The ‘f’ word

The quality of the ‘fundamental’ component of qualifications in general and further education and training

UMALUSI

Council for Quality Assurance in General and Further Education and Training

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Summary

This report describes the findings of research conducted to investigate the standards of mathematics and English courses that are being offered by different providers and certified by different quality assurance bodies, as part of requirements for compulsory 'fundamentals' in all qualifications from levels 1 to 4 of the National Qualifications Framework (NQF). Through an attempt to conduct a detailed analysis of a sample of courses on offer, and through first level descriptions of submissions from providers, the research found that there appears to be highly variable standards across different programmes. It also found that unit standards do not seem to be an appropriate vehicle to ensure a commensurate standard, and have caused a series of identifiable difficulties and complications for both providers and quality assurance bodies. Further, many providers present courses in formats which currently make it very difficult for a quality assurer to evaluate them, but which may well be of good quality. The research recommends a few possible solutions to these various problems. For example, it suggests that a limited set of compulsory mathematics and language courses could be available, from which qualification designers can choose. Such courses should have a prescribed curriculum framework, and at least 50% of the summative assessment should be conducted externally to providers by an accredited assessment body. The research further recommends that programme approval is not a viable quality assurance mechanism within general and further education and training. The research was not able to explore crucial questions about how much and what kind of mathematics and language courses should be compulsory at what levels, and what should be regarded as 'fundamental' in general and further education and training, and suggests that urgent research as well as policy decisions in this regard are required.

Section 1
Background

Introduction

This research aimed to explore the quality of a variety of courses that have been developed in mathematics and English, two areas which have been designated as part of 'fundamental' learning at levels 1 to 4 of the National Qualifications Framework (NQF). By implication, the research explored an aspect of current education policy in South Africa—the idea of programme evaluation against specified learning outcomes as a central feature of quality assurance under the NQF. Obviously, these issues are situated in a broader policy context, and in order to understand exactly what the sources of contestation are, and to understand both the design and the implications of this research, there are aspects of the policy environment that require discussion. This section therefore first discusses the idea of using outcomes as the drivers of educational quality, and how this idea has been institutionalized through the current design of the NQF. It then briefly looks at Umalusi's position on educational quality. Third, it explores some of the complications around the idea of 'fundamentals', and different ways in which the concept has been interpreted. Finally, it looks at the problems that have arisen in relation to how courses that are offered in language and mathematics as part of the compulsory, 'fundamental' part of qualifications, are quality assured. This background is essential in order to understand why this research was designed, as well as its findings and implications.

The NQF and outcomes as the drivers of educational quality

The idea of the 'fundamentals' as a compulsory component of all qualifications was introduced as part of the NQF, and as such some background about the NQF is necessary. The NQF was established through the South African Qualifications Authority Act .

Through two sets of regulations under this act, the South African Qualifications Authority (SAQA) established a very specific model for the NQF, based on the idea that learning outcomes should be nationally prescribed by representative bodies (Standards Generating Bodies) which are located *outside* of educational institutions. A qualification is described by SAQA as a "planned combination of learning outcomes" (Republic of South Africa 1998). This model is based on a notion that such learning outcomes should be independent of the design, delivery, or assessment of educational programmes, and a variety of different kinds of learning can be assessed against the same learning outcome (SAQA 2000a).

In most of the qualifications which have been newly designed through SAQA's Standards Generating Bodies, learning outcomes are composed into unit standards. (Some of the new qualifications are composed of learning outcomes, but have not been divided into unit standards.) Course designers are supposed to design against the standards, educators teach against them, assessors assess against them, and evaluators evaluate against them. Because the outcome is supposed to 'hold' the standard, decentralized assessment is regarded as both possible and desirable.

In such a model, the role of quality assurance bodies is to:

- Accredit providers to offer programmes against specified qualifications or unit standards.
- Approve learning programmes against which qualifications or unit standards will be taught. Approval is based on whether or not the learning programme is likely to lead to the specified outcomes in the qualification or unit standard.
- 'Register' assessors, who will conduct assessment against the specified outcomes.
- 'Register' moderators, who will moderate assessors' judgements about learner performance against the specified outcomes.
- Send verifiers to verify the judgements of moderators about assessors' judgements about learner performance against the specified outcomes, or, to verify that appropriate assessment and moderation systems are in place in order to validate the judgements of moderators.

Education and Training Quality Assurance bodies (ETQAs) are constituted under the Sectoral Education and Training Authorities (Setas), which are bodies set up to support education and training in different sectors of the economy. These Seta ETQAs rely primarily (with the exception of trade tests) on the internal assessment conducted by providers. Seta ETQAs register individuals as 'constituent'[1] assessors and moderators. There is variation across Seta ETQAs in requirements in this regard, and whether assessors are registered to assess against particular unit standards or an entire qualification.

One of the many claims made in favour of this system is that it will enable learner mobility, as it will provide a clear sense of what learners have achieved to institutions of education and organization in the job market alike. In addition, this system is supposed to ensure that relevant competences are acquired by learners, and that there is a clear and maintainable standard, as specified in the learning outcomes.

The NQF has been under review since 2000. While a different model in terms of the qualifications framework may be suggested, it is not clear exactly where the differences will lie—will there be space to redesign the framework of qualifications, or will there merely be a rearrangement of the roles of different roleplayers? Regardless, change is (and has been for the past six years) imminent. In addition, at the time of writing this report, various activities are underway to create a new umbrella quality assurance body for occupational qualifications, called the Quality Council for Trade and Occupations.

[1] Setas require achievement against the generic assessor unit standard for the registration of an assessor. They usually have additional requirements regarding occupational subject matter expertise and/or work experience, which, in the current model, qualifies an assessor to assess within a specific area. This is what it means to be a registered 'constituent' assessor.

Umalusi's position on standards and educational quality

Umalusi is the quality assurance authority for general and further education and training[2]. Umalusi believes that it should focus its attention on the quality of three aspects of the education system:

- The curricula that are prescribed for national courses.
- The examinations through which these curricula are tested.
- The institutions in which courses are offered.

Umalusi believes that through making judgements on and supporting the development of these three aspects of the education system, it will best be able to improve the overall quality of the standards of education programmes offered to large numbers of learners[3]. A focus on national standards to ensure comparability of achievements across different providers is seen as a key responsibility of quality assurance bodies.

Consequently, Umalusi does not accept the model of decentralized assessment or the approval of learning programmes of individual providers. It is committed to issuing certificates for qualifications that have at least a 50% component of external assessments, and its accreditation of providers is directly linked to participation in external assessments.

Obviously, Umalusi is aware that there are many other factors that contribute to standards and quality. However, as a small tax-payer funded organization, it is incumbent on Umalusi to target key levers within the system. Umalusi believes that prescribed curriculum statements (or syllabuses), external examinations, and institutional monitoring are significant and relatively cost-effective ways of measuring quality, as well as levers to improve quality.

Clearly, however, Umalusi's approach, which has its own history and provenance, does not fit easily within the current design of the NQF, and contradicts with the quality assurance mechanisms used by the Seta ETQAs, as discussed above.[4]

The 'F' word

DIFFERENT UNDERSTANDINGS OF 'FUNDAMENTALS'

Within SAQA's system for qualifications, based on the idea of a qualification as a 'planned combination of learning outcomes', 'rules of combination' specify ways in which different unit standards or learning outcomes can be combined. SAQA introduced the terms 'core', 'elective[5]' and 'fundamental' as a means to categorize the way learning outcomes are combined into qualifications. The category 'fundamental' is supposed to indicate "that learning that forms the grounding or basis needed to undertake the

[2] The existence of Umalusi as a quality assurance body across these two bands of the NQF and the Seta ETQAs as quality assurance bodies for specific sectors means that there is potentially an overlap of jurisdiction.
[3] This is not a comment on higher education, which has dramatically different institutional arrangements, with a small number of learning institutions staffed by professionals, and with various existing checks and balances.
[4] This does not mean that Umalusi is set against the idea of a national qualifications framework. On the contrary, Umalusi has clear proposals for a framework, although they differ substantially from the current design of the NQF.
[5] The categories 'core' and 'elective' are defined respectively by SAQA as "that compulsory learning required in situations contextually relevant to the particular qualification"; and "a selection of additional credits at the level of the National Qualifications Framework specified, from which a choice may be made to ensure that the purpose of the qualification is achieved" (SAQA 2000, p. 13).

education, training or further learning required in the obtaining of the qualification" (SAQA 2005, p. 2). The purpose of the fundamental component is

> ensuring that learners have a sufficient base of general education suitable for a particular NQF level, from which progress to higher levels will be possible.
> (SAQA 2004, p. 10)

At NQF levels 1 to 4, SAQA specified that 'fundamentals' must include language and mathematics or mathematical literacy. In many qualifications at this level, it also includes life orientation. However, qualification designers in specific areas have also specified learning outcomes that they regard as 'fundamental' for specific qualifications, including topics (and related skills) such as HIV/AIDS, health and safety, management, and so on.

The word has been the source of some confusion, and it is important to separate out at least two distinct ways in which it has been interpreted. Firstly, it can be interpreted as 'compulsory components of qualifications'. This interpretation is more-or-less how Umalusi has dealt with fundamentals—and Umalusi has indeed elsewhere proposed that the terminology should be changed to 'compulsory components'. A second way of interpreting fundamentals is closer to what in England are called 'core skills', in Australia, 'key competencies', and elsewhere, 'essential skills'. It does appear as if SAQA's original intention with the idea of 'fundamentals' included this notion—that all qualifications must contain compulsory learning outcomes which would contribute to learners mastering the skills that are essential to everyday life as well as to further learning. SAQA, however, also stipulates 'critical cross-field outcomes', which are supposed to be taught across all learning areas, and are also supposed to ensure that learners 'learn to learn', learn 'problem-solving', and so on.

The prescription of language and mathematics learning outcomes within the 'fundamentals' is due to the fact that these subjects are seen as part of education and training necessary for all learners. Language is required for learning across the curriculum. Language and mathematics skills are also seen to be necessary for all learners in the course of life, and these subjects are seen as part of the requirements of a general education. It was also believed that stipulating compulsory language and mathematics courses across all qualifications in general and further education and training would ensure comparability of qualifications, and would ensure that learners could move from one type of programme to another. Language and mathematics are also seen as key to further learning. The inclusion of compulsory learning and assessment against language and mathematics learning outcomes was supposed to ensure that all learners, regardless of the area in which they were studying, could progress to further learning. The idea is that *through* language and mathematics courses, learners will 'learn to learn', learn to 'problem solve', learn basic skills that they need in their everyday lives, and master the language that is required for further study. In this way, a conflation arises between the idea of compulsory mathematics and language courses, and the idea that learning programmes must enable learners to master 'fundamental' competencies, 'generic skills', 'key competencies', and so on.

This study does not engage with the broader question of the idea of 'fundamentals'. It does not discuss the nature of the 'fundamental' learning that all learners should achieve, or how such 'fundamental' skills and knowledge should be acquired. In the concluding sections of the report, some questions are raised in this

regard. The research, however, interprets 'fundamentals' in a far more limited way, simply as the current compulsory language and mathematics components of qualifications currently on offer. It does not look at life orientation courses, nor does it look at other components of qualifications which are designated by qualification designers as 'fundamental', and it does not evaluate whether or not language and mathematics courses contribute to some notion of 'fundamental' learning.

'FUNDAMENTALS' AS LEARNING OUTCOMES

It is important to remember that within the NQF idea of outcomes-based qualifications, the prescribed 'fundamental' components consist of prescribed *learning outcomes* in language and mathematics, contained in unit standards, and not specific courses. The assumption, as discussed in the section on the NQF above, is that any provider can then design a course, teach a course, and/or assess a course, as long as the provider is accredited by a quality assurance body, the course is approved as one likely to lead to the specified learning outcomes, and the assessment gets moderated and verified against the learning outcomes by a quality assurance body.

With regard to language, there are five generic standards at each NQF Level, each worth five credits. Three of these standards cover reading, writing and oral skills and are regarded as common standards for all language programmes. The fourth and fifth standards provide options either for literature or for language use in occupational learning programmes. Either combination makes up the twenty credits required for a SAQA qualification.

Typically the unit standard titles (a unit standard title contains the main outcome of the unit standard) are formulated as in the following examples:

> Read/ view, analyze and respond to a variety of texts' (119469 NQF Level 4)[6].
>
> Write/ present/ sign for a wide range of contexts (119459 NQF Level 4).

Specific outcomes are then added to each of these main outcomes which are supposed to further explain the different kinds of skills involved in reading or writing, while the range statements and assessment criteria address various features and functions of language with which the learners need to engage.

In addition, because in some quarters these 'generic' standards were perceived as being too 'academic' in their approach, language standards were created which directly relate to the workplace content. However, the Standards Generating Body that developed the generic standards argued that the generic standards cover such applications, and that the sector-generated standards simply duplicate their content[7].

Examples of these 'workplace specific' language standards are:

> 9960 Level 3: Communicate verbally and non-verbally in the workplace (8 credits).
>
> 12153 Level 4: Use the writing process to compose texts required in a business environment (5 credits).
>
> 12155 Level 4: Apply comprehension skills to engage with written texts in a business environment (5 credits).
>
> 8556 Level 4: Interact orally and in writing in the workplace (10 credits, expired but still used).

(A list of some of the language unit standards in current usage is provided in Appendix One.)

[6] Unless otherwise stated, all unit standards were accessed off the SAQA website, www.saqa.org.za, between February and March 2007.

[7] This was argued in a 2004 report by the Communications and Language Studies Standards Generating Body to National Standards Body 04.

The mathematics unit standards are not divided into strands, but there are unit standards relating to three broad areas: space, shape and measurement; probability, data-handling and statistics; and financial mathematics, at each of levels 2, 3 and 4. These unit standards have a mathematical literacy 'flavour'.

There are also mathematics unit standards that relate to number at all the levels. These vary substantially—the two unit standard titles below are examples, firstly, of a very basic and arguably relatively trivial outcome and secondly, of mathematics which is generally regarded as university level:

> 9010 (Level 3): Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations.
> 7466 (Level 4): Represent and operate on complex numbers in non-trivial situations.

In addition, at NQF Level 4 the scope of the unit standards broadens to include unit standards relating to functions, sequences and series, trigonometry, and calculus. (A list of some of the mathematics unit standards currently in use can be found in Appendix Two.)

'CONTEXTUALIZING' AND 'EMBEDDING'

A further complication associated with the notion of 'fundamentals' in current qualifications arises from differences of opinion about whether the compulsory mathematics and language learning outcomes should be taught through 'stand-alone' courses or whether they should be 'contextualized' or 'embedded' into the teaching of other subjects/learning areas/learning outcomes.

Because 'fundamentals' in this outcomes-led system are supposed to be contained in the specified learning outcomes, and not as specific courses or programmes, it has been argued that it is possible, and indeed preferable, for 'fundamental' learning outcomes to be achieved through courses which 'embed' language or mathematics outcomes into workplace or occupational learning programmes. From this point of view, language and/or mathematics should be taught through the teaching of, say, hairdressing, or banking. The idea is that all learners, whether doing banking or hairdressing, would all achieve the same competencies in language and mathematics, as they would all have been taught and assessed against the same learning outcomes. It seems to be generally believed that SAQA favours the embedding of language and mathematics in this way, although there is no official statement in this regard[8].

There are also different understandings of the concepts of 'contextualized' and 'embedded' learning. For example, a language or mathematics programme could be designed based on the disciplines/subjects, but be taught drawing on examples relevant to the occupational/workplace context. 'Embedded' programmes tend to mean programmes focused on occupational competencies, with the language or mathematics learning 'embedded' in the programmes.

The alternative to both these options is stand-alone mathematics and language courses. As argued by the *Study Team on the Implementation of the NQF*,

> Learners with poorly developed language or mathematical skills (for example) will not necessarily improve such skills just because they are given practice in using them in a vocational context. Nor can it be assumed that all teachers and trainers have the professional expertise to help the learners develop such skills. Recent evidence suggests that it is extremely difficult to

[8] SAQA supported the development of courses such as *Communication for Hairdressers* and *Mathematical Literacy for Early Childcare Practitioners* through the Danida Support to Education and Skills Development project.

> apply skills that you do not already have. Thus learners who have not developed their basic language and mathematics skills at school will probably need to undertake units of learning focused on the language and mathematics that underpins the Critical Outcomes. (Departments of Education and Labour 2002, p. 85)

The 'embedded' view has consequences for the quality of learning and teaching of the 'fundamentals' that learners receive. What concerns Umalusi is the possibility that a programme designed primarily for the delivery of occupational standards could throw in a few, very specific-to-context language or calculating activities, and claim to have covered the 'fundamental' standards. This is particularly probable because a learning programme designer whose competence is linked to a specific occupational or industrial area is less likely to have the expertise to include the kinds of learning experiences needed to promote a grounded learning of mathematics or language. It is also probably unrealistic to expect the trainers or providers of the occupational learning programme to have the subject matter expertise to adequately teach (and assess) language and mathematics beyond the immediate needs of their own programmes. Umalusi is concerned that in this 'embedded' approach, it is likely that the communication skills would be narrowly contextualized in terms of the needed vocabulary for that workplace, and mathematics might focus on only a few practical applications instead of building an internalized understanding of abstract concepts and a range of operations. Such an approach would have serious implications for portability and transfer of these fundamental skills to other contexts.

OTHER CONTESTATIONS ABOUT THE 'FUNDAMENTALS'

Various other problems with the 'fundamentals' have arisen in the system. It has been argued, for example, that the requirements for language and mathematics credits *at the level of the qualification* are too onerous, and that learners are consequently being denied workplace-relevant qualifications because they are unable to attain the 'fundamental' credits. In other words, the argument is that learners on a hair care qualification at Level 4 do not necessarily need mathematics credits at Level 4, and making mathematics or mathematical literacy compulsory at this level may be an obstacle to learners obtaining qualifications.

Clearly, the 'fundamentals' is a problematic and contested area. An investigation of the topic opens up difficult questions, such as:

- How much language and mathematics should be compulsory, in what form, and at what levels?
- What knowledge or learning outcomes should be regarded as 'fundamental', and how best should these be taught? Can they be taught through language and mathematics courses?
- How well is the model of using learning outcomes in qualifications as the basis for programme design, delivery, assessment, and evaluation working? What are the standards of courses being offered?
- How can or should quality assurance take place in courses which are designed against learning outcomes, and assessed on a decentralized basis?
- What should be compulsory in qualifications?

CURRENT LANGUAGE AND MATHEMATICS COURSES OFFERED AS PART OF THE 'FUNDAMENTALS'

The different understandings of the 'fundamentals' have led to different types of educational provision.

In the schooling sector, it is compulsory for learners to enroll for two language courses, a life orientation course, and either a mathematics or mathematical literacy course. Courses are offered at first and second language level, and within these, there is differentiation between higher grade (HG), standard grade (SG) and lower grade (LG). In public Further Education and Training colleges as well as private institutions which offer the Department of Education's qualifications, it is compulsory for learners to enroll for at least one language course, as well as life orientation and either a mathematics or mathematical literacy course. Adult learners who are enrolled for a General Education and Training Certificate (GETC) must enroll for a language course and a mathematics or mathematical literacy course. While there is no prescribed curriculum for these GETC courses, there is an external examination. Umalusi quality assures and issues certificates for these courses. They are all 'stand-alone' mathematics and language courses—in other words, they are taught as subjects, and are not 'embedded' into any other courses.

These courses are certificated based on examinations that are set by the national and provincial departments of education, the Independent Examinations Board (IEB), and other accredited examination bodies. With the exception of adult education courses, these courses are all examined on the basis of a prescribed syllabus or curriculum framework. An alternative curriculum and examination is available for adults through the Aseca (*A Secondary Education Curriculum for Adults*) programme .

In the school system, in 2005 and 2006, the numbers and enrollments for English and mathematics were as follows (Department of Education 2006):

Year	English, first & second language (HG, SG & LG combined)			Mathematics (HG and SG)		
	Wrote	Passed	Percentage passed	Wrote	Passed	Percentage passed
2005	515 563	48 173	93.4%	303 152	169 001	55.7%
2006	536 890	50 498	93.9%	317 642	165 865	52.2%

It should be noted that, as discussed above, the compulsory 'fundamentals' category also includes other languages, but for the purpose of this report the focus is on English.

In the college system, the numbers are lower (Department of Education 2006):

Instructional description 2006	Entered	Wrote	Passed	Percentage passed
Business English, first & second language (new outcomes-based course)	90	74	40	39.3%
Business English, first & second language (N3)	15 044	11 696	6 785	58%
Mathematics (N3)	9 984	6 058	4 307	49.29%

It should be noted that these figures combine the June and November examinations in the Further Education and Training (FET) system.

Enrollment and achievement numbers for Adult Basic Education and Training (ABET) are the lowest in the formal education system (Department of Education 2006):

ABET Level 4 (NQF Level 1), 2006	Wrote	Passed	Percentage passed
English	21 631	11 201	51,8%
Mathematical Literacy; Mathematics and Mathematical Sciences	26 127	5 289	25.23%

Umalusi is aware of problems with these courses—indeed, Umalusi's own research points to various difficulties and challenges, and Umalusi is taking them up with the Department of Education in an attempt to find remedies. Nonetheless, the responsibility for quality assurance for these systems is not disputed. As the quality assurance body, Umalusi believes that it has a reasonably good understanding of what the current standards of these courses are, as well as where the problems lie, and is focused on addressing them. These courses, therefore, are not the focus of this research.

There is also an emerging sector of private provision of new NQF qualifications which are designed for specific occupations. Within these qualifications, individual providers have developed courses against the prescribed language and mathematics learning outcomes, or have reworked their existing courses to fit with the learning outcomes. The focus of the current research is on this group of 'fundamental' courses.

Because the courses are designed at a site level by individual providers against unit standards, no syllabus, curriculum framework, or anything else is centrally prescribed for such courses. Similarly, these courses are assessed on a decentralized basis by assessors registered with the Seta ETQAs, and are quality assured by the Seta ETQAs. Some (almost entirely at NQF level 1) are assessed by the IEB. These courses generally form part of the qualifications that Seta ETQAs certify.

The numbers of learners who have obtained unit standards are relatively low, compared to the numbers of awards in the formal education system.

In language, 37 132 learners have been awarded unit standards in language or communication[9], and a further 76 002 learners are enrolled for courses against these unit standards to date, 32 559 learners have been awarded unit standards in mathematics or mathematical literacy, while 67 866 learners are enrolled for courses against these unit standards[10]. When broken into NQF levels, the numbers of unit standards that have been awarded as well as those with learner enrollments are as follows:

Awards and enrollments against communications and language unit standards to date						
Communications and language	Below Level 1	NQF 1	NQF 2	NQF 3	NQF 4	Total
Awards	904	7 939	12 580	7 632	8 077	37 132
Enrollments	2 575	9 213	9768	28 383	26 063	76 002

[9] For the purpose of this report the term 'language' is used, although many of the unit standards are referred to as 'communication' unit standards.

[10] This information was obtained from SAQA's National Learner Records' Database (NLRD), 27th February 2007. Officials from the NLRD pointed out that it is based on information obtained from nineteen of the Seta ETQAs.

Awards and enrollments against mathematics unit standards to date						
Mathematics	**Below level 1**	**NQF 1**	**NQF 2**	**NQF 3**	**NQF 4**	**Total**
Awards	13	12 274	14 628	2 725	2 919	32 559
Enrollments	4 112	10 445	8 887	19 987	24 435	67 866

There are various things that must be pointed out about these numbers.

Firstly, while these unit standards vary in the amount of credit they are worth, they are all worth substantially *less* credit than the courses reported on above. In other words, a learner who has passed English at Senior Certificate level has obtained the equivalent of twenty credits in English, while the unit standard awards listed here are at most worth five credits.

Secondly, it is not possible to tell from these figures whether or not learners actually did a course and were assessed against unit standards; whether they were assessed through a 'recognition of prior learning' process, or whether they were simply awarded credits for the unit standards based on the fact that they had passed a certain grade in school. At the time of writing, we were not able to confirm by whom the credits had been issued for these unit standards and on which of the grounds identified above.

Finally, these figures represent all the unit standards for which credits have ever been awarded in these areas, since the creation of the NQF and the National Learner Records Database. The enrollment and award numbers for the courses in the formal education system are based on yearly enrollments and awards. Clearly, despite various regulations and pressures, there has not been a substantial take-up of unit standards. Nonetheless, there are learners enrolled for courses that are unit standards-based, and it is important to understand exactly what the standards of these courses are.

Difficulties for quality assurers

The language and mathematics courses offered against unit standards have been the subject of much debate and contestation from the point of view of quality assurance[11].

Because Umalusi has argued that it will only quality assure and certify specific courses against examinations and prescribed curricula, it has refrained from quality assuring courses that are designed, offered, and assessed against unit standards alone[12]. Umalusi has also argued that quality assurance of decentralized assessment is not viable in the General and Further Education and Training bands, where large numbers of providers of very uneven quality operate. Further, Umalusi has felt that the current model of the NQF has spawned large numbers of very small providers. Quality assuring a multitude of small providers would be a very costly exercise for tax payers, and it would be very difficult to ensure standards across providers. Umalusi also believes that qualifications should consist of sizable components—a language course of

[11]Unit standards in general have been contested from various points of view. However, the quality assurance of language and mathematics courses as part of the 'fundamental' learning outcomes have caused particular problems from the point of view of quality assurance.

[12]One exception here is the adult education General Education and Training Certificate, which is currently unit standards-based. However, the difference between this and other unit standards-based qualifications is that these unit standards are assessed through examinations, and the examinations test subject areas as opposed to individual unit standards. As Umalusi has argued elsewhere (Umalusi 2006) an examination in fact implies a prescribed curriculum, even when there is no syllabus spelling it out. This has meant that, despite the problems with unit standards experienced in adult learning programmes, the existence of the examinations has made it possible for Umalusi to conduct quality assurance in this area.

twenty credits in its entirety, as opposed to a set of individual and separate 'units' of learning for 5 credits each.

Umalusi also has had reservations about the notion of 'embedded' mathematics and language courses, and has been particularly uneasy about their inclusion in qualifications which are supposed to lead to further learning possibilities. While obviously there are various pedagogical techniques that could assist learners in mastering language or mathematical competencies by relating to learners' experiences, and while there are many debates about the amount and type of practical application which is necessary in mathematics courses in particular, Umalusi believes that from a curriculum and assessment point of view, courses should be designed and tested as stand-alone mathematics or language courses.

Where Umalusi uses examinations as its primary quality assurance mechanism, the Seta ETQAs have been using decentralized assessment conducted by registered assessors. However, Seta ETQAs have not felt that they are the correct bodies to quality assure courses in the 'fundamental' learning areas, arguing that they are sector experts, not language or mathematics experts (SAQA 2005).

The differences in approach to assessment have made it difficult for these quality assurance bodies to work with each other. For example, suggestions have been made for Umalusi to 'register' assessors to assess 'fundamentals' on learnerships and other qualifications assessed and awarded by Seta ETQAs. However, Umalusi's approach to assessment does not cater for 'registering' assessors, or for qualifications to be awarded on the basis of assessment conducted by individual 'registered' assessors. Seta ETQAs, on the other hand, do work with 'registered' assessors, but have been unwilling to 'register' assessors for the 'fundamental' unit standards. The notion of 'registering' assessors has also thrown up some logistical oddities: for example, the IEB as a reputable assessment agency with various checks and balances on validity and reliability, was not able to be identified as the 'assessor' of language and mathematics in a particular occupational qualification, as it could not be recorded on the Seta forms to go to the National Learner Records Database. Instead, the name of an individual registered assessor had to go on the submission of results form.[13]

In short, the policy prescription of compulsory 'fundamentals' comprising of mathematics and language learning outcomes has caused an assessment problem in the system, as none of the assessment bodies have felt in a position to quality assure 'fundamental' courses against unit standards. Recently, some of the Seta ETQAs have started doing this work, (sometimes registering assessors to be able to assess the 'fundamentals' when they register them to assess other unit standards) while others have simply circumvented the difficulties associated with offering and quality assuring the 'fundamentals' by using the Senior Certificate as an entry requirement, enabling them to give learners credit against the 'fundamental' unit standards. Regrettably, this means that opportunities that ought to have been available to a wide variety of potential learners have been limited to those who already have the advantage of a school-leaving certificate. The impasse has caused much bad feeling amongst quality assurance bodies, as well as between quality assurance bodies and providers.

[13] This happened in 2005, in the context of assessments of the language and mathematics components in learnerships leading to insurance qualifications at NQF levels 2, 3, and 4. Due to the reporting requirements in place, the workplaces involved could only submit learner results to the InSeta (Insurance Seta) against the names of individual assessors who were registered as assessors with the InSeta. The IEB had to register its mathematics and English examiners with InSeta in order for its results to be recorded on the National Learner Records Database (described by Melissa King, project manager for this project at the IEB at the time).

Section 2

Recent related research

The idea of looking at what is 'fundamental' in qualifications, can be located in a broad literature into 'key skills', 'core skills' *et cetera*. Much of it consists more of advocacy documents than actual research, and in South Africa includes reference to the 'critical cross-field outcomes'. Education policies talk about the speed at which 'knowledge' is changing, and that more important than 'knowledge' is the ability to 'learn how to learn', and to acquire the capacity to 'solve problems' (Peters 2001). This has led to a focus in education policies on 'core skills' and 'essential skills', which are supposed to be skills that are transferable, as opposed to job-specific training and skills (Grubb and Lazerson 2006). The success of such policies, as well as whether or not it is useful or possible to isolate such 'skills', and how they should be taught (separately or through existing subjects) is the subject of much debate.

Notwithstanding these debates, in this research Umalusi decided not to venture into this complex and problematic area, and instead to confine itself simply to examining the compulsory language and mathematics courses that are on offer in South Africa as part of the 'fundamentals'.

Despite the numerous problems outlined above, very little empirical research has been done in this area. SAQA is currently conducting research directly concerning the 'fundamentals', which aims to investigate whether or not the current 'fundamental' unit standards are sufficiently contextualized. By the nature of the research focus, it does not appear likely that it will address the specific concerns that have been discussed above.

A project called the *Skills Development Strategy Initiative* has recently supported research into the fundamentals in workplace qualifications (GTZ SDSI Project 2006). This research argues that many occupations and their related workplace realities do not require English (or any other formal demonstration of competence in other languages), or mathematics at the level specified by the qualification in terms of SAQA policy. Furthermore, it questions the quality and nature of the unit standards in this area, and suggests that there is increasing use of the practice of requiring learners to enter learnerships with a Senior Certificate, in order to avoid the necessity of teaching them the 'fundamentals' entirely. The unfortunate result of this, the report suggests, has been to deprive those who have not completed formal schooling of entry into an occupational pathway. The report argues that the design of qualifications has required learners to obtain specific competencies in language and mathematics without systematically provided training in these areas. Finally, the report suggests that integrated assessment in relation to 'embedded fundamentals' can have the effect of 'hiding' low levels of competence in language and mathematics, thus encouraging poor provision and continuing to disadvantage learners who have never truly achieved competence in

these important areas.

There is research on the broader issues which impinge on how the 'fundamentals' are delivered—the model of the NQF, the decentralized assessment model, and the implications of both of these for quality assurance.

In relation to broad questions about the model of the NQF, SAQA has conducted research which argues that the NQF is relatively successful. Two 'impact evaluation' studies have been conducted, one to establish indicators for measuring successes of the NQF, and another to establish a baseline against the indicators (SAQA 2004; SAQA 2005). SAQA argues in this research, which relied mainly on establishing the perceptions of stakeholders, that there are mixed successes that have been achieved through the NQF, but that the NQF has had a high positive impact on the nature of learning programmes, organizational, economic, and societal benefits, and contributions to other national strategies. However, SAQA also argues that the NQF has had a 'mixed or minimal impact' on the effectiveness of qualification design, qualifications uptake and achievement, and quality assurance practices, amongst other areas. A doctoral study argues that power contestations between different role players have caused problems with implementation of the NQF (Keevy 2006).

On the other hand, three recent doctoral studies question the successes of the NQF. Mukhora (2006) argues that the framework is a product of economic and instrumentalist ideas about education, and is rooted in the economic and educational policies of the apartheid government. Lugg (2007) argues that the NQF had ruptured along a fault line within the South African state between practices building a corporatist state and those constructing a strong developmental state. On the one hand, the practices of the corporatist state position institutions of learning as demand-led service providers; their primary role is to meet the needs of the economy and construct citizens with human capital to fit with opportunities available in the labour market. Links between the regulatory state and decentralized providers are constructed by standard-setting and quality assurance practices supported by SAQA. On the other hand, practices associated with the developmental state construct education as a public good to be delivered by institutions of learning aligned with its political intentions for a democratic citizenry.

Allais (2007) argues that the NQF is conceptually flawed. She shows that the claims made for unit standards are that they are transparent, but that they do not in themselves contain sufficient clarity to enable them to be interpreted. She demonstrates that this contradiction leads to a very unwieldy and complex system, with layers of specification that make outcomes-based qualifications cumbersome and very difficult to work with. At the same time, this system leads to the creation of trivial outcomes and reduces knowledge to isolated pieces of information. She further demonstrates that the lack of transparency of learning outcomes means that none of the claims made about outcomes-based qualifications are realizable. So, for example, programme evaluation against learning outcomes is not possible.

None of the research cited above, however, examines actual courses that have been developed against the new outcomes-based qualifications and unit standards on the NQF.

Shalem, Allais, and Steinberg (2004) explore the idea of quality assurance of programmes against learning outcomes. They demonstrate that quality assurance bodies were unable to make meaningful judgements about course quality based on learning

outcomes, and that learning outcomes tended to distort the process of judging the quality of a course. They argue that the internal coherence of a learning programme and its substance are produced, in the main, by the logic of educational knowledge and cannot be externally regulated by a quality assurance process that condenses knowledge into learning outcomes. By implication, they question the validity of judgements made about quality that are based on the specifications of outcomes, and argue that this approach inevitably marginalizes content, even when there is a formal assurance to value it, and even when peers are used in the evaluation process.

Research conducted by Umalusi also suggests that it would be very difficult, if not impossible, to quality assure courses against learning outcomes (Umalusi 2006). The research suggested, but was not able to investigate fully, that dramatically different courses claimed to lead to the same or similar outcomes, and the outcomes themselves did not contain anything which could resolve this problem.

Young and Allais (2004) argue against decentralized assessment at secondary level in South African context. They suggest that inspection and examinations are more likely to assist as quality assurance mechanisms than are procedures for accreditation and the monitoring of decentralized assessment, especially in the context of a relatively weak education system with very uneven levels of provision.

Recent research commissioned by the Employment Promotion Project (including the Presidency, business, and labour) suggests that there are serious problems with the quality assurance systems of the Setas, and that the decentralized assessment model is not working[14].

There is of course, considerable research and contestation on the importance of language and mathematics, as well as the nature of courses that should be provided in these areas. While this is undoubtedly a crucial area for South African to engage with, it is not directly addressed in this research.

Instead, this research is designed to provide empirical evidence about the standard of mathematics and language courses offered as part of the 'fundamentals', as well as to suggest options for quality assurance, and broader suggestions for policy.

[14]SETA Review, draft report, by Carmel Marock, Candice Harrison-Train, Jonathan Gunthorp, Bobby Soobrayan, March 2007

Section 3

Research questions, design, and methodology

Research questions

Against the background of the NQF position of using learning outcomes as the basis for programme design, assessment, and quality assurance; the prescription of compulsory 'fundamentals' and the contestations about the nature and form of such components of qualifications and their assessment; as well as the disputes that have arisen between Umalusi and other quality assurance agencies, Umalusi decided to conduct focused research on language and mathematics courses offered as part of the compulsory 'fundamentals'.

As has already been noted, this research was not, however, designed to investigate the broader idea of 'fundamental' learning. It also did not primarily intend to address questions about what *kind* of language and mathematics courses are required as part of different qualifications in South Africa, although we hoped that a study of existing courses might raise some useful ideas in this regard.

Instead, the research investigated specifically the language and mathematics courses that have been designed against unit standards registered on the NQF, and are being offered as part of the 'fundamentals' in order to fulfill SAQA requirements for registered qualifications.

The key research question for this research was:

- What is the standard of all the courses that have been developed and are being offered against fundamental unit standards in English and mathematics?

By implication, Umalusi was concerned to find out:

- Should we be quality assuring any of these courses?
- Are we correct to insist on an examination as a key quality assurance mechanism?

Umalusi also hoped that it would be possible to learn something from evaluating courses in which language and mathematics are 'contextualized' or 'embedded' within a different area of study.

Research design and methodology

This section briefly describes the design of the research.
First, we intended to obtain a reasonably accurate picture of the courses which are currently on offer in language and mathematics at NQF levels 1 to 4, in terms of the following:

- Provider/providers of the course.
- Learner enrollment numbers.

- Brief description of course (including information such as—how long it is; whether or not it is unit standards-based, and if it is, against which unit standards; if it is distance education, classroom/workplace-based or self-study; whether there is a prescribed course pack or textbook; in which context the course is run, and so on).
- Type of assessment arrangement—is there an external examination or not? Who conducts the summative assessment?
- Quality assurance arrangements—who moderates and certificates?
- Any other information deemed relevant.

Once a full picture of the various courses had been obtained, we intended to take a decision about how to sample a selection of the courses. Learner numbers was seen as a key criterion here. Umalusi would then obtain copies of the courses selected, including teacher portfolios, where courses have no summative assessment. It was decided that learner portfolios would not be examined.

The second stage of the research would then consist of an expert evaluation of both the intended and examined curriculum of the selected courses, using pre-existing evaluation categories that have been developed by Umalusi. These categories for evaluating curriculum statements (or syllabuses) are:

1. Aims/purpose/vision/outcomes
2. Content coverage (breadth)
3. Coherence
4. Sequence and progression
5. Pacing within and across years (if applicable)
6. Content coverage by cognitive demand (depth)
7. Assessment specifications
8. Presentation of the above (user-friendliness)
9. Contextualization (how has it affected the nature of the language or mathematics being taught and assessed).

Criteria and guidelines were elaborated for each category. The first step of the evaluation process was intended to entail workshopping and refining the criteria with expert evaluators, to ensure consistency of interpretation. A reference group was established for the project, composed of mathematics and language experts. The intention was for the reference group to comment on the project proposal and methodology, the sampling, the criteria, and the analysis.

In the event, the process turned out somewhat differently from the initial plan, and the changes and reasons for them are explained in Section 4.

Section 4
Findings

This section discusses both the processes of the research as well as what the research discovered about 'fundamental' courses. It starts with two short sub-sections: the first discusses what information was obtained about providers of the 'fundamentals', and the second discusses current quality assurance processes for these courses. Both sections end with a summary of the key findings. The third sub-section is much longer, and provides an analysis of the courses themselves, including what type of information about courses was obtained from different providers, what their accreditation status is, what unit standards courses are designed against, and some general comments on the quality of the courses. This section also concludes with a summary of the main findings.

Who is providing the 'fundamentals?'

Umalusi set out to obtain a list of all providers offering mathematics and language courses at levels 1 to 4, excluding the programmes that already fall under the auspices of Umalusi (that is, Department of Education-approved programmes offered towards the Senior Certificate, the National Senior Certificate, or the General Education and Training Certificate (for adults) and the Aseca courses). The intention was to obtain basic information about each course according to the categories outlined above.

The following processes to locate providers were followed:

- The IEB was approached for a list of providers registered on their system (bearing in mind that this would be almost entirely providers offering programmes at NQF level 1);
- Seta ETQAs were requested to provide information about their providers which offer the 'fundamentals', and whether or not they (the Setas and/or the providers) quality assure the programmes;
- All providers on Umalusi's databases were included on the list to be contacted (this included all providers that have ever contacted Umalusi, and not only institutions that are provisionally accredited).

We were not able to establish from SAQA whether or not they have a list of providers offering language and mathematics courses listed as part of the National Learner Records Database.

Problems immediately arose. Seta ETQAs had lists of accredited providers, but were unable to say which providers were offering 'fundamentals'; in other words, Setas could not indicate whether providers were accredited specifically for the 'fundamentals', although providers were offering 'fundamentals'. The exception to this was large

national providers, mainly offering English courses, which have connections with many of the Seta ETQAs. Accordingly, the research team attempted to contact, telephonically and through email, all providers on the lists of all the Seta ETQAs, to ascertain whether or not they offer 'fundamentals'.

Based on this survey, a list was compiled of 74 providers which indicate that they offer the 'fundamentals'. It included preliminary information about which programmes they provide, which qualifications these relate to, and how they are quality assured. In some cases we ascertained the number of learners that undertake these programmes on an annual basis, but most providers were unable to supply this information. The lack of information suggests serious weaknesses in their data-capturing systems, but this is by no means restricted to providers, as we also struggled to obtain information about learner numbers from Seta ETQAs. Many providers do not have 'course' enrollment numbers, as they design activities against unit standards, which are then offered in different combinations according to what is contained in qualifications and what has been commissioned by workplaces.

It is also important to note that some providers were not sure if they offered the 'fundamentals' but when further discussion took place, it became evident that they offer communication and mathematics which they believe are at levels 2 – 4 on the NQF. In other words, there is a significant amount of confusion about the 'fundamentals'. A number of providers seemed quite unaware of the larger education and training system in which they operate, and had, for example, no idea what Umalusi is. One did not want to submit information, because they believed that Umalusi was a rival FET college.

We are certain that there are more than 74 providers which offer language and mathematics courses in South Africa at NQF levels 1 to 4, but we were unable to obtain any information about them.

Three main types of providers emerged in our list:

1. **Multi-purpose providers** (such as the private FET colleges). These typically offer language and mathematics either as short courses or as longer programmes towards the unit standards.
2. **Providers which focus primarily on the provision of mathematics and/or communicatio**n though they may offer one or two additional programmes but their primary purpose is to offer the fundamentals. These tend to provide programmes against either the NQF standards or international standards for language or mathematics, but some also provide short courses in mathematics and/or language.
3. **Providers which focus on the provision of the core and elective competencies** within an occupational field but which also offer programmes in language and mathematics. These typically include programmes that are based on unit standards, which may or may not be integrated into the occupational learning, and which may or may not be separately assessed against the unit standards at present. This means that providers who teach, for example, hairdressing also claim that language and mathematics are embedded into the hairdressing courses. Such providers might conduct separate assessment of learners against the language and mathematics unit standards, or they might claim

that assessment against the hairdressing standards presumes competence in language and mathematics. Some providers, for example, stated that they submit their results against the qualification and assessed the fundamentals as part of the qualification. Some providers stated that they currently provide the 'fundamental' programme as part of the occupational learning but do not assess it although they would like to, because it is not quality assured.

Umalusi then contacted all 74 providers on the list via phone and email, requesting them to submit their courses. A specific form was sent which explained what was required, and enabled providers to supply specific information about their courses. Providers were also requested to sign a consent form, which indicated that they understood that this research was not an accreditation process, that Umalusi had undertaken to ensure confidentiality of the information submitted, that it would not be made available to any potential competitor, and that Umalusi would not release any information to the public that mentioned their organization by name.

Thirty-five providers submitted information to Umalusi. Despite a series of phone calls, emails, and so on, we were unable to obtain more. In the course of this process, we discovered that many of the contact details that had been supplied were incorrect. Below, we speculate on a range of possible reasons for the low number of submissions (in no particular order):

- 'Quality assurance fatigue' (or perhaps, more specifically, 'accreditation and programme approval fatigue'). Many providers have been through a series of different quality assurance processes for which they have been required to submit their courses as well as organizational information to different quality assurance bodies. One provider who contacted Umalusi to explain why they did not want to submit their materials said that if they did, they would have spent more time preparing materials for quality assurance bodies than they spent teaching and assessing learners.
- Providers who claim to 'embed' mathematics and language courses may not have felt confident about submitting such courses for scrutiny.
- Providers may not be well organized, and may not have information about courses in a form that is easily available to submit.
- Providers may be well organized and have information about courses available, but may not see any purpose in submitting it to Umalusi because they are already accredited with a Seta ETQA. Further, providers may be annoyed with Umalusi for not having agreed to accredit them and their courses, and may not feel in a mood to cooperate with Umalusi researchers.

Nonetheless, the research team felt that an analysis of the 35 submissions could offer valuable information. Although initially we had felt that learner numbers should be a key determining criterion in terms of which courses were analyzed, in the event we were forced to abandon this idea, firstly, because of the small number of submissions, and secondly, because so few providers were able to provide accurate learner numbers in their submissions, as discussed above.

Summary of findings about who is providing 'fundamentals'

The names and contact details of 74 providers claiming to offer mathematics and/or language courses at NQF levels 1 to 4 were obtained.

Many providers are confused by and about current policies, with some not knowing what 'fundamentals' means, and other never having heard of Umalusi.

Most providers were unable to provide information about learner numbers. This is partly because they offer courses which they adjust for a range of different workplace contexts.

There are three main types of providers offering courses in the 'fundamentals': large multi-purpose providers (such as the private FET providers), specialist language or mathematics providers which focus on the provision of mathematics and/or communication, and providers which specialize in occupational or industrial training, but offer (or claim to offer) courses in communication and mathematics.

Some providers specializing in occupational or industrial training which offer fundamentals claim to teach mathematics and language 'embedded' in their other courses. Many stated that they do not conduct separate assessment of learners against the language and mathematics unit standards.

Of the 74 providers identified, only 35 providers sent in submissions. Of these, only 29 submitted actual courses or materials.

Current practices in quality assurance of 'fundamental' courses

As part of the initial survey to obtain a list of providers, some information was obtained as to the manner in which Seta ETQAs quality assure the 'fundamentals'. Seta ETQAs in general did not have records of which providers were accredited to offer fundamentals, except in the case of a few large and well-established providers.

Importantly, while SAQA recognizes successful completion of language and mathematics in schooling at Grade 12 as equivalent to the NQF Level 4 fundamental credits (SAQA 2005), Seta ETQAs have a range of different practices in this regard, from no recognition, to requiring assessment (recognition of prior learning) against the unit standards[15], to full recognition on a subject area basis, to full exemption if a learner simply has a Senior Certificate. Obviously, the existence of different practices across Setas is problematic for both learners and providers (who may end up dealing with more than one Seta ETQA). Where learners do not have a Senior Certificate, Seta ETQAs again engage in a range of different approaches in the quality assurance of these credits. A few Seta ETQAs indicated that they require the providers to ensure that their learners complete an external examination (usually with the IEB); some suggest, but do not require, the use of an assessment agency to assess or moderate performance for these standards; others have simply accepted credits sent through from their occupational programme providers.

The process of learning programme approval varies considerably amongst Setas. In the worst cases it appears to be little more than a checklist on whether there is any mapping of unit standards within the material. Where language and mathematics content is 'embedded' in occupational or industrial training programmes, it is assumed that the focus of programme approval is on the latter.

[15]See, for example, Services SETA policy.

Where separate 'fundamentals' are presented for programme approval, some Setas have called in subject matter experts to evaluate such programmes. By their own admission, however, it is a time-consuming and expensive process, and the follow-up from a negative evaluation is difficult—for example, who implements the recommendations of the evaluation report, if the original developer was not able to produce an adequate programme in the first place?

In the main it emerged that the providers (often the category three providers) received accreditation against the qualification and the fundamentals were not specifically checked. There has, in other words, been no external benchmarking of the validity or reliability of assessment, and of the quality or 'standard' represented by the award of credits in the 'fundamentals' in occupational qualifications, either in one occupational sector or across Seta ETQAs.

Further, while the model of quality assurance described in the introduction includes verification of assessment results, most Setas appear to require simply that providers have systems for quality assuring results, and do not themselves verify assessment. Some Setas verify providers' systems through on-site monitoring, and some do sample moderations of the actual assessments[16]. It was not easy to obtain information about the 'fundamentals', and it would appear that very little validation of results in the form of moderation is carried out, and the reliance is on systems verification.

Summary of findings about quality assurance practices of the 'fundamentals'

Many Seta ETQAs do not have records indicating which of their accredited providers offer 'fundamentals'.

Many Seta ETQAs do not quality assure either courses or assessments in the 'fundamentals' separately.

The credibility of credits awarded against language and mathematics unit standards ('fundamentals') is consequently very questionable.

Description of courses currently on offer as part of the 'fundamentals'

THE FIRST LEVEL EVALUATION PROCESS

As discussed above, according to the research design, the intended next step was to select a sample of courses received, and commission expert evaluation of them. However, the number of courses that we were actually able to obtain was so few, that sampling did not appear to be an option. In addition, the courses were in such disparate forms that it was impossible to make any decisions about which of them should be examined. So, we decided to conduct a first level analysis of each course, which would enable decisions to be made for the expert evaluation stage. The intention was for this first level analysis to comprise a brief overview of a provider's submission, containing a short description of the purpose, shape and form of the course/s offered, a list of unit standards covered, the delivery mode and the accreditation status of the provider.

[6]For example, according to Melissa King, a former employee of the IEB, over the past few years the IEB has been contracted by Services Seta, InSeta, and BankSeta to moderate portfolios of evidence for language or mathematics at NQF levels 2, 3, and 4. The IEB's experience has been that it is very difficult to moderate across different providers with different learning programmes, and has begun to require that portfolios follow common guidelines and requirements. Alternatively, some Seta ETQAs have contracted individual assessors with subject matter expertise in language or mathematics to moderate portfolios.

The research team experienced difficulties as it attempted to frame these descriptions. The submissions came in such varied shapes and forms and levels of detail that even understanding what had been submitted, and against which unit standards, proved time consuming. For example, some providers offer NQF Level 1 courses in the context of Seta qualifications outside the Umalusi system, and it was not easy to tell from a glance at the submission if this was the case or not. A factual description of purpose, form and delivery mode in some instances proved almost impossible. It was, therefore, decided that the first level analysis would broadly follow the following format:

1. **Evaluation status:** an impressionistic conclusion from the first level analysis at the beginning of each provider report put each programme into one of two categories: (i) where there is sufficient material to pursue a detailed evaluation, and (ii) where there is insufficient material on which to make an evaluation judgement.
2. **General description:** what programmes are offered, including approach and delivery where this could be ascertained. Where possible, comment on the assessment process is made.
3. **Accreditation information** is given where available.
4. List of unit **standards** covered is supplied, with comment on any anomalies.
5. Note was made of the information which was **not provided** in the submission.

Based on the first level descriptions produced, Umalusi, in consultation with the project reference group, decided not to pursue a detailed evaluation of any of the courses submitted. Firstly, as discussed above, many of the courses were not in a form that made evaluation possible. Secondly, it was clear that the courses obtained were not a comprehensive sample of possible courses on offer. While reasons for this are speculated on above, it was felt that a detailed analysis of a skewed sample may not be a productive enterprise. Most importantly, however, Umalusi felt that the findings obtained through the research already conducted (the survey of courses on offer, the investigation of Seta ETQA quality assurance practices, and the first level analysis of the providers who did submit courses) in fact answered our research questions, and had clear implications for policy. What follows is a discussion of what was found about courses in the 'fundamentals' from the first level evaluations conducted.

GENERAL INFORMATION ABOUT THE COURSES

Thirty-five providers responded to the request for programmes by sending in submissions. Of these, 29 providers submitted actual course material, and six submitted submission forms or limited overviews only—either because materials are still under development, or because they use another provider's courseware, or because they deemed a contents page or overview as sufficient. Some of these submissions, such as those from ABET levels 1 to 3, are not relevant to this research. For courses at ABET Level 4, which is equivalent to NQF Level 1, a brief report was produced. Many of the submissions were incomplete in that providers did not supply all information requested by Umalusi. In order to maintain providers' anonymity, the individual provider descriptions are not contained here. What follows is a description of the key characteristics that were observed among the group of providers. The tables provide basic information about what was submitted. They are followed by descriptive information.

Language NQF Level 1 (11 courses)	
What was submitted	3 course outlines only, no materials 1 set of unit standards and activity templates only 1 set of unit standards only 1 set of handouts only 3 learner materials 2 learner materials with facilitator guides
Assessment information	5 gave some indication of formative assessment activities. 8 use IEB external examinations, 3 made no mention of external examination.
Prescribed texts	3 use the most popular published ABET Level 4 workbooks, and 2 use these in conjunction with other published ABET programmes.
Language NQF Level 2 (5 courses)	
What was submitted	3 set of learner materials only 2 sets of learner materials and facilitator guides
Assessment information	2 gave assignments and summative assessments with memoranda to go into portfolios of evidence; memoranda were also supplied 1 gave formative portfolio of evidence indications but no clear summative assessments with rubrics or memoranda. 2 gave no assessment information, or said it was not yet available. None mentioned external assessment.
Prescribed texts	No references
Language NQF Level 3 (10 courses)	
What was submitted	1 set of handouts only 1 programme outline only 1 facilitator's manual only 5 sets of learner materials 2 sets of learner materials and facilitator guides
Assessment information	3 gave course activities with portfolio of evidence requirements, and clear summative assessments with rubrics or memoranda. 5 gave some activities for assessment, suggested portfolio of evidence guidelines but provided no clarity on summative assessment. 1 gave no assessment information. 1 stated that assessment tools are still under development. None mentioned external assessment.
Prescribed texts	1 used prescribed text books. 1 distance learning course used tapes and prescribed books.
Language NQF Level 4 (11 courses)	
What was submitted	1 broad course outline only 8 sets of learner materials 2 sets of learner materials and facilitator guides
Assessment information	4 courses gave tasks and activities for internal assignments for portfolios of evidence, and provided an example of a summative assessment.

Continued

Assessment information continued

	Only 2 of these had useful memoranda or rubrics. 5 courses gave indications of assessments (e.g. self assessments, or descriptions of assessments) but no clarity on summative assessments. 1 gave no assessment information. 1 stated that assessment tools are still under development. 1 course is linked to an external international examination.
Prescribed texts	1 course refers to published text books.
Mathematics NQF Level 1 (9 courses)	
What was submitted	2 lists of unit standards only 1 set of handouts only 1 set of unit standards and activity templates only 1 course outline only 3 sets of learner materials 1 set of learner materials with facilitator guides
Assessment information	5 gave some indication of formative assessment activities. 6 use IEB external examinations. 3 made no mention of external assessment.
Prescribed texts	3 use the most popular published ABET Level 4 workbooks, and 2 use these in conjunction with other published ABET programmes.
Mathematics NQF Level 2 (5 courses)	
What was submitted	1 set of unit standards only, no materials 1 set of materials for an upgrade/ remedial course, not for credit 1 set of learner materials only 1 set of learner materials and facilitator guides There was also some information about an additional course which was still under development.
Assessment information	2 gave assignments and summative assessments with memoranda to go into portfolios of evidence; memoranda were also supplied 1 gave assignments per module, but no summative assessment. 1 stated that assessment information not yet available. 1 gave no assessment information. None mentioned external assessment.
Prescribed texts	No references
Mathematics NQF Level 3 (8 courses)	
What was submitted	1 set of handouts only 4 sets of learner materials 3 sets of learner materials and facilitator guides
Assessment information	3 gave course activities with portfolio of evidence requirements, and clear summative assessments with rubrics or memorand. 2 gave some indications for formative assessments for portfolios of evidence but no clarity on summative assessment. 1 gave a 'content-free' assessment checklist.

Continued

Assessment information continued

	1 gave no assessment information. 1 course stated that assessment tools are still under development. None mentioned external assessment.
Prescribed texts	No references
Mathematics NQF Level 4 (11 courses)	
What was submitted	1 broad course outline only 6 sets of learner materials 4 sets of learner materials and facilitator guides
Assessment information	4 courses gave tasks and activities for internal assignments for portfolios of evidence, and provided examples of a summative assessment. Two of these courses provided adequate rubrics or memoranda. 3 courses gave indications of formative assessments or draft assessments, but little clarity on summative assessment. 3 gave no or minimal assessment information. 1 course stated that assessment tools are still under development. 1 course will ultimately be assessed through the Senior Certificate examination.
Prescribed texts	No references

As can be seen from the tables above, the 'courses' exist in very different forms. Of the 29 providers who submitted actual course material, the first level analyses indicated that only nine providers had submitted sufficient evidence of both learning material and assessment instruments for of the next level of detailed programme evaluation against criteria to be applied.

The most striking finding is the lack of detail on summative assessment instruments and lack of information on how assessment instruments are used. This appears to be a consequence of the policy of decentralized assessment and the emphasis on only using portfolios of evidence to evaluate competence—each individual provider then develops totally different types of instruments, and uses them in different ways.

Nearly all submissions come from private providers, with one from a public FET college offering a Seta-linked programme. In terms of the provider groups identified in the initial stage of the research, all categories are represented. Group one, the multi-purpose providers, are mainly institution-based and offer residential programmes. Group two, the providers which focus on the provision of the fundamentals and other generic areas, tend to deliver in the context of the client (often a workplace), and range from well-established providers to small providers with few clients. Group three, the providers which focus training in occupational or industrial areas, were mainly represented by business studies or computer-training programmes, within which context the 'fundamentals' are delivered. Unfortunately, however, this group was very under-represented in terms of submissions. Researchers and members of the reference group argued anecdotally, drawing on their observations across a number of sectors and ongoing discussions with assessors, moderators, and quality assurance personnel based at Seta ETQAs, that there are many more such programmes across different sectors which claim to integrate or embed the fundamentals in training for occupational qualifications, and for which learners are awarded credits.

The lack of data from group three is of concern to Umalusi, as it is the type of provision that claims to 'embed' the 'fundamentals' which is currently least accessible to a common quality assurance understanding, and it is also the type of provision most under dispute, as discussed above. It is conceivable that there are providers who successfully integrate, teach and assess language or mathematics 'literacies' of appropriate cognitive levels in occupational programmes, and it was partly in order to ascertain whether or not this is happening anywhere that this research was designed. However, the difficulties of identifying providers in this group, the difficulties of obtaining examples of the teaching and learning of the 'fundamentals' through this approach, and the difficulties of getting quality assurance data from Seta ETQAs regarding credits awarded through this approach, suggest that it is likely that language and mathematics in fact are either superficially taught or not being taught at all. In sum, the lack of hard data from group three means that an analysis through the means of programme evaluation of the standard and quality of this form of credit-bearing provision in the two learning areas still remains outside the scope of this research.

ACCREDITATION/QUALITY ASSURANCE

Accreditation information about the providers and courses in this study is difficult to summarize. Providers were sometimes unsure about the distinction between accreditation, provisional accreditation and programme approval, and the relationships between different quality assurance bodies. Many providers are either accredited or in the process of being accredited by more than one quality assurance body. This is especially the case for those providers who operate at both NQF Level 1 and above, as they are often accredited (or in the process of) by both Umalusi (for NQF 1) and by a Seta ETQA.[17]

The table below is, therefore, illustrative rather than definitive, and certainly would have to be cross-referenced with Umalusi's own data base and that of various Seta ETQAs .

No accreditation information	6 providers (5 did not fill in the information, one noted it had stopped the process because of expense)
Provisional accreditation by Umalusi only	7 providers
Provisional or actual accreditation by Seta ETQAs only	3 providers (2 with Services SETA and 1 with ISETT)
Provisional or actual accreditation by Umalusi and one or more Seta ETQAs	9 providers (5 with Services Seta, 3 with ETDP Seta, 1 with MerSeta, 1 with CETA, 1 with FoodBev Seta)
Providers who have not yet applied (potential accreditation agencies under consideration)	2 providers (Umalusi, MAPPP Seta, FASSET and BankSeta)
International Accreditation	1 provider
Higher Education Quality Council Accreditation	1 provider

[17]This includes the Information systems, electronics, and telecommunications technologies Seta (ISETT), the Education, training, and development practices (ETDP) Seta, the Manufacturing, engineering, and related services Seta (MerSeta), the Construction Education and Training Authority (Ceta), the Food and beverages manufacturing industry Seta (FoodBevSeta), the Manufacturing, engineering, and related services (MAPPP) Seta, the Seta for Finance, accounting, management consulting and other financial services (FASSET), and the Banking sector Seta (BankSeta).

In summary, 21 of the courses examined have made an effort to become accredited and to comply with requirements, despite the difficulties evident in this regard. Providers appear to be willing to comply with regulatory requirements.

NQF LEVELS AND LEARNING AREAS OF THE COURSES

Nine providers submitted programmes for NQF Level 1 **only**. Of the remaining twenty providers, seventeen offer courses at NQF levels 1, 2, 3 or 4, some at more than one level, and three offer programmes which are not linked to unit standards but do fall within the FET band. Twenty of the courses submitted were at NQF Level 4. Twenty providers submitted programmes in both learning areas, while seven submitted language only and two submitted mathematics only.

The breakdown of actual programmes submitted is given below.

NQF Level	English	Mathematics
1	11	9
2	5	5
3	10	8
4	11	11

Two providers stated they were in the process of developing courseware for 'Communications in English' at NQF Level 4, one provider is developing a mathematical literacy programme at NQF 4, and one provider is developing a mathematical literacy course at NQF levels 2 and 3.

Included in the figures above are three courses which are not aligned to unit standards:

- A general mathematics course aligned to the Department of Education's National Curriculum Statements from Grade 4 to Grade 12 for mathematics and mathematical literacy, offering support in progressing towards achievement of a Senior Certificate.
- A distance education course for Business English which addresses broad outcomes but is not directly linked to unit standards. The provider pegged this course at NQF Level 3.
- An English course linked to an international English test, quality assured by an external international agency, seen as equivalent to a pre-tertiary assessment—in other words, NQF Level 4.

At NQF Level 1, programmes ostensibly already fall under Umalusi quality assurance systems through the IEB examinations. It should be noted, however, that some of the bigger providers will use the IEB at NQF Level 1 for some clients but not for others, depending on the client request. For example, some of the large multi-purpose providers use the IEB at NQF 1 when they can, but may have clients operating in the context of a Seta qualification at NQF Level 1 where the Seta does not require Umalusi certification, and where the client has expressed a preference for portfolio-based assessment. In addition, correlation with IEB lists of providers is difficult as sometimes providers do not

register with the IEB through their own name, but for a project (e.g. through a government department such as Correctional Services). It therefore cannot be assumed that every NQF Level 1 course submitted is assessed by the IEB and quality assured by Umalusi.

UNIT STANDARDS IN USE IN THE COURSES

Language unit standards

As discussed in the introduction to this research, there are both generic language unit standards and language standards that have been developed for specific occupations. A general observation that was made during the process of this research is that programmes sometimes include both, and then add up the credit values without taking into account the fact that the standards cover the same or similar outcomes. As is discussed below, there are different sets of unit standards in existence, due to the expiry date on unit standards, which does not always correlate with the expiry date of qualifications. The language standards at levels 1 to 4 of the NQF in use in the courses in the study are discussed below.

NQF Level 1

Using currently registered standards	4 providers
Using those expired in 2003	3 providers
Using those expired in 2005 (GETC standards)	2 providers
Using earlier draft versions	2 providers
Duplicating credits because of using expired and non-expired standards	2 providers

Three sets of standards are in use, one set which expired in 2003, one set which expired in 2005 but is still in the registered ABET General Education and Training Certificate which only expires in 2008, and the current set of standards which expires in 2009. The 2003 standards are organized along different principles to the subsequent two sets, and had different credit values, affecting comparability between programmes using these and those using the more recent sets. The two more recent sets are very similar with only a few changes of wording.

NQF Level 2

Using currently registered standards	1 provider
Using those expired in 2006	4 providers
Duplicating credits because of using overlap standards	1 provider

At NQF Level 2, two sets of standards are in use, one set which expired in 2006 and the set currently registered. There is very little difference between the outcomes in the two sets of standards, and no difference between credit values. One provider had an overlap of credit values because it is using a standard called 'Collect and use information' (five credits, from the Vehicle Maintenance Standards Generating Body) which overlaps with the generic communication standards.

NQF Level 3

At NQF Level 3, two sets of standards are in use, one set which expired in 2006, used by seven providers and the currently registered set, used by two providers. One

Using currently registered standards	7 providers
Using those expired in 2006	2 providers
Provider identification numbers	1 provider
Duplicating credits because of using overlap standards	2 providers

provider seems to have given the standards its own identification numbers. Again there is very little difference between the outcomes in the two sets of standards, and no difference between credit values. There is overlap of credit values in two programmes using an eight credit unit standard that was developed by a Construction Standards Generating Body ('Communicate verbally and non-verbally in the workplace') in conjunction with one of the generic unit standards.

NQF Level 4

At NQF Level 4, two sets of standards are in use, one set which expired in 2006 and the currently registered set. As at NQF Level 3, the same provider has given broad outcomes their own identification numbers. In addition, one provider has developed a 'Communication' programme against one unit standard from the Economics Standards Generating Body: 'Demonstrate and apply knowledge and understanding of the basic components and fundamental skills of effective communication' (this unit standard is worth four credits).

Using currently registered standards	1 provider
Using those expired in 2006	8 providers
Provider identification numbers	1 provider
Duplicating credits because of using overlap standards, or including NQF 3 standards	9 providers

At NQF Level 4, seven programmes have duplicated credit values by using the sector-specific and the generic standards together. The most commonly used standards are 'Use the writing process to compose texts required in the business environment' (five credits), and 'Interact orally and in writing in the workplace' (ten credits). Another two programmes have duplicated credit values through citing NQF Level 3 as well as 4 unit standards in the course at NQF 4.

A complete grid showing the number of programmes against the language unit standard titles and numbers is provided in Appendix One.

Mathematics unit standards

At NQF levels 2, 3, and 4, the majority of those providers offering mathematics unit standards chose the units standards relating to data and probability, financial mathematics, and space, shape and measurement. In other words they chose unit standards which appear to have direct 'real world' applications.

A complete grid showing the number of programmes against unit standard numbers and titles for mathematics is provided in Appendix Two.

GENERAL COMMENTS ON COURSE QUALITY

As discussed above under the general description of courses, the nature of the courses and the lack of information about assessment made it impossible to conduct proper evaluations. The following comments are based on impressions gleaned from the first level analyses, and do not claim to represent full and detailed evaluations of any of the submissions. The aim of these comments is to describe illustrative and common features across different programmes, and what appear to be some of the general strengths and weaknesses of the kinds of programmes submitted. Obviously, there are exceptions to all statements made.

Language

Nearly all materials were informed by an awareness of the target audience and this was reflected in the content and topics used, which were generally appropriate to adults in the workplace.

While some materials made imaginative use of the workplace or sector context, this focus sometimes meant that the range of texts and activities was quite narrow.

Some of the courses at the higher levels of the NQF handled visual literacy and the use of multi media well (for example, in presentations).

Many of the learning programmes were characterized by discrete activities rather than a progressive building up of skills, with one activity drawing on a previous one or providing scaffolding for a subsequent activity. For example, there were few writing tasks that build on different elements of the writing process and then integrate these into a substantial piece of writing; or that get learners to apply different kinds of reading skills to the same text for different purposes.

Some of the courses were highly descriptive, in that they presented 'lecture notes' or power point presentations on aspects of language or communication—for example, sets of notes on body language and tone, or on communication 'theories' dealing with the different roles of 'sender' and 'receiver'. These programmes often did not demand application or practising of skills by learners and their assessments sometimes simply required the regurgitation of the notes.

Many submissions lacked sufficient examples of assessment tools and rubrics. As discussed above, only 7 out of 26 courses which do not have external examinations gave sufficient examples of assessments with memoranda or rubrics.

The following general observations can be made:

- Mark memoranda or assessment grids were often very simplistic, and did not allow for qualitative judgements within a level, or illustrate how an assessor would arrive at a judgement. A commonly used template is to simply list the assessment criteria stated in the unit standards against the outcomes, for the assessor to tick off. This does not illustrate assessment criteria for a particular task.
- Some summative assessments simply required regurgitation of notes.
- Some self- or peer-assessment activities appeared to have a great deal of assessment jargon but be empty of real activities that generate evidence.
- The following are examples of pointless, confusing or inaccurate questions that appeared in some summative assessments (these are taken from several different learning programmes):

All English sentences must include a:

Subject Verb Object All of the above

(The answer is given as 'All of the above.')

Select True or False:

To form the plural of numbers one should make use of the apostrophe (Answer provided: T)

Newspaper headlines are always written in the past tense. (Answer provided: F)

List ten examples of prepositions. (Then a page reference is given to the course materials).

There were a number of examples of 'descriptive' questions such as the following: "Identify 1 verbal barrier in communication"; "List the rules for effective communication"; "What is mind mapping?".

There were some essay questions or topics such as the following:

"Using relevant examples, discuss in detail the functions of adverbs that occur in the use of the English language."

As a general observation, it could be said that the quality of the actual learning materials is better than the quality of the assessments.

Mathematics

As discussed below, the most noticeable features of the mathematics courses were related to unit standards—how differently providers dealt with demanding unit standards; how providers seemed to be struggling with balancing context and content; and how providers seem to be dealing with unit standards that they view as inappropriate. There are also comments on issues in relation to assessment.

Different ways of dealing with demanding unit standards

At NQF Level 4 particularly, some of the unit standards set what could be interpreted as a high level of mathematical demand. If one looks across the various providers, they have dealt with this challenge in different ways. In some cases the material addresses the unit standard fully and provides background information in an attempt to help learners come to grips with the complex material. The assessment then reflects the complexity of the material.

In other cases, the material addresses the unit standard fully, but the assessment is reduced so that it simply asks for a recall of facts and little or no application of mathematics is required.

In other cases, the material and assessment addresses the unit standard at a broad level only and does not meet the level suggested by the detail of the unit standard.

Struggle with the content/context balance

As indicated above, most of the unit standards, particularly at NQF levels 3 and 4, chosen by the providers deal with some form of contextualized mathematics. Here providers also differed in the extent to which they taught and examined the context (rather than the pure mathematics). In financial mathematics at Level 4, for example, some material and assessment dealt extensively with descriptions of the stock exchange, shares, unit trusts, *et*

cetera and assessed learners on their understanding of these concepts. The extent of mathematics dealt with was minimal. Others put more effort into describing the mathematics involved in these financial instruments. These tensions are inherent in any mathematical literacy course. However it does make evaluating what constitutes Level 4 mathematics quite difficult. Would, for example, an assessment dealing with understanding the stock exchange, insurance, assurance, bonds, futures and options, but which only required learners to use the four basic operations and perhaps percentages be sufficient for Level 4 mathematics?

In most cases the mathematics courses were 'generic' and not integrated with other content of the qualification or even contextualized within the area of study of the qualification. In the one course where an integrated approach was attempted, very little mathematics content was covered.

Appropriateness and integration

The material from a few providers suggested that they did not feel the content suggested by the unit standards would be appropriate for their learners. They thus either watered down the content suggested by the unit standard, supplemented it with what they called 'bridging courses' or simply included a lot of basic calculations in the course.

Almost none of the material was contextualized to the learners' contexts. For example, a mathematics course that formed part of a qualification in hospitality does not include any hospitality examples. In almost all cases it was not apparent why the mathematics unit standards that were chosen were seen as relevant to the qualification.

Assessment

As discussed in the section providing a general description of the courses above, eight providers either submitted exemplars of assessment items or gave some indication of how assessment would take place. In all of these cases assessment was by written examination or test and, in some cases, a self-assessment checklist. As noted above, only 7 out of 24 of these assessments could be categorized as providing adequate information in the marking memoranda.

The quality of assessments that were provided was variable. In some cases assessment was reduced to recall of 'facts', for example:

> Fill in the missing words:
> "Results of _____ probability can be compared to the _____ _____as a check for _____."

In other cases, very little or no mathematics was assessed. This was particularly prevalent in material dealing with the financial mathematics unit standards. In some cases the assessment of the financial mathematics course consisted almost entirely of more general 'financial' questions, for example, describing what the stock exchange is, and has little or no mathematics.

Mathematical content

Some courses appeared to be of a reasonable standard. In at least four cases, aspects of the material were mathematically incorrect, confusing or superficial. In sum, the quality of the courses was variable.

Summary of findings about courses

Thirty-five providers sent in submissions. Of these, 6 providers sent in submission forms or one page overviews only, while 29 providers submitted course materials. Across the four NQF levels, 37 Communication in English courses or sets of materials, and 33 mathematics/ mathematical literacy courses or sets of materials were received.

Of the 29 providers who submitted materials, the first level analyses indicated that only nine of these had submitted sufficient evidence of both learning material and assessment instruments for application of the next level of detailed evaluation. Most courses submitted did not contain enough information for evaluative judgements to be made about the standard of the course. Evaluators found it is impossible to reach decisions about the standard of courses without an analysis of the summative assessment (including marking memoranda, and, ideally, learner scripts), and argued that courses can have similar content or learning outcomes prescribed, but can be tested at very different levels.

Materials submitted frequently did not take the form of conventionally structured learning programmes, with clear entry assumptions, progression and sequencing of skills. This is because providers adapt courses for different client needs: target groups, delivery modes, and combinations of unit standards change according to different contracts.

In general the standards of the courses appeared highly variable, although, as discussed in the previous point, conclusive decisions could not be taken about standards.

A high degree of confusion was visible in relation to unit standards and this was manifested in a number of different ways.

While this research was not designed to tackle the complicated problem of how much mathematics and language should be required at different levels, questions about these issues surfaced repeatedly, and clearly require additional research and analysis.

There was a marked difference in the approach to contextualizaton between the mathematics and the language courses. While many of the latter used content and contexts linked to different workplaces, almost none of the mathematics programmes were contextualized to the learners' contexts. For example, a mathematics course that formed part of a qualification in hospitality does not include any hospitality examples. In almost all cases it was not apparent why the mathematics unit standards that were chosen were seen as relevant to the qualification.

Although no clear judgements can be made about 'embedded' courses, the fact that very few were submitted, and that it was very difficult to obtain any information about them, raises alarm bells as to whether language and mathematics are in fact being taught.

Many of the learning programmes were characterized by discrete activities rather than a progressive building up of skills, with one activity drawing on a previous one or providing scaffolding for a subsequent activity.

The use of a unit standard did not necessarily ensure that the intended outcome was the focus of the materials—some programmes taught information about a skill or ability rather than providing opportunities to practise such skills or develop the ability. For example, some of the communication courses focused on teaching descriptions of communication, as opposed to teaching actual communication.

There were mathematical errors in some of the mathematics courses.

There were many examples of poor assessment tasks.

Section 5

Analysis and conclusions

This final section of the report provides an analysis of what was found in the course of the research, firstly with regard to the standard of the courses, and secondly with regard to many different problems with unit standards that were observed. The implications of this research for quality assurance are explored, and the questions which remain unanswered are discussed. Finally, a set of recommendations is provided.

The standard of courses offered

The discussion above makes it clear that it was almost impossible to make any conclusive statements about the relative quality of the different 'fundamental' courses examined. A few were obviously weak, and a few obviously good. Some *appeared* to be good or weak, but submissions lacked sufficient information against which to make judgements, especially in the absence of clear assessment tasks and rubrics. It does appear, however, as if there are substantial differences in quality. In addition, while many courses contain some examples of excellent activities and tasks, and appear to be at the right level, they seem to lack the breadth and depth that would be required at this level. The dilemma here is that these programmes may be fit for purpose for their target groups, but may have equivalence limitations in relation to more academic programmes.

While some materials are examples of good practice in teaching and learning, many of the programmes for both language and mathematical literacy are characterized by lack of activities, practice and applications of skills: that is, learners are given much information in note form, or power point presentations, without apparent opportunity to practise the required skills.

As noted, many assessment tools or rubrics do not illustrate the level at which performance is expected. In addition, while some programmes make finer distinctions, many adopt only the competent/not yet competent approach. This approach does not seem to be appropriate within mathematics and languages.

Progression is very difficult to gauge at NQF levels 2 to 4 in language, especially without rubrics, descriptors or exemplars. Progression issues for mathematics seem to be linked to progression difficulties with the unit standards, discussed below.

Unit standards problems

While this research was not designed to provide an analysis of the actual unit standards, what emerged is that issues around the level and content of the unit standards are causing problems for providers, and contributed to the difficulties confronted by this research.

The research suggests that providers are confused in various ways by the idea of

using unit standards in designing and teaching programmes. This is particularly problematic given that unit standards are supposed to *be* the standard; the outcomes contained are supposed to ensure that teaching and assessment happen 'to standard', and quality assurance is supposed to take place against the outcomes in the unit standards.

Unit standards impact on programme design in two different ways—in general ways which relate to the role unit standards play overall, and in terms of issues which are specific to particular unit standards in a learning area. What follows is a discussion of some of the broad problems which seem to be caused by unit standards in the courses evaluated in this research, as well as some comments on problems with specific unit standards.

GENERAL CONFUSION RELATING TO, OR CAUSED BY, UNIT STANDARDS

What became clear through this research is that there is a great deal of confusion around which standards are current, which are expired, and how credit values are applied. Some examples are:

- Some providers are still including expired standards from about three revisions ago, or standards which still have draft numbers. Amongst other things, credit values for these standards may have changed.
- Expired unit standards can be found in qualifications which have not yet expired, and in this instance (according to SAQA policy[18]) it is the qualification expiry date which counts. Providers who are contracted to deliver against a qualification will, therefore, use expired standards. In some instances this does not matter, as the revised standards still address the same key competencies. However, providers will sometimes include both the expired and the new standards in their programme outline, which of course means that credit values are duplicated.
- There is variability in the weighting of unit standards. For example, unit standard 7451 "Collect, analyse, use and communicate numerical data" was worth two credits at level 1. This unit standard expired on 3/12/2006. The newly registered unit standard 119364 "Evaluate and solve data handling and probability problems within given contexts" is worth 5 credits at level 1 (this unit standard was not yet used by any of the providers in this study). A close comparison of the two unit standards shows that although they appear different (unit standard 119364 spells things out in greater detail), they do specify more or less the same mathematical content. One could make a case that material from one of the courses in this research "covers" unit standards 119364 as much as it "covers" unit standard 7451. Is it then a five-credit or a two-credit course?
- Duplication of credit values happens in other ways too: for example, a qualification may contain industry-specific communication standards (for example, unit standard 12153: *Use the writing process to compose texts required in the business environment*, five credits at Level 4) which are in fact covered by the generic standards for 'Communication'. Programmes sometimes state coverage of a number of overlapping standards, which again skews the credit values.[19] In

[18]Verbal communication from Eddie Brown, Deputy Director, Directorate for Standards Setting and Development, SAQA, 4th April 2007.

[19]This can occur because qualification designers have included both the generic Communication standards and ones that have been developed for a sector. It can also occur at programme design level, where generic programmes that might be used for a number of qualifications have been developed.

addition, there are unit standards which are repeated. For example unit standards 9008 and unit standard 12444 (both in mathematics) are identical except for the title. It is not clear whether or not a learner gets credit for both of them, and what this would mean.

- There are instances where qualification designers have included odd choices of standards. For example, the unit standard 'interpret a variety of literary texts' appears in a jewellery manufacturing qualification: one of the courses submitted for this research included this standard (albeit insubstantially) in order to meet the requirement for this qualification. Whether this was a choice by the qualification designers, or a misunderstanding of the fact that the options for twenty language credits allow for omission of this standard, is not known. Similarly, in some qualifications it appears that the choices at qualification design level for the sixteen credits required for mathematics have been made fairly randomly, regardless of the relevance for interpretation and application within that qualification. Programme designers are then faced with the task of trying to make sense of incompatible bedfellows for a particular programme, either from a qualification design point of view or from a Seta requirement point of view.

What these examples suggest broadly is a great deal of confusion surrounding the use of unit standards in programme design. What the examples suggest specifically for this evaluation project is that credit values are not a reliable guide to programme length or content coverage. Furthermore, on a practical basis one cannot take the unit standard listings at face value for evaluation purposes, which adds to the time demands of this kind of evaluation. Interestingly, few providers ventured to specify their total course credit and/or duration of the course on the submission form.

UNIT STANDARDS INTO COURSE COMPONENTS

What is evident from the first level analysis is that unit standards and their credit values have come to be used to shape the design of a learning programme. Groups of unit standards are sometimes combined in ways that do not support cohesive programme design. Because of the delivery context in which these providers operate, programme units or modules are often developed against one or two standards so that the provider can 'mix and match' according to the needs of different clients and contracts—this approach does not lend itself to progressive, integrated and applied learning. The materials writer is in effect forced into either writing limited activities and tasks which lend themselves to a linear, tick box approach to the outcomes and assessment criteria, or to create complex and elaborate processes of cross-referencing different specific outcomes and assessment criteria in order to justify bringing various standards together.

FRAGMENTATION/ATOMIZATION CAUSED BY UNIT STANDARDS

Although it has been suggested that unit standards should be taught and tested in an integrated way, this research shows that they are likely to lead to atomized teaching and testing. For example, mathematics unit standard 9010 (Level 3) is about working with number and deals with estimation, appropriate representation and rounding of numeric answers and conversion between different units. Courses examined in this research teach and test all of this content in isolation. In one case where the service provider showed

their summative assessment for this unit standard, it seemed too low a level for Level 3. This is probably because a number of the skills are really only meaningful if they are behaviours that learners exhibit in context. For example, do they use estimation to think about what the answer should be when doing a calculation? do they use units appropriate to the context and can they convert them when they need to? do they round the number or tolerate error appropriate to the context?

In addition, as discussed above, in order to survive in this policy environment, providers have to be able to offer provision and assessment against specific standards, as different standards are configured together in different qualifications.

Some fragmentation of learning is also evident in the language courses, because of the way in which outcomes are made explicit in the standards. While the language standards used the three main elements of communication (reading, writing, and speaking and listening) as organizing principles for the specification of competence, the standards themselves state that these element always need to be taught and demonstrated in an integrated way. However, because of the emphasis in programme approval processes that materials must link to specific standards, materials sometimes disaggregate these competencies in ways described above—for example, by giving 'descriptions' of language features, or by giving discrete activities which do not build up integrated skills in a progressive way.

COMMENTS ON THE LANGUAGE UNIT STANDARDS

This research was not designed to evaluate the unit standards as unit standards. However, some of the problems observed seem to relate to problems with the actual standards. With regard to language, the generic language standards were designed to be interpreted and applied in and across a broad range of contexts, and are thus open-ended. This in itself creates a problem from the point of view of standardization, as the unit standards can be interpreted at many different levels. Language competence is driven through mastery of application and process: the 'content' relates to the types and numbers of texts that learners are expected to read, understand, or produce, and the features of text with which they interact. It is difficult to specify level, or cognitive depth, without exemplars to illustrate the complexity required—for example, an outcome such as 'show an awareness of manipulative devices' can be displayed by primary school children (for example through nursery rhymes), newly literate adults (for example through understanding of simple slogans), and by people using language for a high level of academic proficiency.

This does not mean that the broad generic outcomes are 'wrong', but rather that on their own they do not mean enough for providers to be able to know what to teach and assess.

For some qualifications at NQF Level 4, the requirements of the standards may go beyond what is needed by the individuals (or sometimes even what is achievable) in the workplace for that qualification. This, however, relates to the SAQA requirements regarding the 'fundamentals', and is part of broader questions about the level of language that should be compulsory in occupational qualifications.

PROBLEMS WITH MATHEMATICS UNIT STANDARDS

With regard to the mathematics standards, evaluators found it impossible to comment on the courses without providing some analysis of the unit standards themselves. Some concerns are discussed below.

Weighting and credit allocations

The weighting of different mathematics standards in terms of credit values is inconsistent: that is, a one-credit standard might cover just as much as a five credit standard. There is sometimes overlap between different standards. In attempting to follow the 'hidden directives' (weighting, level demands and so on) of required unit standards, programme developers may find that they have produced flawed programmes—placing uneven demands on learners, for example, or causing fragmented teaching and learning.

Progression problems

Unit standards appear to be causing problems with progression, particularly in mathematics, where they appear to cause distortions in the logic of progression of learning within mathematics. This is because unit standards pegged at the same level often require very different cognitive demands: level anomalies thereby affect the consistency of pitch in a learning programme, especially when these are coupled to programmes which have a specific target group in mind, and which attempt to contextualize the language or mathematics skills (for example, for hairdressing). This creates a dilemma for evaluators—for example, a programme may have met the criterion for covering a unit standard, but by doing so has fallen short of the criterion for building suitable progression of skills.

Particularly within the unit standards with a more mathematical literacy 'flavour', problems with progression are apparent. If one looks, for example, at the data and statistics unit standards for Level 1 (unit standard 119364[20]) and Level 3 (unit standard 9012) there is a very large overlap in terms of content. Compare for example the statement of the purpose of each of the unit standards:

> Unit standard 119364 (Level 1): People credited with this unit standard are supposed to be able to:
>
> - Collect data to answer questions related to human rights, social, economic, cultural, environmental and political matters.
> - Display data in diagrams
> - Critically analyse data in tables and diagrams in order to draw conclusions and make predictions
> - Interpret and determine chance variation
>
> Unit standard 9012 (Level 3): People credited with this unit standards are supposed to be able to:
>
> - Pose questions, collect and organise data
> - Represent and interpret data using various techniques to investigate real life and work problems
> - Use random events to explore and apply probability concepts in simple life and work related situations.

[20]A newly-registered standard which the providers in this study have not yet used.

The aims of both these unit standards state that learners are required to collect, organize and interpret data to answer real-world questions and to use probability concepts in simple situations.

The overlap, both in terms of content and in terms of the stated aims, makes it quite difficult to judge what would be considered a Level 1 data and statistics course versus a Level 3 data and statistics course.

There is a similar overlap in content between unit standard 9008 (a Level 2 unit standard) and unit standard 9013 (a Level 3 unit standard). One of the service providers has provided a single module that covers both unit standard 9008 and unit standard 9013. They state that to do unit standard 9008 requires 30 hours and unit standard 9013 requires 40 hours. They designate some activities as Level 2 activities, some as Level 3 and some as both. Does this mean that having completed the Level 2 course a learner would simply have to do the handful of extra activities to make it a Level 3 course? Again this raises the question of how one would judge the level of a course if one is using the unit standards as a benchmark.

Inappropriately high level of content demanded

A number of the unit standards for mathematics at Level 4 go well beyond the level that Umalusi's evaluator considered appropriate at that level, and certainly go well beyond what is required for mathematical literacy or mathematics in Grade 12. For example, unit standard 7468 at Level 4 states:

> People credited with this unit standard are able to:
>
> - Use mathematics to plan and control financial instruments including insurance and assurance, unit trusts, stock exchange dealings, options, futures and bonds
> - Use simple and compound interest to make sense of and define a variety of situations including mortgage loans, hire purchase, present values, annuities and sinking funds
> - Investigate various aspects of costs and revenue including marginal costs, marginal revenue and optimisation of profit
> - Use mathematics to debate aspects of national and global economy, including tax, productivity and the equitable distribution of resources.

This is a very high level set of skills. This unit standard is the only financial mathematics unit standard at Level 4[21] and so it is offered in a number of courses where learners probably will not need to go further with mathematics. If one was to really cover the mathematics implied by the outcomes of this unit standard, one would cover some substantive portions of an actuarial science degree. Further, it is offered outside of the context of a mathematics course which builds up in a systematic way the mathematical abilities which would be needed to properly master the learning outcomes specified.

Another problem inherent in this kind of unit standard is that the non-mathematical concepts involved are complex. Some of the course material covering this unit standard goes into great detail comparing hedge funds, bonds and equities; describing how to read an insurance contract and discussing what futures, bonds and options are, but these discussions involve little or no mathematics. What then is an appropriate way of assessing this course, and how much mathematics should such an assessment contain?

[21]Most of the other Level 4 unit standards are more 'pure' mathematics, covering topics like calculus and complex numbers.

It was clear from the analysis, for example, that a problem a number of providers might be facing is that if a Level 4 qualification requires Level 4 mathematics unit standards, then they are forced to provide learners with fairly high level mathematics courses (calculus, complex numbers, complex statistical and probability models and so on) that in many cases will simply be a barrier to the learners achieving an occupational qualification.

SUMMARY OF PROBLEMS WITH UNIT STANDARDS

Unit standards were contested in the original development of the NQF, but little empirical research has demonstrated either the claims made in their favour or the problems that are argued to be associated with them. As such, the problems with unit standards in the language and mathematics programmes in this study are briefly separated out and restated below. Many of the problems observed in this research are also likely to be problems in most other areas of learning.

- Many of the unit standards are badly written, and, particularly in mathematics, contain wrong information.
- Even if unit standards appear to be acceptable on the surface, they can still lead to serious problems in learning programmes. They lead towards providers tending to develop courses for each unit standard. While SAQA argues that providers should not do this, and should teach unit standards in an 'integrated' way, it clearly makes business sense for providers to do the contrary, as they are contracted to provide against different combinations of different unit standards. This means that unit standards do not lend themselves towards a mastery of a body of knowledge, and instead, lead towards provision of fragmented bits of learning, which do not allow progression.
- Unit standards are open to widely different interpretation. They do not 'hold' the 'standard'. They have proved to give insufficient guidance to programme developers about the 'standard' required at different NQF levels (quantity, scope, depth, breadth). Where unit standards demand high levels ability (for example in some of the mathematics standards) providers are managing to make it appear on the surface as if their programmes address the relevant outcomes, but in fact are ignoring the complex nature of the knowledge specified. Programme developers 'translate' the outcomes into different kinds of content and levels. This is probably inevitable given the insufficient and problematic ways in which content is specified in unit standards. This means that unit standards cannot serve their purpose of ensuring that providers know what to teach, or that quality assurance bodies know what to quality assure against.
- The expiry date associated with unit standards seems to be very clumsy and causes problems with keeping courses current. The fact that unit standard expiry dates do not correlate with qualification expiry dates is also a problem. The difficulties with making sense of unit standard credit allocation aggravates their lack of usefulness. Unit standards have caused an enormous amount of confusion for providers and quality assurers in relation to selection and clustering of outcomes, and in many instances seem to work against good teaching and learning.

Implications of this research for quality assurance

This research has raised various issues both for the quality assurance of the 'fundamentals' and for quality assurance in general. Below are some proposals for ensuring an assurable standard in language and mathematics courses in general and further education. This sub-section is followed by a discussion on some of the serious problems with the current ideas about using accreditation and programme approval as primary quality assurance mechanisms.

ENSURING A STANDARD IN LANGUAGES (ENGLISH) AND MATHEMATICS

This research has demonstrated that there is currently no common level of achievement across programmes in the 'fundamentals' at the exit stage for award of credits. Its findings imply that a decentralized assessment model is problematic with regard to efficiency, accountability, cost, resources, and comparability of standards across providers and quality assurance bodies. This research supports Umalusi's position that, if it is felt to be desirable to have common standards across the system, there needs to be commonly developed specifications of content, concepts, and learning outcomes which are tested through a common, externally-set assessment. This does not mean the prescription of detailed learning programmes, but rather, the development of curriculum statements (syllabuses) which specify the scope, breadth, and depth of the curriculum, and which illustrate the nature and level of competences required through examples of rubrics, assessment tools, and types of learner evidence. The research certainly suggests that unit standards are inadequate, not only because of their inadequate content specification, but also because they are currently designed for inappropriately small amounts of credit, so they do not allow for progression. They can also be very confusing. While there should be scope for individual providers to link their teaching to learners' experiences, or to test additional or alternative areas that are not in the specified curriculum, it is clear that if standardization is felt to be necessary, it is then also necessary to have prescribed curriculum statements.

In short: if language and mathematics are to be compulsory in certain qualifications, and if it is thought to be desirable that the language and mathematics courses that learners in different qualifications enroll for should be comparable, then there should be compulsory courses which have prescribed curriculum statements and external assessments.

A variety of possibilities exist, some of which are listed below:

- There could be a language and mathematics course developed for each 'sector' of the economy (represented by the Setas). This could allow for some degree of 'contextualization'. It could be argued, however, to be an unnecessary waste of resources.
- Nationally developed language and mathematics course could be developed for all learners on occupational programmes.
- Learners on occupational programmes could enroll for the language courses that are part of the National Certificates (Vocational).
- There could be an item bank through which external tests can be generated for the purposes of certification.

It could be suggested that stronger guidelines should be given to providers about

assessment, or even, that common instruments should be given. However, there is nothing to suggest that providers would interpret and mark learners' work against such instruments in a consistent manner. This research, as well as the experience of assessment bodies at NQF Level 1[22] and the problems experienced in implementing the Common Tasks for Assessment at Grade 9 level in schools, suggests that there is a great deal of variability in the marking standards and expertise of educators. Stronger guidelines are not sufficient in a system which is so uneven. If credits are to be awarded to learners in language and mathematics, some kind of common summative assessment is required (at least 50%). For there to be a common summative assessment, there must be some statement of an intended curriculum.

A further question still to be resolved is at which levels such assessment should take place—at NQF levels 1 and 4 only, or at levels 2 and 3 as well.

In addition, it seems sensible that there be space in the system of provision for courses that are not quality assured and certified. Indeed, particularly in numeracy and language, there is always likely to be a need for specific, customized courses in focused areas. Part of the problem with the current accreditation and quality assurance systems is that they make it difficult for providers to offer such 'short courses', and difficult for employers to obtain a rebate on their skills levy if they use providers that are not accredited. These problems are urgent, but need to be addressed elsewhere.

GENERAL IMPLICATIONS FOR QUALITY ASSURANCE

Lessons from omissions from submissions

The submissions that would lend themselves most readily to evaluation by a quality assurance agency are from the larger multi-purpose providers which have a relatively stable student and lecturer profile, delivery mode, and contact time, as well as documentation pertaining to curricula and assessment.

As discussed above, many submissions did not contain all the items requested by Umalusi. This is not necessarily an indictment of the courses submitted. It does raise serious questions, however, about a quality assurance model that relies on 'approving' the programmes of individual providers and then allowing each provider to design their own assessment: decisions about the standard of learning programmes can only be made on the basis of substantive documentary information about the learning programme being available[23]. Generally, the most striking features and/or omissions illustrated by the submissions are as follows:

- Lack of assessment guidelines, frameworks and materials. Where assessment tasks and instruments were provided, some were not accompanied by clear rubrics, criteria or instruments which would illustrate how the assessor arrives at a judgement. Frequently a template listing the unit standard specific outcomes and assessment criteria is presented as the primary assessment tool. Few judgements can be made about the standard of a programme without detailed assessment information.
- There is a fairly common assumption that using a portfolio of evidence as a representation of summative assessment simply means bundling the course work

[22]For example, the IEB Common Assessment Task pilot project for ABET providers (2004), and problems with site-based assessment in public adult learning centres (Department of Education 2005).
[23]The only alternative would be lengthy site visits to watch the delivery of the programme in question, clearly not a viable option in terms of the relative cost and benefit of quality assurance.

done throughout a programme into a portfolio and presenting all of this as evidence of end of course achievement for credit. In other words, no distinction is made between formative and summative assessment.

- Lack of facilitator guides. Much of the material submitted reads as programme material intended for self-study, although delivery modes were often not clear from the programme outlines (probably because these modes will vary according to different clients). As discussed above, the presence or absence of a facilitator guide does not necessarily mean anything about the quality of a programme. However, it does make it more difficult to make evaluative judgements at the level of the learning programme.
- Learning assumptions or entry requirements were frequently not stated. This could be because the selection process is sometimes outside the hands of the provider.
- Course length and/or total course credit were seldom filled in on the submission form.
- Enrollment figures were seldom given. (Although these do not appear on the submission form, they were requested from providers in the covering letter.)

Unit standards and quality assurance

Besides the problems with unit standards discussed above, it seems likely that the contexts of delivery and the requirements of delivering programmes against unit standards are shaping these learning programmes in ways which are particularly problematic for evaluation purposes. One striking example is the lack of structure for the programme in some of the submissions: for example, features such as entry assumptions and a clear delineation of how skills will be sequenced to illustrate how progression will happen are absent. This could be due to factors such as the following:

- Seta ETQAs generally require programmes submitted for programme approval to be mapped against unit standards. Unit standard numbers—even in the 'fundamental' areas—may differ in different qualifications. It seems as if providers are, understandably, taking a 'mix and match' approach to programme development, producing 'chunks' of material against specific unit standards that they can then match with other 'chunks' according to the requirements of a specific qualification or client.
- The target group for 'fundamental' learning programmes is not stable, and will vary greatly according to different client contracts and contexts. To give one example, a learnership group may only be about ten or twelve learners in a specific workplace, selected according to that workplace's criteria. The next group of learners for which the provider is contracted for the same level of qualification (even in the same sector) may have been selected according to completely different criteria, and their entry levels and prior knowledge may be different.
- The delivery mode for the same programme may vary from workplace to workplace: that is, some workplaces may agree to coherent blocks of training

time and on-site delivery, while others may only accommodate fragmented delivery with more self-paced and off-site learning demanded from the learners. Essentially these learners are having to learn in an environment in which education is not the core business.

It could be that because of factors such as these, in order to avoid having to develop new learning programmes for every small new group of learners, providers are developing sets of activities/handouts—or packages of unit standards—rather than structured learning programmes. It is possible that such courses could be well taught, but it would be extremely difficult for a quality assurance agency to make meaningful judgements about them, in the absence of observing teaching and learning. In other words, the 'programme evaluation' model, one of the key aspects of quality assurance in terms of the NQF model, is unworkable.

Accreditation issues

As discussed above, one of the key aspects of the decentralized model is accreditation of providers. Providers need to meet a number of organizational and good practice criteria, confirmed by an institutional audit. Many of the providers who submitted materials for this research are either accredited or in the process of being accredited by a Seta ETQA. However, the accreditation processes and standards employed by different Seta ETQAs are not uniform. In addition, provider identities are not stable: among smaller providers there are often consortia or partnerships to deliver specific programmes. In other words, provider identities are market-driven, and different providers come and go. To spend time and money on accreditation processes for unstable entities seems questionable. Accreditation appears to work best for institutions or organizations which are sizeable enough to have coherent systems in place, and a relatively stable core staff. Smaller providers are difficult to fit into this model[24].

Many of the providers who submitted are (or claim to be) also accredited by Umalusi sometimes in addition to accreditation by a Seta ETQA (contrary to SAQA policy[25]). Duplication of accreditation is burdensome and time-consuming for both providers and quality assurance bodies.

Learning programme approval issues

As discussed above, according to the current NQF model, providers are required to submit programmes they wish to offer against standards and qualifications on the NQF to quality assurance bodies for evaluation against learning outcomes. What is clear from this research is that it is problematic for different bodies to evaluate across programmes for comparability of standard where there is no common framework, and where 'fundamentals' are highly contextualized. Even more basically, however, this research points to the impossibility of conducting meaningful programme approval against learning outcomes. There are three major problems which this research has revealed.

First, learning outcomes do not appear to provide a fixed, realizable basis for arbitration: the same unit standards form the basis for dramatically varying courses. This is not a problem confined to unit standards *per se*, but rather, is a problem with an

[24]According to the Seta Review cited above, Seta ETQAs have also identified problems with regard to the support required by small providers, and capacity issues for the ETQA with the increasing number of small providers (SETA Review, Carmel Marock, Candice Harrison-Train, Jonathan Gunthorp, Bobby Soobrayan: March 2007.)

[25]It should be noted that some submissions reveal a level of policy confusion amongst providers: one noted that Umalusi quality assures the ETDP Seta; another noted that the NQF Forum quality assures Umalusi.

outcomes-driven system, which assumes that outcomes should be expressed at the level of qualifications, and that curriculum can be designed from, taught against, assessed against, and evaluated against these outcomes. As discussed above, this research identified courses of very different levels of breadth and depth being taught against the same learning outcomes (unit standards). Learning outcomes on their own do not enable quality assurers to make judgements about the quality of programmes delivered or of assessment—in the same way that different providers interpret them differently, different quality assurance bodies may interpret them differently. Different individuals within the same quality assurance bodies may interpret them differently. In other words, learning outcomes are not a good way of expressing an intended curriculum, and unit standards are a particularly problematic mechanism because of the other problems associated with them.

Second, it is impossible to reach decisions about the standard of courses without an analysis of the summative assessment (including marking memoranda, and, ideally, learner scripts). Courses can have similar content or learning outcomes prescribed, but can be tested at very different levels. When quality assurers are confronted with a description of the intended curriculum, they can make some judgements about whether or not the appropriate type of skills and content appear to be prescribed, but they cannot make a judgement about the likely competence of learners without some knowledge of how learners were assessed. Assessment of learning outcomes is not an all-or-nothing, achieved or not achieved affair, and some sense of how learners were tested in order to make a judgement about their reading, writing, speaking, or mathematical abilities is required.

Third, courses have to be substantially documented in order for evaluators to make any decisions at all about their quality, without a lengthy and detailed analysis of classroom practice. In other words, the programme approval model might work well with 'distance education' type courses, which contain a set of clearly specified learner activities and texts. Other courses which attempt to be 'teacher-proof', and contain clear and detailed facilitator guides, also enable judgements to be made about them. However, substantial documentation about courses is not necessarily a sufficient requirement for quality, and it may well be extremely counter-productive to require all providers to produce such materials to enable quality assurance bodies to make judgements about their programmes. In addition, it would prevent any type of flexibility in the system, and providers would have to produce detailed programmes every time they designed a new course. Finally, quality assurance would become a monstrous affair, as all quality assurance bodies would have to swell dramatically to include armies of staff that were able to make judgements about such courses.

What should the 'fundamentals' look like? Unresolved Issues

This research suggests that if mathematics and language are to be compulsory, there should be compulsory curricula and assessments, and not just learning outcomes. However, it has not engaged with what kind of mathematics and language should be compulsory, or what level of qualifications should have compulsory mathematics and language courses, and at which level those components should be. It has also not engaged with debates about how 'fundamental' learning outcomes should be identified, and whether language and mathematics courses—in and of themselves—can or should be designed to achieve such outcomes.

In other words—although the research was designed to investigate the standard of courses on offer as part of the 'fundamentals', in fact, the report does not say that much about the actual nature of the category called 'fundamentals'. It points to problems with unit standards, and problems with the idea of learning programme approval against learning outcomes, and decentralized assessment against learning outcomes. And, because of the problems caused by these factors in the education system, the researchers did not manage to learn as much about the standards of language and mathematics courses as we had hoped we might learn from looking at courses. This research provides no answers to difficult but important questions, because, it argues, it is not possible within the current system to make meaningful judgements about courses and standards.

The most urgent questions which need to be addressed are:

- How much mathematics, and what kinds of mathematical knowledge and competencies, need to be compulsory for different qualifications?
- How much language, and what kinds of language competencies need to be specified for different qualifications?
- How can the difficult questions of home language versus language of teaching and learning be addressed?
- What competencies should be regarded as 'fundamental' for qualifications in the general and further education bands, and how can or should they be prescribed and assessed? Should life orientation be regarded as 'fundamental' in occupational qualifications?
- How can the need for standardization, portability, and transferability be balanced with the need for fit-for-purpose courses?

Recommendations

Umalusi should continue to insist on external examinations as a primary instrument in general and further education and training for quality assurance in language and mathematics courses.

Umalusi should advise providers, quality assurance bodies, and assessment bodies on the need for good curriculum statements instead of unit standards in language and mathematics courses, and probably in other areas as well. It seems appropriate for that assessment bodies develop curriculum statements, as they will be setting external examinations against such documents, and it seems desirable and practical to have national curriculum statements wherever possible. Umalusi should continue to build its capacity to evaluate such curriculum statements.

Providers should have the freedom to develop their own learning programmes, within the constraints of prescribed curriculum statements.

Umalusi should advocate curriculum statements for twenty credit courses; language and mathematics courses in formal education and training should not be based on fragmented competency statements.

The provision of fit-for-purpose language and mathematics courses that do not require quality assurance or certification should be encouraged where necessary. For example, if workers in a specific workplace require short and specific courses, providers should be able to design the appropriate course, and workplaces should be able to contract their services and obtain their skills levy, but such courses should not have to be quality assured.

Umalusi should not attempt to conduct programme approval.

Umalusi should urgently conduct research and should urgently request universities and other research agencies to conduct research into how much and what kind of mathematics and language courses should be compulsory at what levels, and what should be regarded as 'fundamental' in general and further education and training.

Umalusi should engage in discussions with SAQA and the Departments of Education and Labour about reconceptualizing the NQF.

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Appendices

Appendix 1

Communications in English: Unit Standards used in programmes in this study

Unit Std Number	Credits	Unit Standard title	No of providers using them
Current, NQF Level 1			
119635	6	Engage in a range of speaking/signing and listening interactions for a variety of purposes	4
119631	5	Explore and use a variety of strategies to learn	4
119640	6	Read/view and respond to a range of text types	4
119636	6	Write/Sign for a variety of different purposes	4
Expired, NQF Level 1			
7526	3	Engage with aesthetic, affective, cultural and social values in texts—expired December 2003	3
7535	3	Engage with meaning, organisation and structure of texts—expired December 2003	3
7534	3	Explore and use a variety of strategies to learn—expired December 2003	3
7528	4	Identify, access, analyse, use and present information—expired December 2003	3
7524	3	Show a critical awareness of language usage—expired December 2003	2
7530	4	Use appropriate communication skills, conventions and structures for specific purposes and situations—expired December 2003	2
12462	6	Engage in a range of speaking/signing and listening interactions for a variety of purposes —expired October 2005, but in GETC, which expires in 2008	2
12470	6	Write for a variety of purposes—expired in October 2005 , but in GETC, which expires in 2008	2
12471	5	Explore and use a variety of strategies to learn—expired October 2005, but in GETC, which expires in 2008	2
12469	6	Read and respond to a range of text types—expired October 2005, but in GETC, which expires in 2008	2
12473	5	Identify and respond to selected literary texts—expired in October 2005	1
Current, NQF Level 2			
119463	5	Access and use information from texts (All new ones go up to 2009)	1
119460	5	Use language and communication in occupational learning programmes	1
119454	5	Maintain and adapt oral/signed communication	1
119456	5	Write/ present for a defined context	1
119464	5	Respond to selected literary texts	0
13217	5	Collect and use information	1
Expired, NQF Level 2			
8963	5	Access and use information from texts—expired February 2006	4
8967	5	Use language and communication in occupational learning programmes—expired February 2006	4
8962	5	Maintain and adapt oral communication—expired February 2006	4
8964	5	Write for a defined context—expired February 2006	4

continued

Unit Std Number	Credits	Unit Standard title	No of providers using them
Current, NQF Level 3			
119472	5	Accommodate audience and context needs in oral/signed communication	2
119457	5	Interpret and use information from texts	2
119467	5	Use language and communication in occupational learning programmes	1
119465	5	Write/ present/ sign texts for a range of communicative contexts	2
119466	5	Interpret a variety of literary texts	2
9960	8	Communicate verbally and non-verbally in the workplace	2
9302	2	Access information in order to respond to client enquiries in a financial services environment	0
9303	3	Communicate verbally with clients in a financial environment	0
Expired, NQF Level 3			
8968	5	Accommodate audience and context needs in oral communication —expired December 2006	7
8969	5	Interpret and use information from texts—expired December 2006	7
8973	5	Use language and communication in occupational learning programmes —expired December 2006	6
8970	5	Write texts for a range of communicative contexts—expired December 2006	7
8972	5	Interpret a variety of literary texts—expired December 2006	0
Current, NQF Level 4			
119469	5	Read/ view, analyse and respond to a variety of texts	1
119471	5	Use language and communication in occupational learning programmes	0
119462	5	Engage in sustained oral/signed communication and evaluate spoken texts	1
119459	5	Write/ present/ sign for a wide range of contexts	1
110506	4	Demonstrate and apply knowledge and understanding of the basic components and fundamental skills of effective communication (4) (re-registered to 2010)	1
119470	5	Evaluate literary texts	0
119461	5	Make and motivate judgements on selected literary texts	0
12153	5	Use the writing process to compose texts required in the business environment	7
12154	5	Apply comprehension skills to engage oral texts in a business environment (re-registered to 2008)	3
12155	5	Apply comprehension skills to engage written texts in a business environment (re-registered to 2008)	1
Expired, NQF Level 4			
8975	5	Read, analyse and respond to a variety of texts—expired February 2006	8
8979	5	Use language and communication in occupational learning programmes—expired February 2006	4
8974	5	Engage in sustained oral communication and evaluate spoken texts—expired February 2006	7
8976	5	Write for a wide range of contexts—expired February 2006	8
8556	10	Interact orally and in writing in the workplace—expired 2004	2

Appendix 2

Mathematics/Mathematical Literacy: Unit standards used in programmes in this study

Unit Std Number	Credits	Unit Standard title	No of providers using them
Current, NQF Level 1			
14084	1	Demonstrate an understanding of and use the numbering system	1
7461	1	Use maps to access and communicate information concerning routes, location and direction	3
Expired, NQF Level 1			
7447	6	Working with numbers in various contexts—expired December 2006	2
7449	2	Critically analyse how mathematics is used in social, political and economic relations —expired December 2006	2
7450	2	Work with measurement in a variety of contexts—expired December 2006	2
7451	2	Collect, analyse, use and communicate numerical data—expired December 2006	2
7463	2	Describe and represent objects and the environment in terms of shape, space, time and motion—expired December 2006	3
7464	2	Analyse cultural products and processes as representations of shape, space and time —expired December 2006	3
7452	6	Describe, represent and interpret mathematical models in different contexts—expired December 2006	1
7453	3	Use algebraic notation, conventions and terminology to solve problems—expired December 2006	2
7448	4	Work with patterns in various contexts—expired December 2006	1
Current, NQF Level 2			
7469	2	Use mathematics to investigate & monitor the financial aspects of personal and community life	5
7480	3	Demonstrate understanding of rational and irrational numbers and number systems	4
9007	5	Work with a range of patterns and functions and solve problems	6
9008/12444	3	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts/ Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts	6
9009	3	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	5
14108	3	Measure, estimate and calculate physical quantities and explore, describe and represent, interpret and justify geometrical relationships in two and three dimensional space relevant to the life or workplace of the community (Could not find this unit standard on the SAQA website.)	1
Expired, NQF level 2			
8982	3	Demonstrate an understanding of rational and irrational numbers and number systems within the context of relevant calculations (Could not find this on the SAQA website.)	2
14085	2	Apply basic knowledge of statistics in order to investigate life and work related problems (Could not find this unit standard on the SAQA website.)	1

Expired, NQF Level 2/ continued

Unit Std Number	Credits	Unit Standard title	No of providers using them
Expired, NQF Level 2 *continued*			
7467	5	Collect and use data to establish basic statistical and probability models and solve related problems—expired December 2006	1
7479	4	Describe, represent and informally analyse shape and motion in 2- and 3-dimensional space—expired December 2006	1
8983	3	Use mathematics to investigate and monitor the financial aspects of personal and community life (Could not find this unit standard on the SAQA website.)	1
Current, NQF Level 3			
9010	2	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	7
9012	5	Investigate life and work related problems using data and probabilities	7
9013	4	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	6
7456	5	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	6
7460	4	Use structured models to describe, represent and analyse shape and motion in 2- and 3-dimensional space	1
9011	5	Use mathematics to investigate and monitor the financial aspects of personal and business issues (Could not find this unit standard on the SAQA website.)	2
11241	6	Perform Basic Business Calculations (not a maths/maths lit unit standard)	2
Expired, NQF Level 3			
7455	1	Identify and work with simple forms of complex numbers—expired December 2006	2
14086	3	Work with a wide range of patterns and basic functions and solve related problems —expired October 2004	1
Current, NQF Level 4			
9016	4	Represent analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	6
9015	6	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	9
7468	6	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	8
7485	3	Demonstrate understanding of real and complex number systems	4
7465	5	Collect and use data to establish complex statistical and probability models and solve related problems	1
7483	2	Solve problems involving sequences and series in real and simulated situations	1
Expired, NQF Level 4			
12417	4	Measure, estimate & calculate physical quantities & explore, critique & prove geometrical relationships in 2-and-3 dimensional space in the life and workplace of adult with increasing responsibilities—expired December 2006	7

Note: There are some unit standards that we could not find on the SAQA website. They are included in this list with the title provided by the service provider.

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