dinner at dinnertime (midday) at home and had tea at around 5 o'clock. We never had a cooked meal in the evening. Here we had a cooked meal every night and not until 6.30pm. It was so alien to me that I found it difficult to cope. I had either to change and be like one of them or enjoy being different. There was one other student from my school at Cambridge with me. He was 2 years above me. He changed. I had known him since I was little – he lived near us – but at Cambridge his accent changed and he did not seem to want to acknowledge his roots. He never came back to XXXX after university. My Mum admitted years later that she and Dad had been worried that I would change and would become too posh for my background and they would lose me. I went the opposite way and decided to be myself and enjoy being different. E.g. I ate what I liked when I liked. My XXXX accent became more pronounced and I became very proud of my background – I must have driven some of friends mad with my

constant praise of the city and its people! But it really did draw my attention to social differences- differences that I had never experienced. I had taken people in XXXX and North XXXX in particular as 'normal'. I realised there were a few rich people around but I had not realised what a big influence and how wide spread the 'middle class' were. I just felt, probably unjustly, that most of the students at Cambridge had no idea what the real world was like. This made me want to help people back home. I wanted to give them the chance to experience a wider world. I wanted them to have a chance in life. I was very ideological at the time and had no idea how I was going to do it but the first step was to 'come back to the real world' and do my PGCE (initial training) at home in XXXX.

I loved the maths at Cambridge though again never understood a single word any of the lecturers said – they just went too fast for me to make sense of what they were saying. It did not suit my slowly thinking things out approach. This has always stayed with me and I have always hated time pressure activities – I have encouraged students to spend time thinking about and making sense of what they are doing rather than rushing through and seeing who can do the most. I spent hours sorting out the meaning of everything and was fascinated by what I learnt. We did discuss our maths a bit but it was more about sharing ideas for solving the problems that were set rather than discussing the lecture content.

I would not have missed that experience for the world even though it was painful at times at the beginning. I still have a dream of going back to some of the fascinating maths I learned and pursuing it further. I can still remember the thrill of realising that zero spin was different from no spin in Quantum mechanics and how as a result, everything fitted into place. I can remember the satisfaction of suddenly understanding representation theory – again like a jigsaw – it fitted in place and made sense. I had been thinking about it for ages – talking to myself as usual and then suddenly the light dawned. I wanted others to experience that thrill. I even tried telling my Dad all about it and an elderly friend that I visited regularly!!!! I don't think they were convinced but I wanted to tell the world. It made me realise how important connections were and how you could not successfully understand without seeing the whole picture. If one bit was fuzzy then the whole could fall apart.

One other incident sticks in my mind. I had been set some problems on Number theory. There was a help sheet to go with the problems but I had not managed to get hold of one and there were no photocopiers in those days so thought I might as well manage without. There was one particularly tricky problem that took a long time to solve but I got there in the end and felt great about having solved it on my own. Even though my solution was rather long, I knew it worked. When I went to my supervision my supervisor told me that there was a much quicker way of solving it and I should have looked on the help sheet to get the hints that would have set me along the shorter track. She gave me no credit for having solved it all on my own without the help sheet and by my own method. I never forgot that and as a result, I always encouraged students to produce and value their own methods even if they were longer.

Incidentally the sport was good as well – I did lots of that but again it typified the differences that I talked about earlier. I went to the hockey trials with my old longheaded hockey stick that we had found in an old cupboard at school

and my canvass hockey boots that I had always worn at school. Everyone else had modern, short headed sticks – obviously expensive - and proper leather hockey boots. It was a shock. I did save up and eventually bought both!!

PGCE followed with teaching practice in yyyy and resulted in a job at zzzzz, a comprehensive in North XXXX.

Teaching

The probationary year passed with one observation by the deputy head (the head was frightened of maths and never came into a maths room!), no real support and no professional development. It was all about survival especially with the xxxx classes – no scheme of work, no materials, no ideas, just a ‘do whatever you like with them!’ But I was teaching and I got on well with most of the students in the end. After 3 years teaching I had got married to cccc who also taught there and left to have my first baby. Not much of great importance happened in those first 3 years – just a few ideas emerging. I started to dislike textbooks feeling they were inadequate and restrictive. I started to want to do ‘different’ things but did not have any ideas about what – no-one ever suggested anything like joining the Maths Teacher Association so I was isolated in a department that was very traditional, but then most were.

Before returning to permanent work about 12 years later, I did a lot of private tuition – not advertising but just responding to requests – there were as many requests as I could cope with which was rather worrying. This was quite illuminating. It made me very aware of what happens if a student gets behind or loses confidence and the difference it can make if they get their self confidence back. There were some remarkable successes simply as a result of getting the students to believe in themselves and as a result start thinking things out for themselves.

I had kept contact with [SchoolName] by doing some supply work from time to time, Cccc taught there for another 10 years and our eldest son had started as a student there. One day I got a phone call asking if I could help them out – a teacher had suddenly left in the middle of a term – could I help out on a job share for a few weeks. I agreed and stayed for 18 months! To start with that was a real challenge as the teacher had left because she could not control her classes so the classes were a bit out of control. Set 9 year 10 last lesson on a Thursday afternoon was not the highlight of my week!!!! I had to do something innovative. In the meantime Cockroft had happened – without me being aware of it at all. But as a result the school were ‘into’ investigations. They separated them out i.e. had one investigation lesson each week and two ‘normal’ lessons each week. Not ideal but at least they were doing something. I learnt about investigations and got hooked on the idea of something that was open ended and could be tackled in all sorts of ways. I started collecting ideas. I tried some structured versions on my set 9 year 10 – e.g. we investigated data based on sport which appealed to them (I was able to impress the lads with my sporting knowledge) – I found some big sheets of paper in a drawer and we made posters of our work and the girls decorated them with holly at Christmas and we put them on the wall! Looking back it was pretty simplistic but at the time it was different and effective in engaging reluctant learners (most of the time!) No-one else had student posters up on their classroom walls.

Z-College

After 18 months the job became fulltime and I left as I only wanted part-time as my youngest was still pre-school. A part-time temporary maternity cover was advertised at Z-College so I applied for that and got it. After 2 terms it also became full-time and permanent but his coincided with my son starting school. I got the job. One year later I became head of department. It took me a bit of time to come to terms with full-time work and head of department responsibilities. We were also in the process of changing to SMP 16 – 19 for the A level course so there was a lot of work involved in that. Once settled and sorted I turned to think about my teaching again. I had numeracy students and remember in zzzz, I introduced a more practical and investigative approach for them. But the big changes started in the A level. The textbooks stayed away more and more and gradually we had a more active approach to the learning.

During this time there were a range of influences. One obviously was my fascination and love of maths and all the things that had stuck with me from my student experiences and my early teaching. As head of department I could experiment. My faith is also very important to me. I worship at an evangelical church on the edge of a difficult estate in North XXXX. We do a lot of community work and try to reach out to those in need. I want to relate to the students and there has always been the desire to give them opportunities. Working in one institution for a long time means that you get to know the student, their families and their situations – although most only stayed for 2 years, contact was maintained through friends, brothers and sisters and the fact that I lived in the community. I frequently met students out of college – down the street, at the shops, in the park They lived near me – they valued the fact that I lived in the catchment area, that I went to one of the partner schools, that my children went to the same schools as them. I knew the street where they lived, I knew the places they hung out. I knew a lot of the Mums and Dads – either I went to school with them, taught them at zzzz, lived near them or was a parent with them at the school gate at primary school or they had their child baptised at my church. North XXXX is a very insular community.

I have come across many teachers at Z-College who would never dream of living in the catchment area and say so. One reason they give is that they would not send their children to the schools – yet the students at college have been to these schools. If they do not know North XXXX they do not know much about the background of our students. When I look at the home address of a student I can often understand why they have problems getting homework done.

I feel it is all about community. You don't have to belong to a community to relate to it but it does help. I feel part of the same community as my students. It makes me value them as individuals and want to work with them rather than just 'teaching' them. I think this has two implications. One is that they are worth spending time on – either in planning time or in support time. Secondly I can encourage them to do something with their lives, help them be aware of the choices that are available and encourage them to make the most of their opportunities. I did it so why can't they?

Analysis: the cultural resources for these narratives

We seek in these narrative accounts – while recognising their ‘occasioned’ and ‘addressive’ character – the cultural-historical roots of the ‘space’ of the teacher to construct their ‘pedagogy’.

In both cases their personal history of learning is important: they each drew heavily on this but in very distinct ways. John tells of his reliance on tricks, and how closely he developed by contact with some ‘model’ teachers and mentors; while Sally understood nothing from her traditional teachers and sought understanding from first principles.

John draws heavily on the need to ‘just do it’ and how good this can make you feel. This seems to justify a focus on good grades that the institution is happy to support, and that the discourse of the learners also supports. We have identified this as being an emphasis on the ‘exchange value’ of mathematics in our analyses (see Williams; Davis et al., working papers on-line at TLRP).

Sally (though she elsewhere tells of the importance of grades and exams) emphasises the intrinsic meaningfulness of mathematics, which we refer to as its use value.

Additionally, Sally’s story tells of a very particular and unusual commitment to the students and their community that goes beyond the grades. Though both John and Sally have ‘faith’ that relates to their vocation, Sally presents herself as being extraordinarily committed what she is told, and has come to believe is an unusual pedagogy that is very demanding but rewarding for ‘these’ learners (i.e. largely from isolated North XXXX).

Thus, we see an alignment of her unusual habitus as a mathematician with her view of her class, and her relationship with ‘her’ class. Here ‘class’ is not constructed by her as just ‘working class’ and socialist, it is this particular working class community, where she grew up, where she continues to live, where her church is, that deserves her special attention.

If it appears then that Sally has somehow appropriated a substantial space for self-authoring an unusual professional identity, we conclude that her personal history provides at least some of the resources that have helped her bring this about.

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