

CONCEPTUALISING IMPROVEMENT IN CURRICULUM REFORM: AGAINST CONSENSUS

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Many new curriculum initiatives are predicated on a supposition that we might be able to agree on what constitutes improvement to an earlier regime. This paper contrasts mathematics curriculum reform in England and the USA and how their administrative enactment is understood. The paper argues that the aspirations of reform to achieve consensus are sometimes predicated on time and context specific assumptions of improvement that do not apply across all situations. By using theoretical ideas from contemporary political theory the paper argues that the reform movements might be understood as ideologies that squeeze out alternative perspectives and needs through defining improvement in overly specific ways.

INTRODUCTION

Research in mathematics education is often predicated on identifying deficiencies in current practices as part of a rationale for implementing a new approach. Hargreaves (1996, p. 5) has suggested that educational research must demonstrate “conclusively that if teachers change their practice from x to y there will be a significant and enduring improvement in teaching and learning...”. Hence a history of research might be characterised as a series of papers and books, with many arguing the case for some sort of improvement. Yet looking back at any one time it is not easy to argue how we might assess the nature of the improvement that has been achieved over any given period of time. Meanwhile, teacher biographies are typically characterised by engagements with a number of teaching approaches throughout any one career. Each shift from one to another entails mathematics being framed in a slightly different way that perhaps results in a different teaching style and, perhaps also, a different conception of mathematics. Elements derived from each phase feed into composite experience and contribute to that teacher’s mode of practice and emergent, and perhaps convergent, professional identity. These elements might be attributed variously to fashions in school practices, learning theories, assessment preferences, career phase of the individual teacher, etc. The shifts in teaching approach would normally be locally negotiated on the basis of some supposed improvement on the previous model. The term “improvement”, however, can be understood in many different ways and resists stability across time, space and circumstances. Nevertheless, many new curriculum initiatives are predicated on a supposition that we might be able to agree on what constitutes improvement to an earlier regime.

This paper contrasts mathematics curriculum reform in England and the US and argues that the aspirations of reform to achieve consensus are sometimes predicated

on time and context specific assumptions of improvement that do not apply across all situations. Rather teachers and researchers see the reform movement as a broadly agreeable structure with which they can identify and that enables them to join in a collective effort. Here governance is achieved through supposed common sense but where the quest for consensus suppresses the expression of alternative needs.

OBJECTIVES AND PURPOSES

This paper concerns the sort of identifications that teachers might have with successive curriculum initiatives. How might adjustments to practice be understood when a teacher is confronted by new discursive styles being applied to his practices? The paper theorises such identifications through the notion of dialectical materialism in which the world shapes itself around the descriptions made of it. Such themes have implications for how we think about initiatives designed to work at creating consensus in teaching approaches. I question the efficacy of research agenda predicated on encouraging teachers to align themselves with a particular model or philosophy of practice. In particular, I suggest that within any curriculum implementation both teacher self-perception and the curriculum itself are reconstituted such that any supposed convergence to an end-point is disrupted. I offer an alternative conception of change in recognising in the words of Lather (2003, p. 262) that “we move to a future which is unforeseeable from the perspective of what is given or even conceivable within our present conceptual frameworks”.

PERSPECTIVES REFORM AS IDEOLOGICAL IMPLEMENTATION

US reform in mathematics is typically defined in relation to NCTM guidelines and are for many teachers seen as the transition from a transmission to a constructivist pedagogical approach, characterised by “genuine mathematical problems for students to solve” (Lloyd, 1999, p. 228) and a focus on “conceptual understanding” (Wilson & Goldenberg, 1998, p. 269). Such reform, however, does not offer a trajectory with universal appeal or applicability across the world or, I assume, even within the USA. The “inquiry” methods associated with constructivist reform, characterised by greater learner and teacher autonomy, would be less acceptable in many Eastern or Pacific cultures where curricula, teacher/student roles and the collective good are defined differently. Further, the alleged autonomy understood within the “reform” agenda conflicts with the reality teachers have come to accept in other Western countries, assessed as they are through legislative documentation and recognised through the filter of their compliance with this. In the UK, for example, student centred pedagogies emphasising problem-solving, investigations and project work dominated curriculum reform agendas some thirty years ago, but a more recent backlash resulted in prescribed curricula for both teachers and pupils in which student centred approaches have become tightly structured. Thus conceptions of improvement are very much a function of the country, or even local community, in which they apply and the state of affairs prevalent there. And it is this sense of contingency that

underpins this present paper's focus on adjustments to new paradigms. I also draw on another study in which I provided an account of how trainee and new teachers in the UK begin to include official curriculum descriptors into accounts of their own practices as they move through the accreditation process. The conception of identity introduced here, however, does not necessarily favour compliance with the dominant group. Conceptions of self are governed by a tussle between achieving personal aspirations and meeting external demands. The task of socialisation entails the teacher gradually introducing social/official language into her self-descriptions. She becomes increasingly implicated in official accounts of her practice as she begins to recognise herself in such accounts and to describe herself in those terms. And in so doing she loses aspects of her earlier, perhaps more personal, conception of self. Teachers saw this as necessary from the point of view of their accreditation as teachers yet found the discourse highly prescriptive, albeit a form of prescription that released them from the need to make so many content decisions in a curriculum area where often they had in the past lacked confidence in their own capabilities. The research perspective offered in this paper similarly attempts to weigh up the relative advantages of achieving personal aspirations or fulfilling external demands, rather than supposing external demand is to be favoured. Thus my attempt in this paper is to resist describing curriculum development from the point of view of how teachers align themselves or not with an overarching rationale or model such as reform. Alignment by a teacher with a new curriculum is not in itself necessarily to be viewed as success, since improvements are a function of the ideological stance being assumed. Both teacher and curriculum change through any curriculum initiative, as do the parameters through which those changes are understood.

THEORETICAL FRAMEWORK

By using theoretical ideas from some neo-Marxist writers the paper shows how the reform movements might be understood as ideologies that squeeze out alternative perspectives through defining improvement in specific ways. Mouffe (2005) has strenuously resisted the idea of human progress as being shaped by ideals relevant across all communities. Mathematics education, for example, would be seen as culturally dependent with each cultural perspective predicating an alternative conception of mathematics. Laclau (2005) has rejected the notion of the "people" as a collective actor, and by extension the possibility of a research "community" or a set of governments being able to define a common interest with regard to the purposes of school mathematics. Instead he has examined the nature and logics of the formation of collective identities and suggested that such collectives be seen as being held together through identifications with specific populist demands. Althusser (1971) focuses on how the individual understands herself through ideological filters. That is, the individual recognises herself in some discourses but not others. For example, an individual American teacher may truly believe that she is subscribing to reform agenda and following such approaches in her practice, whether or not others see it

this way. But, there is always a gap in this identification, a distance between the person and the story in which she sees herself. This gap stays there. Althusser is not persuaded by consensual aspirations where difficulties are ironed out. And surely some American teachers are sceptical about reform projecting them to the top of international league tables or even that everyone will agree with the content of that ambition. Time does not necessarily make alternatives more attractive or comprehensible. Althusser sees the supposition that you could get to a consensual ideal beyond conflicting ideologies as the biggest ideology of all. Finally, Rancière (2004) examines how particular ways of understanding life, and the cultural forms that prevail, are functions of time- and culture-specific conditions of possibility. Here we are alerted to the possibility that successive cultural forms derive their meaning from earlier cultural configurations rather than from any supposed underlying truth of practice. The individual's immersion in successive ideologies of practice might be understood as a task of crafting the various ideologies together into a functional whole in some more or less personal way, rather than being immersed in one distinct ideology rather than in another. Rancière (2004, p. 50) argues:

The visibility of a form of expression as an artistic form depends on a historically constituted regime of perception and intelligibility. This does not mean that it becomes invisible with the emergence of a new regime. ... At a given point in time, several regimes coexist and intermingle in the works themselves.

Similarly, mathematics teaching schemes become a function of the history into which they are being inserted, but a history different for each individual according to how the individual has accessed this history through a variety of alternative cultural forms. Alternative discursive forms are alternative forms of life and cannot readily be compared side by side. The parameters through which these discursive forms are understood are time and experience dependent. And such parameters derive from successive manifestations of the ideological filters that govern teachers' and researchers' participation in life.

DATA SOURCES AND EVIDENCE

This paper is primarily theoretical/discursive. It draws however on an empirical study, which itself was an offshoot of a major Gatsby funded initiative based on trialling Mathematics in Context materials, based on a philosophy of Realistic Mathematics Education, in British schools. The empirical study was a smaller scale pilot for a project, funded in the following year by the UK Economic and Social Research Council and was designed to track the shifting perceptions of the teachers involved in the larger study. In particular, the pilot study asked how the teachers accommodated their exposure to a new paradigm within their existing conceptions of practice. It tracked the teachers through their first year of participation and sought to document changes to the ways in which they accounted for their practice with reference to old and new paradigms.

CONCLUSIONS

If we accept the analogy of approaches to mathematics teaching with what Rancière terms artistic forms, we also take on the parallel notion of mathematics, and more specifically mathematics curricula, being articulated through cultural regimes, or particular systems of conditions of possibility. Laclau and Mouffe progress this position suggesting that human identity might be better understood as an amalgam of partial identifications with co-existing ideologies. Who I am, or my teacher identity, is a function of how I draw on elements from the alternative discourses in which I am immersed. But links between immediate tools and broader conceptions may be transitory or unreliable. Consequently, I suggest that what might be seen by governments and researchers as the long march to improve standards through major holistic change, might better be understood as a succession of ideological changes which resist a unified conception of what improvement might be. My argument is that mathematics education research and development, should seek to recognise difference in teachers' understandings, experiences and context of action and assist them in making informed professional judgements about how their practice might be developed *in situ*, rather than supposing that external evaluative judgements should be based on movement to a consensually preferred conception of teaching.

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