THE TRUTH OF INITIAL TRAINING EXPERIENCE IN MATHEMATICS FOR PRIMARY TEACHERS

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Mathematics was a subject that filled many trainee teachers with horror in their own schooling. Yet for trainees in this study university training experience soon persuaded them that "maths isn't just scary numbers" and as their course progressed such anxieties seemed less pervasive, almost to the point of being de-problematised once the trainee had reached qualified teacher status. How had this been achieved? Despite a history of ambivalence towards the subject of mathematics they did not continue to present themselves as mathematical failures. Rather, they offered an account that left out issues that the trainee would rather not confront. This paper documents theoretical aspects of a major study examining how initial training students effect this transition. It concludes that such trainees "story" themselves so as to sideline mathematics but to present their perceived qualities of themselves in a positive light.

This paper focuses on trainee teachers as they progress through university into their first year of teaching mathematics in primary schools. I suggest that trainee accounts of themselves are produced at the intersection of their personal aspirations of what it is to be a teacher and the external demands they encounter en route to formal accreditation. I also suggest that participation in the institutions of teaching results in the production of discourses that serve to conceal difficulties encountered in reconciling these demands with each other. I urge caution in inspecting the trainee accounts of this experience, by suggesting that the accounts mask anxieties emerging in a difficult transition. The paper commences with an introduction to the empirical studies from which data is drawn. It then proceeds to consider a theoretical reading of this study, using an approach derived from contemporary psychoanalysis, on how trainees produce accounts of their experience. The final section discusses how these accounts are weaved into the discourse of government regulation.

EMPIRICAL STUDY

I draw on two government-funded studies undertaken within the B.Ed. (Primary) program at an English university. The empirical material produced provided a cumulative account of student transition from the first year of training to the end of the first year of teaching. The specific interest in the discussion which follows is on how the students'/teachers' conceptions of school mathematics and its teaching are derived. In particular, I explore the impact that government policy initiatives relating to mathematics and Initial Teacher Training, as manifest in college and school practices, have on the way in which primary students and first year teachers describe

themselves.

The first study, which has been described in detail elsewhere (Brown, McNamara, Hanley and Jones, 1999), spanned one academic year. The team interviewed seven/eight students from each year of a four-year initial training course from a total cohort of some 200 students. Each student was interviewed three times at strategic points during the academic year; at the beginning of the year, whilst on school experience, and at the end of the year. The study took the form of a collaborative inquiry between researcher and student/teacher generating narrative accounts within the evolving students'/teachers' understandings of mathematics and pedagogy in the context of their past, present and future lives. The second study, (Brown and McNamara, 2005) which followed a similar format, spanned two academic years. In the first year of the study a sample (n=37) of 4th year students was identified. Each student was interviewed three times during this year. The sample included seven students involved in the earlier project, five of whom were tracked for a total of four years. In the second year of the study a small number of these students (n=11) was tracked into their first teaching appointment. Each of these students was interviewed on two further occasions. These interviews monitored how aspects of their induction to the profession through initial training manifested itself in their practice as new teachers.

Specifically, students involved in the research were those who were training to be primary teachers and who, as part of their professional brief, would have to teach mathematics. Significantly, whilst all the students who were interviewed held a 16+ mathematics qualification as required for entry to college, none had pursued mathematics beyond this. Nor had any of the students elected to study mathematics as either a first or second subject as part of their university course. The research set out to investigate the ways in which such non-specialist students conceptualise mathematics and its teaching and how their views evolve as they progress through an initial course.

These studies took place at a time of great change in English schools. This change comprised a major program of curriculum reform in which new regulative policies for the teaching of mathematics took centre stage. The National Numeracy Strategy (DfEE, 1998), for example, offered a radical re-conception of classroom practice in mathematics in which specific guidance was offered and checked through rigorous school inspections. The studies pointed to this being seen in a positive light by new teachers in primary schools, since it provided clear guidance in an area where many such teachers experienced their own anxieties in relation to the subject (Brown et al, 1999, McNamara and Corbin, 2001).

The Truth of the Training Experience

This paper draws on theory from contemporary psychoanalytic theory (Lacan, 1977, Zizek, 1989). This perspective has been discussed in relation to teacher identity elsewhere (Brown and England, 2004). In this perspective, for the trainee teacher

building a sense of self, there is inevitably a gap between how she "is" and how she "might be". A resolution between supposed and desired states we shall suggest is not easily achieved without compromise in which certain desires will be re-routed. There are multiple stories of what it is to be a teacher to be negotiated. These stories do not necessarily lend themselves to final resolution in relation to each other. Conceptions may be both idealistic and unachievable in themselves and impossible to reconcile with other conceptions. The teacher, however, may nevertheless experience this apparent need for reconciliation as a requirement being made of her in a school setting. That is, images of what constitutes a "competent" teacher may be circulated and influence the teacher's understanding of the multiple demands she needs to meet. She may feel obliged to respond to this requirement with some account of her success in achieving reconciliation, or otherwise feel disappointed as a result of failure. But in which ways would this account be offered? As Convery (1999, p. 139) reminds us "identity is created rather than revealed through narrative" (cf. Gergen, 1989). Convery continues (p. 142) by suggesting that perhaps teachers

> feel that they are deficient in relation to their stereotype of how teachers behave, and conceal this inadequacy… by reconstructing a morally prestigious self-description that they can use for public display. However, in so doing we reinforce an unrealistic stereotype and become complicit in our own alienation. Such reconstructions may act as short term therapy for the individual, whilst contributing to a collective repression, to which the only response is this ultimately disabling palliative of further self reconstruction.

That is, the failure to reconcile is understood as a personal failure and hence understood as a need to change oneself yet again.

At the commencement of the study the trainees were asked to recount their mathematical experience during their school days. According to the majority of the interviewees, mathematics was a subject that caused many difficulties, sometimes real emotional turbulence. The interviews then followed them through transitions from school to university training courses and from thence to attaining their first teaching appointment as a new teacher and "supposed" mathematics authority. It then considered how their professional identity shifted in response to the different positions they adopted, as trainee/ new teacher, and the different roles they assumed (learner, teacher, assessor, assessed, carer, employee). It was suggested (Brown, et al, 1999) that the trainee/new teacher may feel the need to attempt a reconciliation of these various roles in order to have some account of her achievement and satisfy her need to narrate a coherent narrative of self (cf. Harre, 1989, Sokefeld, 1999).

What does this sort of account look like in the data? Let us now consider these concerns in relation to some typical comments from fourth year students about the skills they feel they need in order to be a teacher of mathematics: "I like to give as much support as possible in maths because I found it hard, I try to give the tasks and

we have different groups and I try to make sure each group has activities which are at there level. Because of my own experience." Another student commented: "The first one that springs to mind which I believe that I've got and which I thinks very important particularly in maths as well, would be patience". A recently qualified teacher was more expansive:

> Well I'm sensitive towards children who might have difficulty with maths because I know how it might feel and I don't want children to not feel confident with maths ... I use an encouraging and positive approach with them and ... because I think if you're struggling in maths the last thing you want is your confidence being knocked in it, you want someone to use different strategies in trying to explain something to you and use a very positive, encouraging approach and not make the child feel quite - Oh they can't do maths never ... you know, so, yeah, I think my own experience in maths has allowed me to use a certain approach with children.

Such happy resolutions to the supposed skills required to teach mathematics (being "sensitive", "patient", supportive) it seems, can provide effective masks to the continuing anxieties relating to the students' own mathematical abilities. The evidence in the interviews pointed to such anxieties being side stepped rather than removed since they were still apparent in relation to more explicitly mathematical aspects of our enquiry, such as mathematical concept mapping exercises in the first study, or, to a lesser extent, in relation to government mathematics skills test for teachers.

There is also a need, however, to be cautious in relation to how we are reading our data. Which truth are the interviewees telling? In an informal conversation Rom Harre described how he often asked a lot of neutral questions in the first half an hour of any interview he was conducting since he felt the interviewees did not really relax until later. However, can we be sure that the state of being relaxed would produce a better truth? If we were to inspect the last interview extract we might suggest that there are various forms of concealment evident. Apart from the masking of mathematical anxiety that we have identified there is an uneasy mix of moral and causal explanations. These have been combined to produce a "preferred identity" (Convery, 1999, p. 137) that uses moral platitudes to endorse a style of operation that she has been obliged to choose as result of her mathematical shortcomings. This sort of strategy has been discussed more fully by Harre (1989). Convery in responding to Harre's work suggests "individuals use metaphors of struggle to create an impression of an essential self" (Convery, 1999, p. 137). The "truth" of experience is processed through a story frame in which the individual portrays herself as struggling. This story provides the subjective fantasy through which reality is structured (Zizek, 1989). But how might we access the truth beneath? Clearly such a notion of a singular truth is problematic.

The content of our interviews was clearly touching on some personal stuff yet the media through which this is accessed precludes any sort of neutrality. The

unconscious is pressing upon the things the interviewees say yet there can be no definitive manifestation of this unconscious (Lacan, 1977). Successive stories are tried out for size as the interviewees negotiate the trust they feel able to offer to others and the preparedness they have to accept a particular version themselves. Yet as indicated – identity is constructed rather than revealed through such narrative processes. There is not an innate truth to locate. So we are left with the question of how interviews enable us to access versions of reality and what those versions enable us to say and do. Zizek (2001) has explored the difficulties of identifying accessing this sort of "truth" or "reality". In his analysis of the Polish film director Krzysztof Kieslowsi he touches upon what Derrida has called "fictive devices" (Derrida, 1994). Kieslowsi started out his career as a social documentary filmmaker, examining the lives of people in Poland in the nineteen eighties. Yet in touching on the emotional lives of his subjects Kieslowsi was uneasy about the portrayal of these lives on film. Insofar as genuine emotions were revealed his work as filmmaker became intrusive. Such emotions need to be recast and read as fictive material and in a sense be made unreal to work in the filmic medium. Kieslowsi's resolution was to move into fiction films rather than documentaries as the former enabled him to get at a better truth of the emotional content of lives that he wished to explore. Zizek (2001, p. 75) argues that for an actor in Kieslowski's documentaries, "he does not immediately display his innermost stance; it is rather that, in a reflective attitude, he "plays himself" by way of imitating what he perceives as his own ideal image". In the case of our study the emotional content of personalities was only partially accessed in interviews and that element then further needed to be fitted within a discourse (story frame) appropriate to the research domain. The study found itself obliged to retain the limitations of the documentary form. And there is a necessary distancing of the story told from the life it seeks to capture. The reality of that life can only, Zizek argues, be mediated through a subjectively produced fantasy of it. And as Zizek (2001, p. 73) further advises "the only proper thing to do is to maintain a distance towards the intimate, idiosyncratic, fantasy domain – one can only circumscribe, hint at, these fragile elements that bear witness to a human personality." The personalities that we are seeking to learn about can only be read against certain backdrops where we as researchers and perhaps the personalities themselves seek to understand how personalities and research perspectives and backdrops and discourses and external demands and personal aspirations, intermingle in the accounts offered of this process.

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