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REPORT

Higher Education, Curriculum Differentiation and Social Justice in the Further Education & Training Certificate (General) and the Draft National Curriculum Statement

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CHET / SAUVCA Seminar:

The National Curriculum Statement:
Tensions and Challenges in the Further Education – Higher Education Articulation

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Introduction

In November 2002, the Minister of Education published a draft *National Curriculum Statement (NCS) for Grades 10 – 12 (Schools)*, intended to replace the 'old' syllabus and qualification stipulation of Report 550. The public was invited to make submissions. The central feature of the new NCS, and its proposed qualification framework, is that it seeks to de-differentiate the curriculum, assessment and reporting system, as the analysis below will make clear.

As a prelude to a higher education response, the South African Universities Vice-Chancellors' Association (SAUVCA) in collaboration with the Centre for Higher Education Transformation (CHET) organised a discussion on the draft NCS. This was held in Pretoria on 10 February 2003, and involved members of the Ministerial Project Committee (MPC) who had managed the compilation of the draft NCS, members from the Department of Education (DoE), Umalusi, and the universities and technikons. SAUVCA has subsequently submitted a consolidated sector response – *Consolidated University Sector Response* (version 2), 28 February 2003 – as well as a further submission to the Department of Education, together with the Committee of Technikon Principals (CTP) (June 2003), following a meeting between senior members of the HE sector and of the further and higher education branches of the Department to discuss key policy issues of concern.

This present paper also discusses issues from the discussion meeting organised by CHET and SAUVCA, though its purposes are somewhat different. These purposes deserve some elaboration.

Point of Departure

Higher education corporately, and its academic members severally, have two different, legitimate kinds of interest in the shape and likely outcomes of the Further Education and Training (FET) curriculum:

- The first is a *material* (or *political*) interest; it matters, or should matter, to higher education institutions what kind and quality of learning pool the FET phase serves up to them. There may well be intra-sectoral differences in interest, between say the research universities and the technikons. There may be differences in interest with other recipients, like the labour market. Here again, matters are not wholly clear-cut, since differences may be more marked between the labour market and some parts of the sector (say the research universities) than with other parts (say the technikons). (This is a purely speculative example.) But however the recipient or institutional interest field is configured, this material interest, nevertheless,

is quite different to another kind of interest that important sub-sectors of, or individuals in, higher education have in the matter.

- We may call this second interest a *socio-cognitive* interest. Higher education generically has a legitimate cognitive interest in the FET in two ways. First, although it is not the sole custodian of the knowledge heritage of a nation, the higher education sector is the public custodian of official knowledge. In this role, higher education has a broad custodial interest in the entire sweep or trajectory of knowledge fields and their reproduction, from preschool to the doctorate. One might say that it is higher education's mandated charge to make sure that the entire field is in good health – that the right things are taught to the right children at the right stage, and that the innovative edge of the field is in healthy ferment and growth. For instance, if evolution is not being taught at school, higher education has a legitimate right to query it. Similarly, if the most up to date historiography is not being taught, higher education has a legitimate interest in seeing this put right, as, for example, in the brief recently given to the Ndebele Committee. This is a broad overseeing role, not limited to the school curriculum. We must admit that the higher education sector in South Africa does not always play this role with the kind of ethical punctiliousness that responsibility to the public good demands. The sector's silence, as a sector, on the persistent controversy about AIDS and its medical aetiology is a recent notable instance.

  The second cognitive interest is a narrower one. Here, certain academics have a special knowledge about, and a particular interest in, the school curriculum. These academics have the intellectual responsibility, because of their specialisation, of foregrounding the conceptual, sociological, historical and comparative dimensions of the curriculum. What emerges from such an activity is frequently at odds with the espoused policies, and even interests, of the sector. The recent research on programmes is a case in point. It may be at odds with the material interests of others, and it may be at odds with already established national policy.

It is important to separate these two kinds of interest, the material and the cognitive. For other role players in the material interest field, it is all too easy to collapse these two interests into the material category. In our view, that is a political move that reduces the range of voices of higher education to a mono-vocal one of self-interest. It negates the intellectual contribution higher education could and should make to policy debate and public life. This short discussion paper is intended to play this latter kind of role, and must be distinguished from the official SAUVCA/CTP response mentioned above, that legitimately articulates the corporate sectoral interest in the FET curriculum and certificate.

This paper will delve into the vexed question of curriculum differentiation. We understand it to be vexed in a number of ways, but particularly because

curriculum differentiation (more precisely, a particular form of curriculum differentiation) was a principal instrument of Bantu Education, so designed to limit the labour market opportunities of racially defined population groups. It was thus inevitable, from the outset of the new South Africa, that curricular differentiation would be regarded with deep suspicion and often seen as the instrument of social injustice. We believe that this is a serious matter, and that any discussion of differentiation has to confront this issue and make a curricular case for social justice. This paper will set out to argue this case.

Differentiation Past and Present

It is instructive to recall the way that the National Education Policy Investigation (NEPI) considered the matter of differentiation. The Framework Report of NEPI (1992) argued that differentiation was one of four systemic features whereby education systems, or sub-sets of these systems, might vary. As a systemic feature, there are pros and cons attached to either high or low differentiation. The question is: which pros were most important, which cons the least?

> The strongest argument *against* education differentiation…is that, by providing different education experiences for various children, we run the risk of offering an education that is better for some (that is, of higher quality) than for others: that is, it runs the risk of producing inequity. In a society such as South Africa, which has gross social inequalities, education differentiation tends to accentuate them.
>
> The strongest argument *for* education differentiation is that specialist skills require differentiation (of curriculum, perhaps of institution, probably of finance). Since such skills are said to be vital for an economy which aims to be competitive in world markets, education differentiation is said to be essential for development.
> (Framework Report, 1993: 21)

Since it was assumed that attention to development was realistically unavoidable, the Framework Report also assumed that some kind of differentiation was inevitable. The question then became how to deal with the tension between the equally desirable but divergent social goods of equity and development:

> More than any other aspect of the education system, differentiation highlights the potential tension between the values of equity and development. We assume that most significant policy players will agree that the policy challenge is to find ways of maximising development while improving equity, to *manage differentiation in such a way that the social programme of education equity is not seriously compromised*. (Emphasis added.)
> (Ibid.)

In other words, the way to deal with the potentially undesirable side effects of differentiation is to manage them. It would not have occurred to the NEPI writers that decreasing or eliminating differentiation was an option. Yet, as this discussion document will show, that is the strategy adopted by the Qualifications and Assessment Framework. As we will go on to show, the strategy of de-differentiation will do the opposite of what is intended: that is, de-differentiation itself becomes a threat to equity and social justice.

We can summarise the discussion so far as follows:

- Education systems are designed to pursue various social goals and priorities;
- These goals may be equally desirable, but they may be, and often are, divergent;
- This divergence must be managed in order to ameliorate the impact of potentially undesirable effects;
- Attempting to deal with tensions between social goods by favouring one at the expense of the other is hardly a desirable strategy;
- Where a policy of de-differentiation is pursued, negative unintended consequences are likely to ensue.

It is this last feature that this brief comment seeks to elucidate.

We may characterise the draft NCS and the recent policy document *Qualifications and Assessment Policy Framework Grades 10-12 (General*) as a de-differentiating policy proposal with three de-differentiating features: of the grading continuum, of the qualification and learning areas, and of subject content:

- The grading continuum has been shrunk from eight categories to six;
- Higher grade and standard grade have been collapsed into one;
- Content in some key subjects remains under specified.

These points are elaborated further below.

- ***Reduction of differentiation of the grading continuum***

  The Framework proposes that the eight bands which served to grade and signal achievement level in the old senior certificate be shrunk to six[1]:

Band	**New code**	**Old code**
80 – 100%	6	A

[1] Much of the public comment has focussed on the band descriptions, as if these would replace categorical grading altogether, or as if this was the main difference with the previous grading practice of As to FFs, which of course it is not, as Jonathan Jansen pointed out on Radio Today, 6 August 2003.

60 – 79%	5	B/C
50 – 59%	4	D
40 – 49%	3	E
30 – 39%	2	F
0 – 29%	1	FF/G

It should be plain that the main difference here is a collapse of the previous B and C categories into one, and the lopping off of the old bottom G category. On the face of it, this seems inimical to higher education purposes, for it is usually exactly in the B and C range that higher education institutions would like to be able to discriminate in key subjects such as maths. With this system, they will be unable to use code 5 as a selector if, for instance, entrance was to be restricted to what would previously have been a B. To put that another way, the grade bands, bands 1 and 5 in particular, are now so broad that the facility for useful benchmarking has been reduced. At a time when international literacy and numeracy competency comparisons are on the increase (for example, the Third International Maths and Science Study, the Monitoring Learner Assessment Study, and the Southern African Consortium for Monitoring Educational Quality study), compressing the grading continuum seems to avoid rather than to grasp the problem. Tackling the problem entails using assessment to tell us exactly what it is that our children are, and are not, learning.

There are two further features of the new grading policy worth commenting on. First, the awarding of marks that can be aggregated (norm referenced assessments) has been scrapped, and replaced by relevant assessment standards (criterion-referenced attainment standards). As a consequence, it is now unclear whether and how attainment levels on a series of assessment standards can be aggregated to give an overall assessment that is sufficiently discriminating for personnel managers and higher education admissions officers to make fair judgements in a crowded field. Secondly, subject assessments will no longer be aggregated together to form a single overall assessment for the school-leaving certificate. The award of the certificate will now depend upon a number of different attainment combination rules:

- Scores 4 or better in four subjects at NQF level 4;
- Scores 4 or better in three subjects at NQF level 3, where a pass at level 3 is achieved through a process of ‘condoning’.

What this means will be far from clear to many personnel officers, and it seems a fair guess that many of them, in practice, will simply take attainment in one or two subjects (say, maths or language) as a proxy for employment potential. Over time, this may come to mean a downgrading of the other learning areas (like history, for example) in the mind of corporate commerce, and perhaps even in the mind of the public.

In other words, grading de-differentiation denotes a potentially serious loss of signalling power of the FET certificate, for both higher education institutions but also for the employment sector, public and private. Whatever proxies are then resorted to will probably disadvantage the already disadvantaged. Proposals so far mooted for addressing this concern include the release of marks to the higher education institutions; marking at different benchmarks; and including academic literacy assessments in the FET certificate itself. All of which seems a long way round to cope with the serious problems an assessment system must experience if it is intent on a thorough-going criterion-referenced system and a de-differentiated grading system because of an ideological problem with differentiation rooted in the past.

- ***De-differentiation of the qualification and of learning areas (Maths)***

The FET Qualifications and Assessment Framework collapses the distinction between a Higher Grade (matriculation endorsement) and a Standard Grade (Senior Certificate). There will from now on be only a single level FET qualification. It is plain that the intention here will be to eliminate the social hierarchy between the two old qualifications, a hierarchy moreover obdurately marked by race. Once again, though, the strategy to eliminate the difference, by making the differentiation invisible, masks but does not solve a larger problem. The problem is this: the two distributions for the current two grades (standard and higher) overlap hardly at all (think of the two partly interlocked circles of the MasterCard logo). The SAUVCA/CTP memo to the Minister of 11 June 2003 puts the point as follows:

> …against the standard grade syllabus an achievement at 90% would translate into outstanding achievement; but the same attainment measured against the complexities of the higher-grade syllabus/subject would probably score between 40 and 49% and translate into adequate achievement.

Imagine now that all students will come under the same assessment umbrella. The first question, which remains to be answered, is – where will the benchmark (normative reference) be set? Let us say it is set at the present higher grade level. As the example implies, this will mean that the very best students on standard grade will get a barely passing mark (now, a level 3 grade). And if the majority of learners doing standard grade were black, then the majority of learners at the bottom end of the distribution, all other things being equal, will be black. Presumably, to make this sleight properly invisible, the Minister will have to decree that race not be a reporting category for results. But we will still know which schools get what results, and we will still know which serve the poor and which the middle class. Those results will still tell the same story. Assume, however, that the Department sets the norm for the FET certificate at the old standard grade level. This will push all the learners in whom higher education might have an interest into the

top two bands, if not into the top band alone, further exacerbating the problem of discrimination discussed above. In other words, for the strategy of qualification elision to work, there has to be a far more articulated grading procedure. In short, grading and qualification de-differentiation, together, further compound the problem.

The elision of higher grade and standard grade is more problematic in some subjects than in others, particularly that between standard grade and higher-grade maths. SAUVCA and CTP have been particularly vocal about this feature. One sees the problem that the Department is trying to solve by this de-differentiating feature: as the stakes are increased, so school principals have tended to counsel struggling learners into standard grade maths in order to minimise the higher grade failure rate and maximise the overall pass rate. The concern is real, but the flaw in the logic lies in regarding this as necessarily a bad thing. The Department takes the view that this is not fair to the learners so treated. There are three comments to make. First, to allow learners to write the more arduous exam and to fail is not necessarily more fair, since a pass at the standard grade level has more exchange value in the market place than a fail at higher grade. Secondly, the principals' practice is arguably more efficient than wholesale higher-grade registration and failure. Thirdly, it is plain that the de-differentiating strategy, in seeking to render the problem less visible, leaves untouched the root of the problem, which lies with the dearth of trained teachers in Maths, and with the under-specification of the curriculum, discussed below. In any case, far from dealing with the issue, the creation of Maths Literacy as a subject offers learners the opportunity to register for a subject that offers them no access to higher education in Science, Engineering, Health Sciences and Commerce. At least learners who had standard grade maths were afforded access to some courses in the technikons. Now, arguably a larger pool will either write Maths and fail (since all agree that the bar in the draft Maths curriculum statement is now raised even higher than it was in the old higher grade syllabus) or write Maths Literacy and find access to higher education further curtailed. Fairness, in other words, is not served by this de-differentiating strategy either.

- ***De-differentiation of subject content***

The matter of content in the FET curriculum, indeed in an outcomes-stipulated curriculum, is a contested one. Popular wisdom has it that in the original apartheid curriculum, content was prescribed and children learnt by rote, thus stunting their problem-solving capacities and capabilities. Consequently with the new Curriculum 2005, an outcomes-based curriculum, the stipulations were stated in skill terms and the content left by and large to the discretion of the teachers. As the Presidents' Educational Initiative research so plainly showed, the majority of teachers simply do not have the requisite content knowledge of the subjects they teach in order to exercise this discretion effectively. The result was that learners were learning less and

less, and consequently falling behind their age cohort benchmarks. The evidence we have shows that grade 3 readers are a full year behind where they should be, and grade 6 learners a full two years (Taylor, Muller & Vinjevold, 2003). With the Review of Curriculum 2005, it was argued that this learning shortfall was not the fault of the teachers, but rather a design flaw of the curriculum. This is how they made the case:

> The Review argued that subjects in the curriculum differed as to their curricular coherence requirements, and they differed as to the optimal way in which content and skills should be stipulated. Some subjects, like maths and science, were content/concept-rich, with content and concepts building upon one another. In such subjects, not just any content will do, nor can any content be paired with the desired skills. Here, there is a defined body of content that must be covered in a specific sequence in a specified time period. If the content is not specified, and the sequencing and pacing requirements not clearly marked, then teachers with a shaky content knowledge would not necessarily choose the right content, in the right order, at the right pace. The inevitable consequence would be learners with knowledge gaps. When these learners progressed to later grades, especially in subjects that required a strict sequence of development, then they would lack the requisite foundation to progress in that subject. The result would be learners who were structurally stunted in their learning progress in these subjects, by a curriculum that came close to denying would-be citizens the right to knowledge safeguarded in the Constitution.
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> The Review contrasted this cluster of subjects with those at the other end of the spectrum, like Life Skills and Technology, that were defined in a far more skills-based way, and where the knowledge to be paired with the skills was not as obligatorily laid down by the sequencing requirements of the subject. Here a skills based curricular stipulation would suffice for both strong and weak teachers, though once again we could expect the weaker teachers to expose their learners to a more impoverished array of knowledge. In the middle of the spectrum were content-rich subjects, like History, where the content to be covered needed to be signalled, but the order was not as crucial, since the conceptual ladder of the subject was not as steep. Here, the knowledge to be paired with the skills was more optional, and a curriculum could safely suggest content and leave a degree of discretion open to the teachers.

A curriculum like Curriculum 2005, thus, which was skills-stipulated but which was under-stipulated in terms of content and where the progression requirements were under-signalled, was thus clearly undesirable for our majority of already disadvantaged learners and poorly prepared teachers. The consequence could only be that those already disadvantaged would be further disadvantaged by the state's curriculum, a social injustice of major proportions. The Review thus strongly urged government to stipulate content, sequencing and pacing

requirements for the content/concept-rich subjects. Subject specialists contend that this has been adequately done in some cases, like Maths, but not in others, like Natural Sciences. The draft NCS shows a level of under-specification, which is worryingly similar to that of the original Curriculum 2005. This is presumably what the SAUVCA/CTP response had in mind when it states that: 'It is thus a prerequisite that the subject statements contain a degree of specificity about the content (the disciplinary content) and the organising principles on which this content is based and collected into a coherent curriculum.' So far, this has not yet been done.

The higher education institutions are clearly concerned mainly about the knowledge gaps with which learners may come into higher education. Not only are learners likely to have knowledge gaps, they are likely to have conceptual gaps as well. These are unlikely to be usefully pinpointed either by the highly individualised assessment procedures prescribed or by the de-differentiated signalling capacity of the 6 band grading system. The learners won't know what they don't know, their teachers won't know what they don't know, and the higher education institutions are unlikely to know what they don't know until it is too late. It is quite clear why the higher education institutions have a sectoral concern about the de-differentiating matrix of the FET curriculum.

The concern propelling this comment, however, is less with the difficulties that higher education institutions will have than it is with social justice. The argument made above is that equitable knowledge and hence equitable learning opportunities for disadvantaged learners are seriously threatened in the new FET curriculum by de-differentiating features that will do the opposite of what they appear intended to do. Just because differentiation was associated in the apartheid curriculum with inequalities, it does not follow that differentiation per se is a policy evil to be avoided at all costs. As argued in the NEPI Framework Report, managing differentiation, not doing away with it, is the appropriate strategy for dealing with the tension between equity and development. Yet the Department seems intent on differentiation-avoidance at all costs. The only possible policy advantage to be gained is a symbolic one. The cost though, will be high, and the cost will be a breach of social justice for already disadvantaged learners. It can be predicted that this FET curriculum will follow the cycle of its forerunner Curriculum 2005, and will have to be reviewed and revised within the next five years.

Brief Recommendations

This commentary concludes by making three recommendations very briefly:

1. Appropriate content-specification should be stipulated for each subject.

2. In key concept-rich subjects, like Maths, Natural Sciences, serious consideration should be given to the introduction of two differently

benchmarked assessment protocols, in order to do proper justice to two quite different exit purposes, further study and school leaving.

3. For equity reasons, the reporting system must be clear. To this end, the grading codes and the un-aggregated overall assessment proposal should be revisited.

References

National Education Policy Investigation (1993). *The Framework Report and Final Report Summaries*. Cape Town: Oxford University Press/ National Education Co-ordinating Committee.

SAUVCA, September 2003. Summary Report. The FET schools policy: The National Curriculum Statement and FETC (General) exit qualification.

SAUVCA-CTP, June 2003. Submission to the Department of Education on the Further Education and Training Certificate (General) and the National Curriculum Statement, Grades 10-12.

SAUVCA, February 2003. Consolidated University Sector Response: The proposed National Curriculum Statement Grades 10-12 (Schools).

Taylor, N., Muller, J. & Vinjevold, P. (2003). *Getting Schools Working.* Cape Town: Pearson Education South Africa.

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