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ABSTRACT

This paper discusses the relationship between the political intentions of South Africa's educational policy and its educational outcomes, suggesting that the more learner-centered the curriculum and the lower the socioeconomic status of its recipients, the less likely it is to achieve its goal of social equity. The paper considers the proper relationship between the kind of knowledge formally codified in the school curriculum and the tacit knowledge which children acquire in the home, church, and street. Research indicates that while the unequal distribution of material resources make an enormous difference to student learning, the greatest obstacle to educational equity is the differential access to formal knowledge open to children of different social classes. South Africa's Curriculum 2005 is positioned at the extreme radical end of the constructivist spectrum. This involves radical curriculum integration and learning outcomes that are under-specified in terms of their knowledge content. The Ministerial Review Committee has recommended replacing the entire architecture of Curriculum 2005 because of various problems (e.g., constructivism), presenting recommendations regarding the need for national curriculum statements which specify, by learning area and grade level, what should be taught, in what sequence, and at which level of competence. (Contains 14 references.) (SM)

'ANYTHING BUT KNOWLEDGE': THE CASE OF THE UNDISCIPLINED CURRICULUM

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What counts as worthwhile knowledge for the 21st century South African citizen?
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> Today's schools are about anything constructivist teacher educators say: self-actualisation, following one's joy, social adjustment, or multicultural sensitivity, but the one thing they are not about is knowledge. Oh sure, educators will occasionally allow the word to pass their lips but it is always in a compromised position, as in constructing one's own knowledge, or contextualised knowledge. Plain old knowledge, the kind written down in books, the kind for which Faust sold his soul, that is out.
>
> (Mac Donald, 2000)

The developments around Curriculum 2005 over the last 5 or 6 years provide fascinating lessons for curriculum theory and implementation. The introduction of C2005 certainly brought a number of benefits to a school curriculum dominated by the attenuated aftermath of Christian National Education. On the other hand, it also showed the world the follies to be found at the limits of constructivism. In examining some of these lessons below, I will be illuminating a key consideration which needs to be taken account of in the design and administration of any educational policy. This concerns the relationship between the political intentions of a policy, on one hand, and its educational outcomes, on the other.

In particular, I want to argue that the stronger the learner centred element of a curriculum, and the lower the socio-economic status of its recipients, the less likely it is to achieve its goal of social equity. I want to emphasise that I am not taking issue with constructivism per se, but with its radical limits. In South African terms, the debate is not about whether we should integrate knowledge or not, but about the nature of that integration. Of course we must relate school knowledge to the world and to the experience of learners, but I want to argue that some ways of structuring that relationship lead to better learning than others.

School knowledge and 'real life'

What should be the proper relationship between the kind of knowledge formally codified in the school curriculum, and the tacit knowledge which children acquire in the home, the church and the street? This is a question central to any curriculum debate. There is no better illustration of the distinction between school and everyday knowledges than in the experiment carried out by Basil Bernstein (1996), with a group of seven year old children in a school in London.

The children were asked to sort a set of cards showing pictures of items commonly found on the school lunch menu, and which they all therefore associated with everyday experience. This was a classification task in which the children were asked to divide the cards into groups. They could use any principle of classification they wished. In analysing the results of the exercise, Bernstein distinguished two broad kinds of responses. The responses correlated well with the class origins of the children, as indicated by factors such as the educational level and professional status of the children's parents, the number of books in the home, and the frequency of parents reading to their children.

In classifying the cards, working class children predominantly used criteria drawn from their own experiences, such as 'Things I have for breakfast at home', or 'Things I cook for my mum'. The middle class children, in marked contrast, were far more likely to use as their principle of classification, a conceptual element that the pictures

had in common, such as 'These thing all come from the sea', 'Those are all vegetables'.

Bernstein's research continued, with the children being asked to regroup the cards in another way. This time a significant number of middle class children changed their principle from one based on a concept to criteria drawn from local context and experience, while the working class children merely used another reason based on their personal lives. In short, middle class children have access to two principles of classification, one conceptually specialised and the other localised and personal. In the school context, where this research was carried out, middle class children know to use the first. Working class children have access only to the second principle.

Thus, the middle classes, because of factors such as the kinds of discussions they have every day at home with their parents and within their social circles, because of the access they have to books, to the internet, to TV to travel, to all sorts of sources of information and stimulation have ready entry into the principles which underlie school knowledge. Consequently education tends to reinforce the codes which these children bring to school and provides them more opportunity for success in school, greater access to higher education, and to the professions and other well paying jobs. Working class children, on the other hand, have a far greater distance to travel to acquire the elaborated language codes and specialised principles of classification which structure school knowledge.

What these conclusions of Bernstein's research mean for schooling is that, while the unequal distribution of material resources do make an enormous difference to student learning, the greatest obstacle to equity in any schooling system is the differential access to formal knowledge open to children of different social classes. What do we do about this problem? How do we make knowledge more accessible particularly to the children of the poor? In Wally Morrow's words (1993), how do we increase the epistemological access of children? I want to look at two different kinds of response to this question.

One theorist who illuminates the question of epistemological access is Valerie Walkerdine, who comes at the issue from a feminist, working class perspective. For her, the starting point for this discussion is the qualitative difference between contextual or everyday knowledge, and abstract reasoning. Contextual reasoning is learnt at a very young age through adopting positions in discourses in the home, in play, and a variety of other contexts. Abstract reasoning, in contrast, requires conscious reflection on the linguistic structure of the discourse itself. For Walkerdine, familiar contexts provide essential starting points for teaching young children to reason formally. This view she shares with all constructivists, but where she differs from the radical variety is that for her not just any everyday example provides a suitable jumping off point for higher levels of conceptual development: the boundary between school knowledge and everyday knowledge is filled with very tricky waters.

The first difficulty is that not all everyday contexts provide suitable entry points, into school knowledge. Teachers cannot be content to allow children free reign in discussing any everyday example and hoping that this will lead inexorably to the acquisition of sophisticated concepts. Indeed, she shows that some of these contexts can be misleading and counterproductive to learning. For example, in one class she

observed the teacher was trying to illustrate the mathematical concepts of 'more' and 'less'. The teacher was to use the everyday context of having dinner as an entry point into this mathematical concept. Walkerdine (1988) found the analogy very contrived because, whereas in mathematics 'more' is the opposite of 'less', in a dinner context the answer to the question 'Do you want more food?' is likely to be 'No thank you no more for me'. In this context, the opposite of 'more' is 'no more', rather than 'less'. The dinner metaphor is therefore a misleading entry point into this mathematical concept. For Walkerdine the first pitfall in negotiating the boundary between everyday and school knowledge lies in choosing the context really carefully.

The next step is to strip away the context, to look beneath the everyday to get to the essential concept, in order to reveal the logical principles which underlie that particular example. Here, too, teachers cannot assume that, even if they have chosen a good example, merely talking about it will lead children to discover the underlying structure. The discussions require careful and explicit structuring in order to bring out the conceptual relations. This is a very different kind of discussion to talking about everyday experiences:

> In practical reasoning we determine the truth or validity of a statement in terms of it's correspondence to the rules of a practise whereas in formal reasoning truth is determined in terms of the internal relations of the statement itself. To reflect on the internal relations alone we have to ignore the metaphoric context.
>
> (Walkerdine, 1982, 138)

Walkerdine insists that it is incorrect to assume that practical and formal reasoning are in some essential senses the same. Whereas the former involves drawing inferences on the basis of familiar statements, the latter is an act performed upon language, between signs and not on the metaphoric content.

Walkerdine's work is a good example of what I call moderate constructivism, which takes as one of its starting points the need to integrate school knowledge with the everyday experiences of learners, but which recognises the difficulties in doing this. This is in contrast to what might be called radical constructivism, which sees no such difficulties. For the radical constructivist, oppression along class, race or gender lines lies in not only privileging school knowledge at the expense of the experiences of learners, but in denigrating the latter. From this perspective the solution to the problem of epistemological access lies in according equal status to the life contexts of all learners, and insisting that such contexts provide the starting point and touchstone for all school learning. In this view, everyday reasoning and school reasoning are essentially the same and, since there is no impediment to a smooth transition between the two, all school knowledge should be approached through integrated activities.

Curriculum 2005: the first five years

By its own intentions, C2005 is positioned at the extreme radical end of the constructivist spectrum:

> South Africa has embarked on transformational OBE. This involves the most radical form of an integrated curriculum. ... This ... implies that not

> only are we integrating across disciplines into Learning Areas but we are integrating across all 8 Learning Areas in all Educational activities. ... The outcome of this form of integration will be a profound transferability of knowledge in real life.
>
> (Department of Education, 1997, 29)

This integration was to be achieved through the application of a highly prolix scheme, that I must confess I never worked out how to use myself, involving choice of subject matter using a complex filter of programme organisers, phase organisers and a host of other gears and levers too fantastical ever to be explicable to more than the handful of designers who dreamed it up.

The second feature of C2005, which marks it as a radical constructivist programme is that the learning outcomes are under-specified in terms of their knowledge content. Thus, they specify by phase rather than by grade. Even within each phase teachers are given no guidance concerning minimum rates of progress in terms of annual standards to be achieved. Within the Foundation Phase, for example, teachers don't know what the minimum standards should be in terms of working with units, tens, hundreds, thousands and, so on. The very laudable rationale behind this design feature of C2005 is that is leaves room for the teacher to be creative and to determine the pace of each child.

Now let's see what actually happens in terms of the implementation of what is, certainly in its design, the most radical constructivist curriculum ever attempted anywhere in the world, at least on any sort of scale. The poor state of the data collections technology within the education system is a severe constraint on the design and implementation of many functions, be they the maintenance of routine systems or innovations such as C2005. While the DoE committed itself to systematically collecting data on learner achievement in 1998 (Department of Education, 1998), the continuing absence of information of this kind, except at the matriculation level, means that, in the area of curriculum, the system is essentially flying blind. However, although we do not have a systematic picture of what our children are or are not learning, what research does exist all points in the same direction.

In our poorest schools, while teachers and learners are enthusiastic about the new curriculum (Taylor and Vinjevold, 1999) it would seem that there is a disaster happening in terms of performance levels in literacy and numeracy, the foundations on which all other forms of learning depend. Assessment of learning at the end of grade 3 in 36 rural schools (JET, 2001) indicates that children are already a good two years behind their counterparts in developed countries. Most pupils are barely able to write their names and are only just beginning to learn to read. While the majority are able to complete word recognition tasks, there are dramatic declines in performance from word recognition tasks to sentence completion, and uniformly very low results across schools on the comprehension of simple passages.

In the area of numeracy, it is striking that counting and ordering tasks were less well done than addition. This would seem to indicate that learners have low levels of conceptual understanding of the number system. The only numeracy skill which most

children at this level are competent in is in adding two-digit numbers (ie tens), but only when no 'carrying over' of digits between the units and tens columns is involved. Furthermore, a majority of learners use 'concrete' methods for both addition and subtraction tasks: for example, drawing 7 marks and a further 5 marks, to find the solution to 7 + 5. These 'baby' methods, so heavily favoured by constructivist approaches to the teaching of arithmetic, are all very well in the early stages of numeracy, but become a real impediment when dealing with larger numbers. This is well illustrated by the fact that the performance of this group of learners falls off rapidly when tens, hundreds and thousands are encountered, and that the understanding of subtraction is poor and of multiplication very poor. It is clear that many learners are not making the transition to more abstract methods which depend upon a good understanding of the structure of the base 10 number system.

While these results were derived from a small sample of rural and township schools in one province, they are strongly corroborated by results now being analysed from larger samples of learners in 5 other provinces. Tests now being piloted in grade 6 indicate that South African children have slipped even further behind what they might reasonably be expected to know and be able to do at this level.

The PEI research (Taylor and Vinjevold, 1999) gives some insights into why these performance levels may be so low. For example, one study found that in grade 4 it is very common to see teachers still working with tens and units, and never venturing further. This may or may not be due to the under-specification of progression standards in C2005, but what can be said is that the curriculum framework cannot give them the guidance they so clearly need. Other PEI studies noted that there is very little writing in the classes observed and what does occur is often in the form of single words or phrases, with very little or no extended writing. Instead, children sit in groups and talk about their everyday experiences, often with little or no conceptual content or direction to this activity. Not only is the influence of radical constructivism clear in these classrooms, but it is also obvious that these practices are seriously undermining learning in our schools. A number of PEI researchers also noted that books are very rarely used in the classes observed, even in those schools well supplied with books. When questioned about this, principals and teachers reply that those are old books – 'they're not OBE'. On the question of books, all the publishers at present bidding for provincial contracts, will have at least one story about a book being rejected because 'it contains too much content, and that's not OBE'.

More evidence in the same vein comes from the DoE-commissioned evaluation of pilot materials developed to support the introduction of C2005 in 4 new learning areas. In the area of mathematics teaching and learning, for example, the report notes that the radical integration of school and everyday knowledges demanded by C2005 leads to practices in which 'the body of knowledge that defines mathematics is obscured or dominated by non-mathematical considerations' (Vinjevold and Roberts, 1999, 27). This kind of evidence led the study to conclude that:

> ...designing learning programmes through programme organisers results in an ad hoc and unsystematic approach to knowledge and learning... Because programme organisers have no inherent knowledge structures, concepts or skills, this approach to the design of learning programmes and materials development undermines the learning goals of Curriculum 2005 especially

> those related to the development of higher order thinking skills. Only when teachers and materials developers have specific details of the concepts, content and skills to be covered in each of the learning areas in each of the school phases can learning materials be developed which address the learning goals of Curriculum 2005 systematically and rigorously.
>
> (Vinjevold and Roberts, 1999, 59)

It is important to note at this point that the poor levels of learner performance in South African schools is probably not largely the fault of the new curriculum. The cycles of education are far too long for C2005 to have had a major effect on schooling during its limited period of implementation. The main problem in our poor schools is poverty. Most of our children come from illiterate or semiliterate homes which do not facilitate epistemological access, and many of our teachers are first generation literates, who themselves possess rather scanty knowledge resources.

Aside from these macro conditions which affect schooling, there are a range of institutional factors which greatly exacerbate the poor state of teaching and learning in our schools. The institutions comprising our public education system, as with the rest of our civil service, are in a very poor state of efficiency: many of our schools work for less than half of the prescribed number of school days in the year, text books don't get delivered, pensions don't get paid, and leave takes forever to be approved. While the South African government is making a determined effort to address these problems at every level, we have a very long way to go. Many of these problems are a burden from the past, and this legacy will be with us for some time. Turning around such a large system - comprising twelve million pupils, over thirty thousand schools, and three hundred and fifty thousand teachers - that is in such a poor state of repair, is not going to happen over night.

However, despite these caveats, the evidence sketched above indicates that constructivism in general and C2005 in particular are making things worse. And here we should remember that C2005 is the culmination of a constructivist agenda which has been present in our schools for at least ten years, through in service courses presented by NGO's (Taylor, 1996) and a general climate of progressivism which pervades many of our education faculties.

There is some evidence that C2005 is being implemented more effectively in some of the better resourced schools (Khulisa, 1999). (And to say this is not to deny that these schools often exhibit problems not found in the majority of our poorer schools, such as racism). This finding should come as no surprise, as teachers in these schools will possess strong frameworks of tacit knowledge, which enable them to fill the gaps left by the under-specification in C2005. They know what to expect from the children at the respective grade levels, they are better able to imbue learner-centred activities such as group work with meaningful learning, and to get the most out of even the most outdated textbooks. It would appear that a radical constructivist curriculum like C2005, despite a strong equity agenda, leads to a widening of social inequality, because only highly skilled teachers are able to use it effectively, while those teachers whose own knowledge resources are not strong are left to flounder.

The Ministerial Review Committee

Given these problems, it is not surprising that the Ministerial Review Committee (Review Committee, 2000) recommended scrapping virtually the entire architecture of C2005. Regarding integration, the Report concluded that:

> To summarise, the C2005 curriculum model is **strong on integration** and **weak on conceptual coherence or progression.** It over-emphasises connective relations and fails to provide structured guidelines for sequence, progression and pacing for higher order cognitive skills, either for the traditional disciplines or for those learning areas which do not have overt conceptual frameworks. The result is the risk of under-preparing learners – both those proceeding to further training in the FET band and beyond, and those who end their formal learning career at the end of the GET band and who need foundational skills for lifelong learning.
>
> (Review Committee, 2000, 44)

The Review Committee made explicit recommendations with respect to the need for national Curriculum Statements which specify, by learning area and grade level, what should be taught, in what sequence, and at which level of competence, and for the production of assessment standards, with exemplars, to support the Statements. On the issue of integration, the Report recommends that:

> **Integration** across learning areas should be promoted by the SAQA critical outcomes and by assessment exemplars; and integration within learning areas should be promoted by the learning area statements and the learning programmes.
>
> (Review Committee, 2000, 95)

Clearly, the intention of the Committee is for the GET curriculum to foreground the conceptual coherence of school knowledge, through the systematic development of knowledge, skills and attitudes appropriate to each learning area. This is not to say that integration should be of secondary importance, but that it should not confuse the overall knowledge structure and coherence of the learning area: the everyday should not be foregrounded to the extent that it obscures the formal knowledge of schooling. The obvious implication is that the curriculum as a whole, as well as its parts – textbooks, lessons, and individual activities – should be structured so as to bring out clearly the bones of school knowledge, with the everyday being used to motivate, introduce, illustrate, apply and give colour and personal ownership to the formal concepts.

Conclusion

Any conclusion regarding the relationship between the prescribed school curriculum and the teaching and learning that happens in the classrooms of South Africa is compromised by the absence of systematic evidence concerning the latter. Despite the strenuous advocacy of OBE for at least the last decade, new efforts to collect information on the learning actually occurring in our schools have been confined to rather small initiatives driven from outside the public sector. The absence of a systemic picture concerning the learning outcomes of schooling severely constrains the design of curricula appropriate to local conditions, and renders impossible any efforts to hold teachers and principals accountable for the learning that happens for

the first 11 years of schooling, or to track any improvement or deterioration over time.

Nevertheless, what evidence is available is at least strong enough to warrant further investigation of the hypothesis which I raised in my introduction, that is: the stronger the constructivist elements of a curriculum, and the lower the socio-economic status of its recipients, the less likely it is to achieve its goal of social equity. If this is true then C2005 has done the world a great favour. It has shown us the limits of constructivism. It has shown us what happens when we fail to draw a sharp distinction between the everyday knowledge of the home and street, and the formal concepts of school knowledge. When the two are collapsed there is every likelihood of the latter being obscured, particularly when the knowledge resources of the teacher are themselves shakey. This severely inhibits access to higher forms of learning by the children of the poor, while the middle classes fare better because of the tacit frameworks provided by their homes and social environs. Our experience with C2005 has revealed the pitfalls of not focusing explicitly on the structure and coherence of the conceptual frameworks of school knowledge, and on the difficult and often misleading relationship between these and their manifestation in particular examples.

This great lesson of C2005 itself contains a more general principle concerning the relationship between political intentions and the policy vehicles required to realise them. The hype surrounding constructivism promising social equity does not appear to be borne out in practice. Indeed, under the kinds of conditions which pertain in the majority of our schools it seems that radical constructivism exacerbates inequality. The specific policies appropriate to realising our political goals are not always obvious, and can indeed be counterintuitive. This conclusion further emphasises the urgent need for the systematic collection of information on the state of learning at key levels of the system. Without this kind of evidence there is no way of ascertaining whether our good intentions are being fulfilled or undermined by our policies and practices.

There is a final point which follows from these conclusions. While the recommendations of the Review Committee have received overwhelming endorsement from both public opinion and the formal political structures at national and provincial levels, it is likely that they will not be as well received throughout the bureaucracy. And since this is the sphere in which implementation occurs, a degree of resistance, dilution and some confusion can be expected. Already there are signs that this is happening. This resistance from within the bureaucracy arises from those who were particularly close to C2005 conflating criticism of its detrimental effects with opposition to its intentions. As I have argued above, it is not always obvious which policies are best suited to implementing the best of intentions, and, in the case of C2005, stubbornly sticking to the original policy is likely to undermine its goals of increasing epistemological access to poor children, thus widening existing inequalities in our society.

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