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Enhancing learning in South African schools: strategies beyond outcomes-based education

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Abstract

This paper addresses the problem of post-Apartheid South African schools as ineffective learning environments, and the question whether there are strategies for enhancing learning that are more effective and that might be more easily and successfully implemented than an outcomes-based education. Because of historical and situational constraints, an outcomes-based education has limited potential for enhancing learning there. We argue that there are other factors, notably proximal variables such as teaching strategies that focus on the setting of learning goals and the provision of feedback and reinforcement to students, and the quality of teaching itself, that could more effectively enhance learning in South African schools, and that could be more successfully implemented. The paper thus aims to recommend and justify a policy decision in South African education to limit the implementation of an outcomes-based education to only those selected aspects that have been shown to enhance learning most effectively, and to implement other effective strategies for enhancing learning that might be more successfully introduced into schools.

Keywords: International education; Development; Educational policy; Student learning (at school); Post-Apartheid education; South Africa

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1. Introduction

In this paper we address the problem of South African schools, consequent on the legacy of Apartheid, as ineffective learning environments. The central question arising from this problem is whether there are strategies for enhancing learning in South African schools that are more effective and that might be more easily and successfully implemented than the strategies associated with an outcomes-based education – which is the currently preferred reform. Our central theses in addressing these questions are that an outcomes-based education can succeed in enhancing student learning in South African schools, but given historical and situational constraints, its potential for successful implementation and enhancement of student learning is limited; and that there are other factors that could more effectively enhance student learning in that country's schools, and that could be more successfully implemented. The paper thus aims to recommend and justify a policy decision in South African education to limit the implementation of an outcomes-based education, so that only selected aspects that have been shown to enhance learning most effectively are implemented; and to suggest the implementation of other effective strategies for enhancing learning that might be more successfully introduced into South African schools.

The research context of this study is in the domain of literature on learning and on schools as effective learning environments, of literature on outcomes-based education, and of literature on the management of educational change. We conclude that an outcomes-based education can succeed in enhancing student learning in South African schools, but given historical and situational constraints, its potential for successful implementation and enhancement of student learning is limited. There are other factors, notably proximal variables such as teaching strategies that focus on the setting of goals and the provision of feedback to students, and the quality of teaching itself, that could more successfully enhance the effectiveness as learning environments of South African schools, and that could be more successfully implemented. In short, this paper addresses the problem of South African schools as ineffective learning environments by arguing that a scaled back version of outcomes-based education and the implementation of more appropriate strategies for enhancing learning should be considered.

These concerns are addressed via at least four further questions:

1. What is the state of South African schools consequent on the legacy of Apartheid, and why are they by and large ineffective learning environments?
2. What factors have been shown in the literature to enhance learning most effectively?

3. What is an outcomes-based education, how does it aim to enhance learning, and why might it not be amenable to successful implementation in South African schools?
4. In South African education, should a policy strategy be adopted that limits the implementation of an outcomes-based education to those selected aspects that have been shown to enhance learning most effectively, and that supports more appropriate strategies for enhancing learning that might be more successfully introduced into South African schools?

It is acknowledged that an outcomes-based education is being introduced in South African schools in an attempt to rid them of some of the worst aspects of Apartheid education and to prepare young South Africans for a globally competitive and technologically sophisticated economy. The legacy of Apartheid, however, and more particularly the organizational environment (the lack of management capacity, and the scarcity of resources) will seriously erode the possibility of the success of this policy initiative. This study is not a descriptive summary of the latest policy developments in South African education and does not aim to track the attempts of the South African education authorities to scale back the implementation of an outcomes-based education. There is much going on in this regard, about which the interested reader could learn more at http://education.pwv.gov.za/.

1.1. Rationale for the study

The schools that are most likely to succeed in the implementation of an outcomes-based education are those schools that are probably least in need of educational reform. Outcomes-based education will, we are sure, succeed in those schools that, being well resourced and well managed, have the capacity to implement the recommended changes. The principal rationale for this study lies in our concern about the schools without that capacity.

An outcomes-based education is an innovation that assumes that certain basic structures, such as functioning schools with qualified teachers and adequate classrooms, desks and textbooks, are already in place, which might be the case in the developed world, but is by no means guaranteed in developing world educational contexts. Given the historical and situational constraints, most South African schools are not well placed to take on an innovation as radical as an outcomes-based education, without first putting in place some of the basic requirements of effective schooling. South Africa is using the implementation of an outcomes-based education both as an end in itself, with its associated learning outcomes, and as a means to the end of school improvement. The raft of measures associated with an

outcomes-based education is thus not only the shore for which the storm-damaged school system is desperately striving, but also the life raft intended to get it there. It is likely, however, that the raft of OBE will sink under the weight of an education system too water-logged to cope with such a demanding rescue plan. Our motivation for this research, therefore, is to set out the strategies for enhancing school learning that are both more effective than an outcomes-based education, and that might also be more easily and successfully implemented, in contrast to the demands of an outcomes-based education and the slim chance such a policy would have of successful implementation, thus to recommend to South African education policy makers a limited implementation of only those aspects of an outcomes-based education that have, along with other such factors, been shown in the literature to enhance learning most effectively.

2. The state of South African schools as learning environments

Apartheid education was characterized primarily by racial inequalities that permeated all aspects of learning. Schools were segregated according to race, and vast differences in expenditure per learner and in teacher salaries prevailed. White schools benefited most from this system, enjoying low student: teacher ratios and high *per capita* spending compared to black schools, which were at the other end of this spectrum. Under Apartheid, South Africa did not have a national core curriculum for all South African schools. The white parliament and its provincial departments decided the curriculum, and other education departments, which served other race groups, adapted the core syllabi. “Teaching”, contends Sedibe, “was teacher dominated and memorisation and recall were the main instruments of learning. Student assessment was very poor and not properly planned” (1998: 271). The post-Apartheid government consequently inherited a largely dysfunctional education system that reflected and perpetuated the vast inequalities that characterized whole sectors of South African society. The legacy of Apartheid left black schools virtually crippled, with almost no resources and with demotivated teachers and learners. Christie (1998: 283) describes such schools as characterized by the following features: “disputed authority relations between principals, teachers and students; sporadic and broken attendance by students and often teachers; general demotivation and low morale of students and teachers; poor school results; conflict and often violence in and around schools; vandalism, criminality, gangsterism, rape, and substance abuse; school facilities in a generally poor state of repair”.

Enslin and Pendlebury emphasize that many historically black schools remain dysfunctional, despite changes in policy and law. They point out that “formal changes cannot guarantee better practice, and where policy makers take little account of the context and agents of implementation, policy may impede rather than enable transformation” (1998: 262). An implication of this for education in South African schools is that any new policy initiatives have to take into account the organizational capacity of schools to change. The typical factors that contribute to effective schools (e.g., Stoll and Fink, 1995) are conspicuous by their absence in most South African schools. The dearth of these qualities in most South African schools has a great impact on the organizational capacity of these schools to change. Christie (1998: 289) points out that “in the failing township schools in South Africa, organizational environments do not support the substantive work of systematized learning”.

Enslin and Pendlebury (1998: 263) conclude that “improved quality is a vain hope as long as schools and colleges remain dysfunctional”, fearing that “how to remedy the problem of dysfunctional institutions is a vexed question”. “Weak and unaccountable authority structures, disputed authority relationships, a reluctance to acknowledge roles, responsibility and agency point to the need to develop legitimate authority relationships as well as a sense of agency and responsibility in schools”, they suggest (ibid.: 266). The “burning issue”, claims Christie, is “the pervading apathy and lack of will to tackle problems within the grasp of the school community” (1998: 263).

Bantu Education (education for black students under Apartheid) was designed to produce failure, thus ensuring the uneducated and unskilled black labour force needed for a primarily agricultural and mining economy. That the struggle against Apartheid was fought, often primarily, from and within the schools, experienced as a rejection and boycott of those schools, only compounded that failure. A key consequence of the “years of opposition to Apartheid and the resistance struggle waged within schooling from 1976 onwards”, and “the rejection of Bantu Education through protests and boycotts (often violent)” (ibid.: 284), is “a legacy of contestation of authority”, coexisting with “weak and unaccountable authority structures” (ibid.: 289). Compounding these issues are that “problems from local communities spilt over into schools; violence of all sorts threatened the safety of students [and of] teachers and principals, alcohol and drugs were peddled through fences, and the authority of the principal and staff did not prevail over the symbolic or material space of the school. … In short, organizational rituals, discipline and boundaries were simply not working and their dysfunction was part of the culture … of these schools” (ibid.: 290).

It is this appalling absence of a culture of learning and teaching that has led the South African education authorities to seek a thorough and complete overhaul of the system through the introduction of an outcomes-based education in the form of *Curriculum 2005*. Enslin and Pendlebury (1998: 266) remind us that an outcomes-based education is officially regarded as a key to improving quality at all levels of education and training: it "has been heralded in various national and provincial policy documents as the key to curriculum transformation". Our intention here is to argue that the wherewithal does not exist in these devastated schools to cope with the introduction of a thorough-going outcomes-based education, that the efforts and resources associated with this policy implementation will be largely wasted, and that there are other factors (some, certainly, associated with an outcomes-based education) that have been shown to enhance learning more effectively, and that might be implemented less expensively.

An outcomes-based education is being introduced in South African schools primarily as an attempt to rid them of some of the worst aspects of Apartheid education and to prepare young South Africans for a globally competitive and technologically sophisticated economy. In this regard, an outcomes-based education aims to reconcile the divide between education and training, seeking to balance the two in an education system that enables learners to apply what they have learned. Furthermore, in contrast to the more traditional forms of learning under Apartheid, which placed great emphasis on summative assessment, with formal tests and examinations playing a key role, an outcomes-based education places more emphasis on continuous assessment and the setting of clear learning outcomes.

But before turning our attention to an outcomes-based education as a proposed solution to the problems that continue to beset South African education, we turn now to a consideration of the wider context of learning in an attempt to ascertain which factors have been shown in the literature to enhance learning most effectively. This will place the efficacy of an outcomes-based education in enhancing learning in better context, and enable us to judge whether the appropriate strategy is being pursued by the South African government.

3. Factors that enhance student learning

Walberg (1986) consolidated results from research on teaching and learning into a nine-factor model of educational productivity, which included aptitudes (ability, development, and motivation), instruction (quantity and quality), and environmental factors (home environment, classroom environment, peer group environment, and mass media). In synthesizing research

into this framework, Walberg acknowledged that other socio-economic and political factors – such as students' socio-economic background, state expenditure per student, and class size – also have an influence on school learning, but argued that they are less directly linked and are less easily changed. It appeared that changes in these less direct factors worked through and were mediated by the factors more directly linked to students' everyday learning experiences. It was probably the case that changes in, for example, financial expenditure or class size, enhanced or lessened the probability that the more directly associated factors, such as quality and quantity of teaching, would lead to improvements in learning. Walberg also found that no single factor was overwhelmingly more important than the others, and the results appeared to be surprisingly robust across all conditions (such as the age, grade level, subject discipline, gender, or ethnic identity, of students).

Building on this model, Fraser, Walberg, Welch and Hattie (1987) provided a summary of syntheses of several thousand studies of individual, teaching, and environmental variables associated with student learning. They found that the three individual aptitudinal factors of ability, development, and motivation were indeed strongly correlated with learning achievement, and suggest that while the former two are difficult to alter, motivation could well be increased by efforts on the part of schools and parents. With respect to quantity and quality of teaching, they found that learning achievement was strongly correlated with reinforcement and corrective feedback, tutoring and lessons based on and adapted to diagnosed individual needs, good planning and organization, advance organizers, "instructional cues" (or signposting), good questioning technique, cooperative learning, homework, accelerated learning programmes for all students, and high teacher expectations. Of the four environmental variables identified, learning was even more strongly associated with support in the home and with a goal-directed and cohesive classroom environment than with either peer or media environment. Fraser et al. provide further support for Walberg's finding that these results are robust "in sign and magnitude across … categories of students in various conditions on different outcomes" (234).

This last finding is particularly important for our purposes here, in that our concern is with improving learning in the developing world context of education in South Africa. The results reported here so far have been generated from research conducted mostly on students in the developed societies of North America and Europe. The question is, if the findings have proved so robust across all kinds of students in all subjects in very different conditions and environments, will they prove to be universally applicable – to students from poverty-stricken

urban and rural developing world contexts? We will have more to say about this later, in the final sections of this paper.

Wang, Haertel and Walberg (1993) considered the power of proximal factors with respect to that of distal factors, and found that generally, proximal variables, such as psychological, instructional (or, related to teaching), and home environment, exert more influence on school learning than distal variables, such as demographic, policy, and organizational factors. For Wang et al. the path to improved school learning is clear: "If practitioners and teacher educators wish to enhance school learning, they must attend to proximal variables such as: (a) psychological variables, especially metacognition and cognition; (b) classroom instruction and management, and student and teacher social and academic interactions; and (c) the home environment" (1993: 278). Wang et al. go so far as to assert that distal variables have "little influence" on school learning (276): "Distal variables are at least one step removed from the daily learning experiences of most students. Simply instituting new policies, whether state, district, or school level, will not necessarily enhance student learning. … Effective policies require implementation by teachers at the classroom and student level. … Proximal variables like psychological, instructional, and home environment variables have more impact on learning than most of the variables studied and should be part of an effective strategy to promote student learning."

Wang et al. set out the key types of proximal variables that exert particularly strong influences on learning, suggesting that: "the psychological aptitudes that play the most significant role in school learning are metacognitive, cognitive, motivational, and affective variables" (276-77); teachers should ensure that they are informed about "the importance of [students'] prior knowledge, individual aptitudes (and level of understanding), and metacognitive processes" (278). Key instructional variables include efficient classroom management techniques (which will accordingly increase the time available for teaching and learning), the number and quality of teacher-student academic interactions (such as questioning, which enables teachers to monitor the effectiveness of their teaching, and to tailor subsequent interactions accordingly), and the frequency and quality of teacher-student social interactions (which establish and sustain a classroom atmosphere conducive to learning, and help to build students' sense of self-esteem – such as praise and corrective feedback – which in turn helps students to receive instruction that matches their prior experience and explanations that address their misconceptions (277, 278); and "the proximal variables encompassed by the home environment include not only the educational characteristics of the home but also parent activities and attitudes that support student learning" (expressions of

interest and expectation, reading with young children, monitoring the viewing of television, homework support, ensuring school attendance, and the like) (278, 279).

As in the earlier studies we have considered here, it seems that there is a surprising degree of universality, across all kinds of students in all subject disciplines in all kinds of environments and contexts, associated with these findings. Again, Wang et al. assert that "the evidence linking distal to proximal variables and to learning is sparse", suggesting that "distal policies are likely to make a major difference in learning only when they affect proximal practices" (279). This playing down of the significance of distal variables is surely inappropriate in developing world contexts, where one certainly cannot assume that distal factors, such as sufficient funding for the provision of adequate schools, classrooms and textbooks, qualified teachers (and indeed, healthy teachers in an environment wracked by HIV/AIDS), adequately nourished students, and the like, have been adequately satisfied. One suspects that Wang's lens has been too narrowly focused on the developed world, and that in developing world contexts, such as post-Apartheid education in South Africa, the satisfaction of distal factors, including ensuring the supply of healthy and qualified teachers and being well aware of and catering for the socio-economic background of students, is inextricably linked to the extent to which proximal factors can be fully exploited. Our assertions here notwithstanding, we will argue that teachers in South Africa can go a long way towards enhancing learning by exploiting the potential of some key proximal factors identified by Walberg, Wang et al., and Hattie, in spite of the unfortunate extent to which key distal factors remain unsatisfied. Wang et al.'s shortsightedness with respect to education in the developing world (or, more appropriately, the comparative dearth of studies of learning enhancement in these areas) notwithstanding, their concluding remarks are worth noting: "The actions of students, teachers, and parents matter most to student learning; policies at the program, school, district, state, and federal levels have limited effect compared to the day-to-day efforts of the people who are most involved in students' lives. Knowing that proximal variables have a greater impact on school learning than distal ones, educators, when formulating policies, should be mindful of where they can make the biggest difference in terms of the student, the classroom, and the home" (279).

In his 337 meta-analyses of influences on learning (comprising some 180 000 studies of more than 200 000 effect-sizes, representing approximately 15-25 million students, and covering a wide range of innovations), Hattie (1992) found that *the single most powerful factor that enhances achievement is feedback on their learning provided to students.* Hattie (1999) found that other core effects that influence learning are *the setting of specific and*

challenging learning goals for students, and *the way in which teachers actually teach*. He goes on to suggest that "achievement is enhanced to the degree that students and teachers set and communicate appropriate, specific and challenging goals; that achievement is enhanced as a function of feedback, and that increases in student learning involve more than surface and deep learning, but also follow a reconceptualisation of information" (1999: 2).

Hattie found by averaging across the meta-analyses the effects of innovations aimed at enhancing school learning that "most innovations that are introduced in schools improve achievement by about 0.4 of a standard deviation" (1992: 7). He thus used an improvement of 0.4 standard deviations as the standard by which to judge the size of learning effects. His 1992 study revealed the following four factors with the strongest relationship to learning achievement, measured in effect-sizes (i.e., standard deviations): reinforcement and feedback (1.13); students' cognitive ability (1.04); quality of instruction (1.00); and quantity of instruction (0.84). Other examples of factors with a strong relationship (i.e., above the average of 0.4 standard deviations) to learning achievement include direct instruction (0.82), home factors (0.67), student disposition to learn (0.61), class environment (0.56), challenge of goals (0.52), peer tutoring (0.50), teacher in-service education (0.49), parent involvement (0.46), homework (0.43), and questioning (0.41).

Feedback provided to students proved to be the single most powerful factor that enhances learning achievement: different types of feedback produced learning effect-sizes that ranged from 0.52 to 1.13, depending on type. Hattie's "simplest prescription for improving education" is "dollops of feedback" (1992: 9). He reminds us that "feedback is the information component, whereas reinforcement is the evaluative component relating to information *and* motivation" (1999: 9). Feedback includes reinforcement (1.13), corrective feedback (0.94), remediation and feedback (0.65), and diagnostic feedback (0.52). This does not mean that teachers should be making students write tests every other day. Effective feedback, according to Hattie, "means providing information how and why the child understands and misunderstands, and what directions the student must take to improve" (1999: 9). It implies that the best teacher will make every effort to assess and evaluate her students' understanding, in order that she might understand the constructions her students have made in their learning, so that she might then match her next teaching act to this understanding. The most successful feedback will seek to correct erroneous hypotheses that students might have made, and will be linked to reinforcement aimed at further motivating the student. "If we, as teachers, are to have an impact on learning", says Hattie, "then we must come to know what our students are thinking so that we can provide more feedback …

and develop deep understanding" (ibid.: 10). Thus, teachers who understand their discipline well, and who care about their students and what they know, will be better able to set challenging goals and to provide well directed feedback.

After feedback, the next most powerful factor that enhances learning achievement is the setting of specific and challenging learning goals for students. According to Locke and Latham (1992, cited by Hattie, 1999: 11), appropriate, challenging, and specific goals inform individuals "as to what type or level of performance is to be attained so that they can direct and evaluate their actions and efforts accordingly. Feedback allows them to set reasonable goals and to track their performance in relation to their goals so that adjustments in effort, direction, and even strategy can be made as needed". Goals, says Hattie (1999: 11) direct attention to relevant tasks or outcomes, energize task performance, motivate individuals to persist in their activities through time, convey normative information by suggesting or specifying what level of performance the student could be expected to attain, and can have dramatic effects on the development of self-efficacy, which in turn affects the choice of difficulty of goals. He reminds us that "feedback without goal setting is less effective, and goal setting without feedback is ineffective. A combination of goal setting and feedback is most effective. … The greater the challenge, the higher the probability of the student seeking, receiving, and assimilating feedback information" (ibid.).

And the third most powerful factor that enhances learning achievement is, according to Hattie, constituted by what teachers actually do in their teaching. This includes factors such as quality of instruction (effect-size of 1.00 standard deviations), quantity of instruction (0.84), direct instruction (0.82), class environment (0.56), peer tutoring (0.50), teacher in-service education (0.49), homework (0.43), teacher style (0.42), and questioning (0.41).

Interestingly, confirming what we reported earlier, most structural innovations aimed at improving learning, such as financial resources, physical attributes such as the quality of facilities, school policies, and streaming according to ability groups, do not have a sizeable effect on student learning. When such structural innovations do work, it is through their indirect effects on feedback, goal-setting, and actual teaching. There is, for example, a linear relationship between class size and achievement from the hundreds down to classes of about 25; but it is only when class size gets smaller than about 15 that exponential increases in achievement result (Glass and Smith, 1979). The conclusion to draw from this change in the relationship from linear to exponential is that smaller class sizes in and of themselves do not necessarily produce better results: very much smaller classes increase the probability that teachers will provide more and better quality feedback, which is what improves learning. The

factor of class size is mediated through the feedback factor. This is likely to be the case for other factors such as introducing computers into the classroom, prescribing more homework, managing the classroom more effectively, etc.: they offer more opportunities for more feedback, but do not guarantee that it will occur. The teacher who is most effective at enhancing learning will exploit every opportunity to provide more feedback.

Hattie found that these factors have "remarkable generality" in improving learning across age groups, curriculum areas, and teachers (1999: 9). But he does acknowledge that the majority of the findings to which he applies his meta-analyses derive from studies in the developed world, particularly the United States, and that the same may not be true for students in low-income countries. In fact, Heyneman and Loxley (1983), in a study of more than 50 000 students, 12 000 teachers and 2 700 classes that compared the effects of primary school quality across 29 high- and low- income countries, confirm this suspicion. They conclude that learning achievement in low-income countries is less affected by school and teacher quality, and more by students' social status and, by implication, their socio-economic background. This finding coincides with those of Coleman (1966) and Jencks (1972), and with our cautions in generalizing too quickly and easily the findings that we have reported here to the developing world context of South Africa.

It appears that once distal factors (such as students' socio-economic background) are taken into account, and a certain minimum level of quality (in the provision of schools, classrooms, textbooks, qualified teachers) is realized by the provision of sufficient state funds for education, we are more likely to see the impact of proximal factors such as feedback, goal-setting, and the quality of teaching. The point is that satisfaction of these distal factors makes it more likely that the proximal factors can have an impact on learning; and, inversely, as long as these distal factors remain unrealized or at a sub-critical level, the probability of the realization of circumstances conducive to the operation of these key proximal factors will remain low.

So, the question that we address in the concluding section is, should the South African government be spending massive amounts of money on curriculum re-structuring in terms of an outcomes-based education, or should it be spending its limited resources in ways that will enable maximum leverage of these factors that have been shown to be most effective in enhancing learning? The answer is complex because, since South Africa is a developing country whose education priorities lie in satisfying the needs of a desperately poor population, research points to the importance of first satisfying distal factors like the provision of sufficient classrooms, textbooks, and qualified teachers. The satisfaction of distal factors is

linked to the extent to which proximal factors can be fully exploited. But since there is not much that can be done in the short run about students' social status or about the quality of the education infrastructure available to largely under-qualified teachers, the findings of Hattie and his predecessors reported here become all the more important. Teachers in South Africa can go a long way towards enhancing learning by exploiting the potential of some key proximal factors identified in the above review.

The most effective factors depend on the teacher, and other distal variables have an impact to the extent that the teacher exploits their potential in enhancing learning. The teacher who is most effective at enhancing learning will provide much feedback that is appropriate to students' current understanding and plenty of reinforcement to motivate students to achieve their goals; set appropriate, challenging, and specific learning goals for her students; and constantly seek ways for innovation in her practice, by continual reflection on what she is doing to improve learning, through in-service education, and otherwise, so that she can provide a better quality of teaching, effectively manage her classroom to maximize the quantity of teaching, do lots of direct teaching, adopt a teaching style oriented to learning that includes questioning and provides feedback on homework set according to learning goals, and establish a classroom environment oriented to learning that allows students to learn from errors and includes peer tutoring.

The challenge for South African teachers is to maximize these proximal factors that have been identified in the research, in spite of the difficulties they face because important distal variables remain unsatisfied. And the challenge for South African policy makers is to use the limited resources available to them to maximize the ability of teachers to exploit these proximal factors. Massive curricular reform in terms of a fully-fledged outcomes-based education is probably not the way to achieve these ends. An outcomes-based education scaled back to include only those factors that are among the proximal factors that have been identified in the research we have reported here, as well as other relevant proximal factors reported in this research, is.

4. Outcomes-based education as a strategy for enhancing learning in South African schools

Having identified the factors that have been shown in the literature to enhance learning most successfully, our purpose here is to consider the efficacy of an outcomes-based

education as a strategy for enhancing learning in South African schools, and to consider the constraints on and possibilities of its successful implementation.

The principles of an outcomes-based education aim to reconcile the divide between education and training in South African schools. The division between the two was created largely along racial lines, with black schools providing their students with little more than the limited skills necessary to join the (manual) labour market, and white schools preparing their students predominantly for tertiary education and professional careers. An outcomes-based education claims to seek a balance between the two in an education system that involves mastering both knowledge and skills, with a further emphasis on dispositions. Sedibe points out that "OBE is intended to be a dramatic shift from Apartheid education, with more emphasis given to outcomes which are specifiable in terms of skills, knowledge and values, as opposed to rote memorisation of content" (1998: 277).

Le Grange and Reddy identify generic and specific categories of outcomes in the outcomes-based education literature. "Critical" outcomes are "cross-curricular and generic, … common to all areas of learning, and describe the skills, attitudes and knowledge that all learners should develop" (1998: 8). Specific outcomes describe the "knowledge, skills, attitudes and values that are applicable within a specific learning area" (ibid.). South Africa's new curriculum framework refers to these as "critical cross-field outcomes" (1998: 9) and "specific outcomes" (ibid.: 11). It is perhaps the plethora of specific and critical cross-field outcomes specified in South Africa's *Curriculum 2005* policy that is most daunting to teachers in their attempts to interpret an outcomes-based education in their own classrooms, but more about that later.

Spady, regarded by many as the father of outcomes-based education, suggests that "outcomes-based education means focusing and organizing an education system around what is essential for all students to be able to succeed [at] at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing curriculum, teaching, and assessment to make sure this learning ultimately happens. The keys to an outcomes-based system are developing a clear set of learning outcomes around which all of the system's components can be focused, and establishing the conditions and opportunities that enable and encourage all students to achieve those essential outcomes" (1998: 24). For him, outcomes are "clear learning results that we want students to demonstrate at the end of significant learning experiences. … Outcomes are what learners can actually do with what they know and have learned. They are the tangible application of what has been learned. This means that outcomes are actions and performances that reflect learner

competence in using content, information, ideas, and tools successfully. Having learners do important things with what they know is a major step beyond knowing itself" (ibid.).

Spady demonstrates what we would think is a particularly utilitarian perspective on educational outcomes. He is at pains to point out that "when defining and developing outcomes, educators must use observable action verbs – like describe, explain, design, or produce, rather than vague or hidden processes – like know, understand, believe, and think" (ibid.). We worry when educators exclude terms like "know", "understand", or "think" from their lexicon. Perhaps not everything learned is readily measurable in terms of "observable action verbs"; or perhaps reducing education to only that which can be assessed in terms of "observable action verbs" will do just that: reduce education.

Spady describes an outcomes-based education's key purposes in terms of its "success for all students and staff" philosophy: "Ensuring that all students are equipped with the knowledge, competence, and qualities needed to be successful after they exit the educational system; and structuring and operating schools so that those outcomes can be achieved and maximized for all students" (ibid.: 26). One wonders what approach to education, other than that of Apartheid education's ends deliberately to fail black students, would not at least claim these as key underlying purposes. Spady is not doing enough here to distinguish the unique purposes of an outcomes-based education.

Much the same can be said of his description of an outcomes-based education's "three key assumptions" (ibid.): "All students can learn and succeed, but not on the same day in the same way; successful learning promotes even more successful learning; and schools control the conditions that directly affect successful school learning." The first is, admittedly, an assumption not shared in all educational perspectives. In our experience, major Chinese philosophies of education are premised on the assumption that all can succeed – it is just a question of working hard enough to get there; while on the other hand, many Western philosophies of education tend to accept that individuals' differing intellectual capacities exert a considerable influence on their potential for success, as we saw in the previous section. Spady's second assumption is by now surely a universally acknowledged truism. But his third is most interesting, especially in the light of the findings about the importance of proximal variables that we considered in the previous section. This is a strength of an outcomes-based education, and one whose relevant aspects we will retain in our defence of an education based on those aspects that have been found to enhance learning most effectively (some of which are of course associated with an outcomes-based education).

4.1. Constraints and possibilities in the implementation of an outcomes-based education in South African schools

The aims of an outcomes-based education notwithstanding, the legacy of Apartheid, and more particularly the organizational environment, the lack of management capacity, and the scarcity of resources in schools seriously erode the possibility of the success of this policy initiative. Sedibe (1998: 277) suggests that the successful implementation of an outcomes-based education will depend on successful teacher training and the availability of appropriate teaching and learning materials. Echoing this, a panel of educators recently selected to review the implementation of an outcomes-based education in South African schools has found that a co-ordinated national strategy for the training of teachers needs to be implemented in order to ensure that the curriculum is adequately understood by teachers (Chisholm, 2000). The lack of resources in schools and the lack of knowledge and skills of teachers and managers in these schools count against the successful implementation of an outcomes-based education. Without national intervention at this level, schools would thus be incapable of acquiring sufficient resources to support the change. The review panel also suggested that a more simplified and content-specific version of outcomes-based education be introduced, and that teachers be given more specific guidelines on the sequential and progressive steps of knowledge acquisition (ibid.). Similarly, Mason (1999) proposes that a scaled down version of an outcomes-based education, which seeks a balance between propositional, procedural, and dispositional knowledge, will better address the legacy of Apartheid education. Primarily, then, because of the scarcity of resources and because outcomes-based education challenges the value systems and levels of security and confidence of a severely under-qualified teaching force, the successful implementation of an outcomes-based education in South African schools is at risk.

Recognizing these potential barriers to change, Jansen argues that an outcomes-based education will have a negative impact on South African schools because it is primarily "a political response to Apartheid schooling, rather than one which is concerned with the modalities of change at the classroom level" (1998: 321). He predicts (ibid.) that outcomes-based education will in fact undermine the already fragile learning environment in schools and classrooms of the new South Africa because the language associated with it is too complex; it assumes that changes in curriculum can effect changes in society; it is based on flawed assumptions about what happens inside schools, how classrooms are organized, and what kinds of teachers exist within the system; it offers an instrumentalist view of knowledge,

and working creatively towards a desired learning outcome is contradictory; managing it will multiply the administrative burdens placed on teachers; and it trivialises curriculum content, firstly by moving away from the content coverage which is currently in place, and secondly by threatening to atomise and fragment curriculum knowledge.

Our understanding is that the South African government is using an outcomes-based education to aim for greater school effectiveness, although there is no necessary or even empirically established link (that we have been able to find) between an outcomes-based education and school effectiveness. Putting the horse back in front of the cart, one may well be able to conclude that a school that is already effective, by virtue of wider strategies that have already been put in place to that end, might be best placed to implement successfully an outcomes-based education. But the great majority of schools in South Africa are not in this fortunate position: hence the South African government's strategy of using the implementation of an outcomes-based education as a basis of sustained intervention in order to make such schools more effective.

The long-term impact of an outcomes-based education on South African schools will therefore depend on a number of factors, primarily resources, the management capabilities of staff and school leaders, and whether schools are publicly or privately funded. In this sense, the outcomes-based education policy of *Curriculum 2005* has in many respects widened the divide between well-resourced and poor schools. Independent schools that have served elite communities in urban areas are likely to undergo a relatively smooth transition with teachers using an outcomes-based education to enrich their already solid pedagogic foundations. The main barriers in these schools are thus limited to parental attitudes and the required shift in the focus of assessment. It is the poor rural and township schools that will struggle the most with any kind of transition. Their lack of resources, financial and otherwise, and lack of capacity among teachers and school leaders to manage change render the organizational cultures of these schools ineffective and lacking in capacity to change. Unskilled teachers are expected to discard much of what they know and understand about their teaching and replace it with the complex, jargon-filled approach of outcomes-based education. However, as Mason (1999) suggests, these are not sufficient grounds for entirely abandoning the implementation of an outcomes-based education. Education in South Africa is in a desperate state, and although any kind of reform will be handicapped by the lack of financial and material resources, poor management capacity, and demoralized and apathetic teachers, curriculum reform has to be implemented in order to change the direction of education in South African schools. While the legacy of Apartheid education will seriously erode the possibility of the

success of this policy initiative, it remains, nevertheless, an important vehicle for educational change in South Africa, which will be most effective if scaled back to manageable limits that include those factors shown by Hattie, Wang, and others, to enhance learning most effectively.

5. More appropriate strategies for enhancing learning in South African schools

The factors that Hattie and others have identified as most likely to enhance learning are those on which South African education policy makers and teachers should be focusing their efforts. Some of these factors are associated with an outcomes-based education, and these should be saved and emphasized in any rolling back of OBE as currently envisaged by South Africa's education policy makers. But before we can recommend this conclusively, the question remains of the applicability in the developing world of the findings of Hattie and others we have considered, given their acknowledgement that their research was based primarily in the developed societies of North America and Europe.

There is, happily, every confidence that these findings are indeed applicable to developing countries. Lockheed and Verspoor's (1990) review of policy options for improving primary education in developing countries, Fuller's (1986) assessment of what investments boost learning in developing countries, and the conclusions of Lockheed and Levin (1993) about creating effective schools in developing countries show high levels of consistency with the findings from more developed countries as to what is most likely to enhance learning in schools.

In their review of policy options for improving primary education in developing countries, Lockheed and Verspoor concentrated their search on those "interventions for which there is clear evidence of both cost-effectiveness and feasibility of implementation" (1990: 28), both key factors in resource-constrained environments. As is the case in developed countries, they found that school effectiveness is important in providing the framework in which learning might be enhanced, and that school effectiveness in the developing world requires at least what it does in developed countries: an "orderly environment" (found by Hattie, under the rubric of effective classroom management, to be particularly important in maximizing actual teaching time); the setting of "clear goals and high expectations" (found by Hattie to be one of the most powerful factors in enhancing learning, with an effect-size of 0.52 standard deviations); a "sense of [a learning] community" (found by Hattie, under the rubric of a classroom environment oriented to learning, to have a very powerful effect-size of 0.56

standard deviations); and "strong instructional leadership" (again, found by Hattie to be a vital means to the end of both quantity and quality of teaching) (ibid.: 29).

But even more importantly than school effectiveness, Lockheed and Verspoor report in their review of what enhances learning most effectively the importance of many of the proximal variables we have summarized above. They stress the importance of the protection of actual teaching time (Hattie showed this factor to improve learning by 0.84 standard deviations); the quality of "teachers' pedagogical practices" (Hattie showed teaching quality to have an effect-size of 1.00 standard deviations); teachers' "subject matter knowledge" (ibid.: 41), and teachers' involvement in "in-service education" (ibid.: 44), the former of which we identify below as a key focus of the latter (Hattie found that in-service teacher education has an effect-size of 0.49 standard deviations); "cross-age peer-tutoring" (ibid.: 42) for its cost-effectiveness and for its benefits to both tutor and tutee (Hattie found peer-tutoring to have an effect-size of 0.50 standard deviations); and "monitoring and evaluation" for the purposes of "feedback" and enhanced "motivation" (ibid.: 43) (for Hattie, feedback and reinforcement are the most powerful factors, with effect-sizes as high as 0.94 and 1.13 standard deviations respectively).

The degree of commonality between Lockheed and Verspoor's findings in the developing world and those of Hattie and others in the developed world is striking. Most of Lockheed and Verspoor's recommendations about what factors enhance learning most effectively, most economically, and most easily (with regard to implementation) are those factors that Hattie has identified to have effect-sizes well above the average of 0.4 standard deviations: they are his recommendations as well.

5.1. Outcomes-based education's potential to enhance student learning in South African schools

We note that the outcomes-based education that is being introduced in South Africa under a policy of curriculum innovation known as *Curriculum 2005* has not enjoyed much success. As we mentioned earlier, the Minister of Education established a Review Committee on *Curriculum 2005* in 2000 with the brief to investigate, among other things, the structure of the new curriculum, strategies for its implementation, and the level of understanding among teachers of an outcomes-based education (Chisholm, 2000: 1). Their conclusions were not optimistic, and they recommended that a much "revised and streamlined outcomes based curriculum be introduced" (ibid.: 4). Our conclusions coincide with these recommendations,

but go rather further in recommending the exclusion of all aspects of an outcomes-based education that do not accord with the findings on the effective enhancement of learning that we have considered here.

The review committee found that very many schools, teachers, trainers and officials "are confused about the design and implementation of *Curriculum 2005*", that they share a "rather shallow understanding of [its] principles", and that many of the "conceptual confusions, lack of clarity in policy documents and difficulties with implementation … stem from [its] basic structure and design flaws" (ibid.: 2). They found that *Curriculum 2005* is riddled with "complex language and confusing terminology", "meaningless jargon and vague and ambitious language, [and] the unnecessary use of unfamiliar terms to replace familiar ones"; that it is "overcrowded"; that it is weak in its "specific design features promoting sequence, pace and progression" and in "conceptual coherence". They found it strong on integration, but that this is dependent on 12 critical outcomes and fully 66 specific outcomes. "Range statements, performance indicators and expected levels of performance are intended to provide for progression but have failed to do so." Astonishingly, amidst all this jargon and complex verbiage, "curriculum designers have attempted to avoid prescribing content'(ibid.: 2-3). (This is seen by many as one of the most severe weaknesses of an outcomes-based education: its focus on procedural knowledge, or skills, and its neglect of propositional, or content-based, knowledge.)

The review committee further reported a "lack of alignment between curriculum and assessment policy", as well as a "lack of clarity regarding assessment policy and practice". They found that "on the one hand too much time is spent on managing and administering assessment, leaving minimal time for classroom work, and on the other, [that] there is insufficient attention paid to assessment in training and in curriculum planning and design" (ibid.: 3). They found that training of teachers has been wholly inadequate. Most training has been around the new terminology, with "little attention paid to the substance of an outcomes-based education and *Curriculum 2005*" (ibid.). District trainers themselves often failed to understand *Curriculum 2005* and "consequently did not use the principles of [the curriculum] in their own … training [methods]" (ibid.). They found that "learning support materials [are] variable in quality and often unavailable", that they have been poorly used, that teachers have been poorly trained in their use, and that this poor quality is a consequence of "design flaws in *Curriculum 2005* and the unreliability of the evaluation process" (ibid.). They found that follow-up support has been insufficient: "Provincial and district capacity to implement *Curriculum 2005* and provide support to teachers in classrooms is hampered by problems in

the organization of curriculum support structures, shortages and inadequate expertise of personnel and lack of resources for supporting *Curriculum 2005*" (ibid.). And they found that the time frames for implementation are "unmanageable and unrealistic" (ibid.: 4).

5.2. Conclusion: strategies for enhancing learning in the developing world context of South African schools

In an argument that could well apply to South Africa's attempts to replicate the success of an outcomes-based education experienced elsewhere, Fullan offers three reasons why innovations are "difficult to disseminate and replicate" (1999: 63). The first is that "the *products* of other people's reform efforts hide many of the subtleties of the reform in practice" (ibid.). This is best understood in terms of Schön's analogy of the iceberg, cited by Fullan, where the bulk of "tacit knowledge and artistry beneath the surface of readily accessible descriptions" often remains elusive to policy makers seeking to transfer good practice from elsewhere into their own context. Fullan's second reason for the difficulty of transferability of successful innovations is that "successful reforms in one place are partly a function of good ideas, and largely a function of the conditions under which the ideas flourished" (ibid.: 64). He suggests that "successful innovations … fail to be replicated because the wrong thing is being replicated – the reform itself, instead of the conditions which spawned its success" (ibid.). The facts, then, that the tacit knowledge underlying successful innovation is often unable to be tapped, and that the conditions premising it are unable to be replicated, lead to his third reason, offered by way of a conclusion: that "reform on a large scale depends on *the development of local capacity to manage multiple innovations simultaneously*" (ibid.: 65). "The development of local capacity, thousands of times over, is therefore the ultimate complex problem because *each* local situation to a certain extent will be unique and will need to develop differently depending on the particular configuration of its evolution" (ibid.: 66). Better support for the importance of in-service teacher education would be hard to find. While South Africa's planned implementation of an outcomes-based education would be heavily dependent on in-service teacher education, we would argue that this teacher education should focus, rather than on trying to master the complex jargon and procedures of an outcomes-based education as encapsulated in *Curriculum 2005*, on the development of the skills associated with the factors identified by Hattie and others, and confirmed by Lockheed and Verspoor and others in the developing world, as having the most effect on learning.

In other words, in-service teacher education should focus on the following: In order that teachers might set appropriate, challenging, and specific *learning goals* for their students, provide lots of *feedback* that is appropriate to students' current levels of understanding, and offer plenty of *reinforcement* to motivate their students to achieve their learning goals, they should understand and appreciate the importance of setting *learning goals*, providing *feedback*, and offering *reinforcement* to their students, and develop their knowledge of their *disciplinary curriculum*, their skills in *assessing students' current levels of understanding*, their skills of *classroom management*, their pedagogical skills of *actual teaching*, and their *sense of self-efficacy, enthusiasm and motivation.* The purpose of this is so that they may in turn reinforce their *students' motivation* and constantly and energetically seek ways for *innovation* in their practice by continual *reflection* on what they are doing to improve learning, through *in-service education* and otherwise. Thence they can provide a better *quality of teaching, effectively manage* their classrooms to maximize the *quantity of teaching*, do lots of *direct teaching*, adopt a *teaching style*, that includes *questioning*, and provides feedback on *homework* set according to learning goals, oriented to learning, and, establish a *classroom environment*, that includes *peer tutoring*, oriented to learning.

The most effective method of enhancing student learning lies in working with teachers to develop their knowledge, skills, and dispositions to this end. Expensive and complex life rafts that require a wholesale restructuring of the entire system, such as the fully-fledged curricular overhaul originally contemplated by South Africa's education planners in the form of an outcomes-based education, could well sink with the entire enterprise as they are aimed at the wrong level of analysis. The correct unit of analysis is at the teacher level, and less expensive, less complex, and carefully prepared and targeted in-service teacher education in the knowledge, skills and dispositions associated with those proximal factors that have been shown to enhance student learning most effectively, will probably see South African educators enjoying more success as they strive for the opposite shore.

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