

## CHAPTER 6

# KNOWLEDGE, OUTCOMES, AND THE CURRICULUM

### INTRODUCTION

The subject of this chapter is the role that is claimed for outcomes-based qualifications in *curriculum* reform, and the explicit and implicit epistemological stance behind outcomes-based qualification frameworks. There is not just one epistemological position inherent to qualifications frameworks. If frameworks are seen as ‘light touch’ reforms which formalize how qualifications relate to each other, something like a traditional diagram which demonstrates the relationships between the main qualifications on offer in a particular country, sector, or part of an education system, no specific epistemological position is implied. However, most of the claims made about the role of outcomes-based qualifications in education reforms rest on a notion of knowledge as information that can be divided into little bits that can be selected and combined at will. This ignores the extent to which educational knowledge is necessarily organized in bodies of hierarchical conceptual relationships, the value of such bodies of knowledge, and the necessary conditions for their acquisition. I demonstrate that learning outcomes rely on an idea of transparency that they cannot achieve in practice, and that the outcomes approach leads to narrow over-specified outcome statements, and so does not enable curriculum coherence. Starting from activities or roles, whether in workplaces or otherwise, does not enable reflection on what education can and cannot do, but assumes that education must and can lead to any specified outcome—whichever is deemed important at that moment.

The role of subjects and disciplines in shaping curricula is a long-standing and heated debate in education, as touched on in Chapter 2. I suggest that the problems experienced in the implementation of outcomes-based qualifications frameworks provide an indication of why curriculum design needs to start with the idea of the acquisition of bodies of knowledge. This does not mean, however, that I am calling for a thoughtless return to ‘traditional’ subjects, without questioning which subjects or disciplines should be taught in which educational programmes, or what knowledge should be selected within subjects and disciplines, a point I address in the following two chapters.

### KNOWLEDGE AND LEARNING OUTCOMES

It is increasingly rare to find an educational policy document which does not include reference or allusion to the ‘changing role of knowledge’ or the ‘knowledge society’, albeit often at the level of rhetorical gestures. But it is seldom clear what exactly

knowledge is in this policy world. While it has taken on a new prominence, knowledge also seems to have undergone a conceptual shrinkage in much contemporary policy documentation. ‘Knowledge’ is sometimes equated with something which would probably be better described as ‘information’ or ‘fact’, and, echoing previous ideas about learning objectives and learner centred education, is frequently argued to be less important than what are described as ‘skills’ (Livingstone & Guile, 2012). 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 learn things like ‘problem solving’ (Peters 2001). Policies focused on ‘core skills’ and ‘essential skills’ have emerged, which suggest that knowledge is not as important as skills that are transferable across jobs and industries (Grubb and Lazerson 2006). Johan Muller (2008, p. 206) argues that contemporary debates about the ‘knowledge society’ as well as debates about the nature of the labour market in so-called post-industrial capitalism have brought to the forefront questions about what knowledge is for, and have “re-opened the debate about the relative merits of relevant knowledge on the one hand and knowledge for its own sake on the other”. This debate has remained fierce and unresolved across the last century or more of educational reform.

Learning outcomes and qualifications frameworks represent, amongst other things, a particular attempt by policy makers to resolve the problem of what education should teach and how it should teach it, by allowing relevant ‘stakeholders’ to define the required outcomes of any learning process. These outcomes are then supposed to provide the starting point for curriculum design. The South African Qualifications Authority (2001a, p. 7) argues:

The OBET [outcomes – based education and training] system differs fundamentally from previous knowledge and inputs-based systems in the sense that the learner, not the content or the curriculum, is at the centre of the learning.

A report jointly authored by the Commonwealth of Learning and the South African Qualifications Authority (Commonwealth of Learning and SAQA, 2008, p. 44) and cited in Chapter 1 suggests that qualifications frameworks represent “new notions of knowledge”, and a “new hierarchy” in which “education providers are no longer the leaders and standards-setters, and content (or inputs) is no longer the starting point”. They refer to this as a ‘design down’ approach to curriculum development, in which, as captured in [Figure 1](#) below, the knowledge to be taught is supposed to be selected in order to ensure that learners will acquire the relevant learning outcome.

This figure diagrammatically represents the idea that level descriptors, the broadest level of learning outcomes, are the starting point for curriculum design. As discussed in the previous chapter, level descriptors are broad learning outcomes or competences that all qualifications at a particular level are supposed to lead to. The arrow on the top left, moving to the right from ‘Qualifications framework’, indicates that it is in the qualifications framework that these broad learning outcomes are set. In most qualifications frameworks, level descriptors are supposed to be agreed on

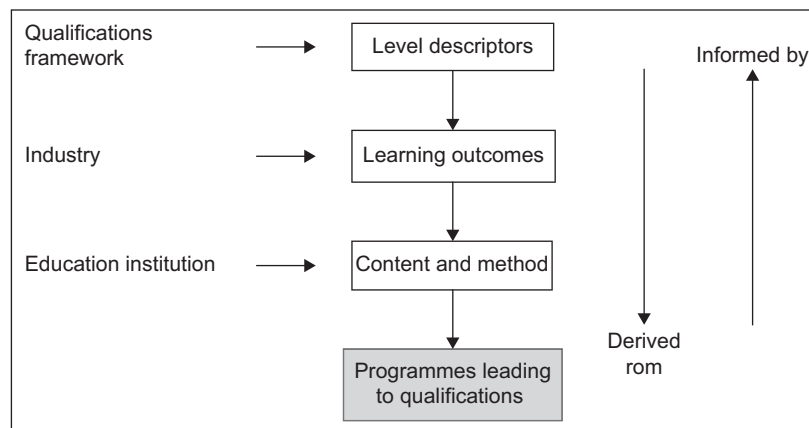


Figure 1. Designing Down (adapted from Commonwealth of Learning and SAQA, 2008, p. 44).

by stakeholders. Industry, or other stakeholders, then designs more specific learning outcomes that are relevant to their specific needs, but which also lead to the broad learning outcomes specified in the level descriptors—as indicated by the sideways arrow from ‘Industry’ to ‘Learning outcomes’ in the diagram. This step, advocates argue, enables power over qualifications to shift towards employers and away from educational providers, which is assumed to be desirable. Education institutions then design and select content and teaching methodologies, assembling them into learning programmes that will lead to the specific learning outcomes specified by industry, which in turn will lead to the broader outcomes specified in the level descriptors.

In outcomes-based models, learning outcomes are frequently juxtaposed with ‘inputs’, which are variously conceived as syllabuses/curriculum, teaching, time, and institutions. In some cases the rhetoric and accompanying policies based on learning outcomes and competences are explicitly opposed to subject-based curricula, while in other cases, subject-based curricula are seen as one amongst many inputs, with the emphasis still on the outcomes or competences that learners have achieved. However, there is a slippage here. Although the emphasis is on *outcomes* as opposed to *inputs*, outcomes which are specified in qualification or curriculum documentation are *not* the outcomes that *have been achieved*, but outcomes which have been *specified as targets or goals* which should be associated with particular qualifications and learning programmes. Learning outcomes are *not* outcomes of learning, but only the *desired* outcomes. In this way, they are the same as aims, syllabuses, curriculum specifications, and so on. They are a means of specifying the intended curriculum, as well as, in theory, a benchmark against which learners’ achievements within a curriculum can be measured. They are also supposed to be a benchmark for measuring what learners have achieved in the course of everyday

life or work, regardless of whether they have worked their way through a particular educational programme. Unlike the other major international trend in education—the achievement test—which, for all its weaknesses and problems, tries to measure what learners have achieved at various points, the outcomes and qualifications policies specify outcomes which learners *should* achieve, what the outputs *should* be, in order for them to be awarded a particular qualification. In this sense, the learning outcomes are *inputs*, and not outputs. The assumption is that clear statements of learning outcomes will ensure that the appropriate outputs can be achieved.

Learning outcomes differ from traditional mechanisms for specifying an intended curriculum in their attempt to describe desired outcomes separately from bodies of knowledge and skill, distinguishing them from syllabuses which are embedded in and derived from areas of knowledge. A syllabus has aims, whether or not they are articulated explicitly, but these aims are derived from a body of knowledge. A syllabus usually includes information about sequencing—the order in which content should be taught—and can include assessment specifications. A syllabus is designed by specialists within education institutions<sup>1</sup>, and is also intended to be interpreted by specialists within education institutions. Learning outcomes can—and indeed, according to much documentation about qualifications frameworks, *should*—be designed by institutions outside of education—whether governments, employers, or other ‘stakeholders’, and should be understandable to all these stakeholders.

Because learning outcomes have to enable comparisons to be made, not only between different education programmes, but also between learning that has happened outside and inside of education programmes, it is necessary for the learning outcomes to stand above any particular curriculum, education programme, or institution. Similarly, in order for learning outcomes to ensure that stakeholders’ interests are met, they must be specified by those stakeholders separately from curricula; the role of the education institution is then to develop curricula that lead to the specified outcomes. This is not a controversial point in advocacy documents for qualifications frameworks; I raise it here because advocacy documents often conflate on the one hand, the idea of teachers setting outcomes within their classroom and within a specified curriculum, with, on the other hand, stakeholders specifying learning outcomes from which curricula are supposed to be developed. For example, a European Union document advocating for learning outcomes uses teachers setting their own outcomes for each lesson as an example of learning outcomes (European Union, 2011). But the claims made about what learning outcomes can do in education reform (improving education/labour market relationships; reforming curricula, pedagogy, and assessment; facilitating recognition of prior learning; reforming how education is delivered; and improving quality) are based on the idea of outcomes specified separately from curricula, which is very different to the process whereby a teacher sets aims for her class within a curriculum. For example, claims that learning outcomes can be used as a mechanism to ‘translate’ or compare different qualifications to each other, as well as claims that they can be used as benchmarks of attainment for any learning, regardless of whether that learning is linked to a particular

learning programme or has been attained by the individual during the course of work or life, assume that the learning outcome is an independent benchmark, that has no intrinsic relation to any particular curriculum or learning programme:

One of the greatest benefits of an NQF is that it facilitates a *reference* for lifelong learning and for progress in work and social life. (Vargas Zuñiga, 2005, p. 12, my emphasis)

Progression in learning becomes more than a predetermined path defined and restricted by education and training institutions, but will increasingly be based on an appreciation of the learning outcomes in question, *wherever these have been acquired*. (Cedefop, 2009, p. 5, my emphasis)

The separation of learning outcomes from curricula, learning programmes, and education institutions contains an implicit notion of knowledge, as I explore below.

#### IMPLIED, 'EMBEDDED', AND 'UNDERPINNING' KNOWLEDGE

The strongest idea of the relationship between outcomes and knowledge in outcomes-based qualifications frameworks and competence-based training can be seen in the policies and systems which talk about 'underpinning' or 'embedded' knowledge. The preference is for no knowledge to be specified in the learning outcomes (or qualification documentation). The belief is that if a particular 'piece' of knowledge is essential to a particular competence or outcome, that piece of knowledge is *implied* when the competence or learning outcome is invoked, and therefore does not need to be specified. Thus, when designing a curriculum, instead of starting from bodies of knowledge, one starts from the competence or outcome, and brings in bits of knowledge as and when they are required. Knowledge must be selected because it leads to the required learning outcome or competence, and not for any other reason, such as its intrinsic value and interest, or because it could provide a foundation for further acquisition of knowledge in a particular area.

This perspective is usually accompanied by arguments that *knowledge* does not need to be assessed; an individual's grasp of any knowledge that they need to know can be *inferred* from competent performance. As Jessup (1991, p. 121), English advocate of an outcomes-based approach to vocational education, argues: "if a person performs competently we need not be concerned with what he or she knows". Similarly, in South Africa, the Qualifications Authority insisted that unit standards (part qualifications) and learning outcomes were not about knowledge:

If the identified knowledge is that which we need to develop in order to *achieve* identified results or outcomes ... then it *belongs in learning programs*, which are about inputs. We should not say anything about this in unit standards, which are about outcomes. Let us trust teachers, trainers and instructional designers to *do their job*, and identify what must be learnt in order for people to be able to achieve the outcomes! (SAQA, 2000b, p. 27, emphasis in original)

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This is common in outcomes-based and competence-based systems. Wolf (1995, p. 26) explains: “A common concern of all competence-based reforms is to counteract what is seen as a ‘knowledge bias’ within testing procedures”. It has also been assumed, she goes on to explain, that “knowledge requirements are legitimate only when clearly required in, and for, performance”.

This logic is what informs the idea of ‘underpinning knowledge’ (the term used, for example, in the English National Vocational Qualifications) or ‘essential embedded knowledge’ (the term used in South Africa). These terms refer to the fact that the specification of some knowledge which ‘underlies’ the specified competence is allowed, although not preferred. This idea was commonly expressed in South Africa in the notion that content is a “vehicle to achieve the desired learning outcomes” (for example, Malan, 2000, p. 24).

Although the required knowledge should ideally be *implied* within the specific outcomes, it was permissible in South Africa to state the knowledge requirements separately. This is captured in the following extract from a policy document:

If the standards writers have adopted an integrated approach to standards writing, then the specific outcomes should identify all knowledge to be assessed, and the assessment criteria should identify all knowledge required as proof of competence. If the standards writers have not adopted an integrated approach, embedded knowledge would have to be described at this stage. (SAQA, 2000b, p. 26)

The South African Qualifications Authority goes on to warn: “Caution must be exercised to avoid using this category as a dumping ground for course content. Unit standards are about outcomes, not inputs.” In another policy document this organization (SAQA, 1997, p. 10) explains “Background knowledge, cognitive frameworks, assumptions and values essential to the completion of the unit standard are examples of embedded knowledge”. The assumption is that the knowledge that ‘counts’ is the knowledge that is visible in performance. The basic notion of knowledge in the ideas of underpinning and embedded knowledge is that it must have a direct relationship with the learning outcome in order to justify its presence in the curriculum. This confuses knowledge with information. For example, in the South African outcome statement

Apply the arbitration act in dispute resolution (level five, four credits),

the ‘essential embedded knowledge’ would be knowledge of the act itself. A learner who does not know it, is unable to apply it. Similarly, in South Africa, there are a series of unit standards on banking which mainly focus on knowledge of different pieces of legislation. Each piece of legislation is separately specified as essential embedded knowledge in the respective unit standard.

Christopher Norris (1991, p. 336) points out:

Competency-based training theorists typically see knowledge as static, as information. They ask what knowledge underpins an activity and more

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specifically what does a person need to know in order to do this task or activity effectively. Often knowledge is seen as evidenced in the performance or as supplementary evidence to performance demonstrations that is required to support generalisation. Thus knowledge is largely seen as an issue of assessment. And what lies at the heart of this issue is whether knowledge relevant to an occupation needs to be assessed separately or whether it can be inferred from appropriate and effective action.

This approach to knowledge is reinforced by the idea that outcomes must be measurable. A very common statement by advocates of learning outcomes warns people not to use the word ‘understand’ because it is not measurable. A google search of the words ‘understand is not a measurable learning outcome’ turns up millions of webpages from all around the world, in which people are training or advising others in how to specify learning outcomes (I got nearly 18 million hits). They are usually accompanied with advice to use action verbs when writing learning outcomes, and to choose actions which are easy to observe or measure.

## KNOWLEDGE AS FLAT

All of this is at odds with any notion of knowledge as hierarchically organized into structured and inter-related concepts, as well as with any notion of bodies of knowledge as intrinsically important. Knowledge is seen as essentially flat, meaning that any ‘bit’ of it can be selected as required—propositions or fragments of information derived from different conceptual fields can be selected as if they have some meaning on their own.

Not all qualifications frameworks use learning outcomes in quite as extreme a manner, and some advocates of learning outcomes suggest that the specification of learning outcomes can and should include the specification of knowledge, not just ‘embedded knowledge, or underpinning knowledge, but knowledge in its own right. So, for example, documents associated with the European Qualifications Framework define learning outcomes as knowledge, skills, and competence (European Commission, 2008). Cedefop (2008, p. 15) states that learning outcomes are “statements of what a learner knows, understands, and is able to do on completion of a learning process”. These learning outcomes are juxtaposed with “input factors” such as “the duration, location and particular pedagogical method underpinning a qualification” (Cedefop, 2008, p. 1). But this formal valuing of knowledge is at odds with the notion of learning outcomes as an independent benchmark against which knowledge can be measured and evaluated.

Consider Patrick Werquin’s (2012, p. 260) definition of learning outcomes that includes the ‘knows, understands, and is able to do’ approach mentioned above. He argues:

Any approach to learning that emphasises learning outcomes is a significant change from the traditional approach that focuses on the content of a course or

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a programme rather than on what learners are expected to know and be able to do after the completion of the programme.

Bohlinger (2012, p. 282) argues:

Implementing qualifications frameworks is hoped to promote a shift from shared practices (what should be learnt? what do teacher and trainers want to teach?) to explicit criteria defining learning outcomes (what are learners able to do? what do they actually know?) and to release qualifications from their traditional links with formal learning and institutionalised educational programmes by validating learning outcomes independently of the context of learning processes.

This is not so different to the ‘embedded’ knowledge idea described above—because the knowledge is seen as something that is implied in the acquisition of learning outcomes. Similarly, a European Union document argues:

Increasingly, competence-based approaches and learning outcomes are being introduced as a guiding mechanism to inform general education reforms. The emphasis is on defining key competences and learning outcomes to shape the learner’s experience, rather than giving primacy to the content of the subjects that make up the curriculum. (European Union, 2011, p. 9)

The same European Union document goes on to state that learning outcomes “must have an observable behaviour” and “have to be measurable” (European Union, 2011, p. 17). This document, which claims to include knowledge as one of the components of learning outcomes, suggests that instead of ‘understand’, other verbs must be used, such as “define, recall, list, describe, explain or discuss” or, for more advanced programmes, “formulate, appraise, evaluate, estimate or construct” (European Union, 2011, p. 22). The document goes on to explain that the “verb will usually be followed by words indicating on what or with what the learner is acting and the nature or context of the performance required as evidence that the learning was achieved”. This is because “Words such as ‘know’ or ‘understand’ do not help with this demonstration of learning and are therefore usually avoided because it is not clear to the learner the level of understanding or amount of knowledge required.” (It is not clear how this is solved by stipulating ‘recall’, ‘describe’ ‘explain’ or ‘evaluate’, as learners will still not know the amount of knowledge required, the level at which each of these so-called measurable actions should be carried out, or the extent of the evaluation required.)

The assumption behind the idea of independently specified learning outcomes is either that people can acquire the same knowledge both inside and outside of education institutions and courses of study, or that different ‘knowledges’ can all have the same relationship with a given outcome, and so can all lead to that outcome. The primary role of education is to produce learning outcomes which can also be produced just as well elsewhere. There is nothing specifically valuable about the education process.



Implicit in this idea is a notion of everyday knowledge as the same as bodies of knowledge that traditionally have been acquired through sustained and structured courses of study, whether in education institutions or apprenticeships. The implication is a flat, unstructured, undifferentiated notion of knowledge. Structured bodies of knowledge may exist, but they are arbitrary; knowledge can be acquired in other ways, in different orders, in different contexts. This ‘flatness’ or undifferentiatedness of knowledge is implicit to many of the arguments made for how outcomes-based qualifications frameworks can assist with the recognition of prior learning. This is why knowledge in outcomes or competence statements tends to become relegated to meaning pieces of information or even task specifications.

There are likely to be many examples of ostensibly outcomes-based courses which do teach bodies of knowledge—but this exists in spite of, not because of, the logic of outcomes. For example, in South Africa at one point in the 1990s all lecturers in universities were forced to produce learning outcomes for their courses. This was, for the main, done in a cosmetic manner to comply with the official policy, after the courses had been designed, and had no effect on the courses themselves.

#### THE SPIRAL OF SPECIFICATION

The currency which competences and outcomes have in contemporary policy derives from the idea that the *essence* of a learning programme, or the *essence* of what an individual *has learnt*, can be mapped in a configuration of clear and transparent learning outcomes. The underlying assumption is that outcomes can disclose meaning to everyone regardless of their level of training in the relevant area, and thus can enable the essence of a programme to be understood *similarly enough* by different stakeholders (Shalem, Allais, & Steinberg, 2004), including all educational institutions. This common understanding is necessary in order for them to select knowledge and pedagogies which will, in all cases, lead to the achievement of the same learning outcomes.

But this does not happen. The previous chapter considered how broad learning outcomes in level descriptors do not represent shared meanings, and are interpreted differently. Similarly, learning outcomes in qualifications or part of qualifications are never sufficiently transparent that they can represent a clear competence that will mean the same thing to different people. Because they are not transparent, the specifications always require additional specifications, but these specifications themselves are also not clear, and in turn require additional specifications. This spiral of specification makes the outcomes or competence statements longer and therefore less usable and, ironically, *less transparent*, because they are so cumbersome: “Clarification leads to complication which is why lists of outcomes grow like mould and become unwieldy” (Knight, 2001, p. 373). Young (1996, p. 28) argues that “[a]ll the experience of NVQs in England and other outcomes-based systems indicates that attempts to increase the precision of outcomes can only lead to them becoming trivialized”. Wolf (1995) provides a detailed empirical and conceptual critique

showing flaws in the assumption that a specification of outcomes can reveal quality standards. She explains how, in relation to the National Vocational Qualifications in England, while the emphasis of this kind of competence-based system has been on the clarity which it promised to assessors and learners, the creation of competence statements had led to “an ever more complex and complicated ‘methodology’”. She shows that the desire to reach an agreement on the meaning of learning outcomes and assessment criteria leads to a level of reduction that is educationally unsound:

The more serious and rigorous the attempts to specify the domain being assessed, the narrower and narrower the domain itself becomes, without, in fact, becoming fully transparent. The attempt to map out free-standing content and standards leads, again and again, to a never-ending spiral of specification. (Wolf, 1995, p. 55)

Like Wolf, Norris (1991, p. 334) suggests that this is a problem inherent to competence-based training:

Like its forerunner, behavioural objectives, the language of competence invites a spurious precision and elaboration in the definition of good or effective practice. The specification of competence is assessment led in that it is usually associated with a statement which defines performance criteria and expected levels of performance. ... A key principle in the assessment of competence is that assessment criteria should be transparent for all to see .... Such models can be highly reductive, providing atomised lists of tasks and functions, or they can be highly generalised, offering descriptions of motivational dispositions or cognitive abilities such as problem-solving. In the case of the former the sum of the parts rarely if ever represents the totality of good practice; paradoxically the role is under-determined by the specification. In the case of the latter it is difficult if not impossible to provide an operational account of a disposition or ability that does not rest solely on situational judgement. A more significant feature of models of competence is that in their tidiness and precision, far from preserving the essential features of expertise, they distort and understate the very things they are trying to represent.

Hall and Woodhouse (1999, p. 208) provide similar arguments based on experiences in New Zealand:

[t]he effort and cost needed in making clear an educational standard in writing quickly reaches a point where the law of diminishing returns takes over—additional effort is not matched by educational benefits.

The complicated structures and processes which emerge when countries attempt to implement outcomes-based qualifications frameworks or competence-based frameworks are a *consequence* both of the lack of transparency of outcome statements, and the assumption that learning outcomes should be transparent. They are not the consequence of incompetent bureaucrats or policy makers; they are the

product of a logic which is internal to the notion of specifying outcomes outside of educational contexts. The combination of the *need for* and *lack of* transparency leads to increasing elaboration of the ‘standards’, as well as the development of increasingly narrow standards.

Course aims can be stated broadly, because they are the aims of *something*, and do not have to ‘stand on their own’, and be interpreted by any ‘stakeholder’. They are interpreted by experts in the field in question, and, to a limited extent, by students; of course students will not have a full grasp of what is entailed in something that they do not yet know or understand, but course aims provide them with some sense of where they are going. Similarly, learning outcomes, if they are the outcomes of a specific course, learning programme, or syllabus, can be stated broadly. It is the move of separating learning outcomes from specific courses, learning programmes, and educational institutions that leads, inevitably, to over-specification.

One of the practical problems of the outcomes-based approach is that the process of designing the learning outcomes frequently leads to arcane and complex disputes over terminology that become increasingly opaque to people not involved in the processes—which then contradicts the aim of increased transparency and improved supply of information. As discussed in Chapter 4, in many countries there is constant fiddling with the specifications and formats of the learning outcomes or competence standards, in an attempt to make them more intelligible (Allais, 2010b). Our research in Mexico, for example, found that once it became clear that a particular set of specifications had not reached their aims, then a new set of specifications would be implemented, only for them to fail and be replaced again. In this instance and in many other cases, policy-makers interpreted the problem as being due to inadequately specified standards, or incompetent standards developers. Frequently, this inadequacy was attributed to a lack of participation from industry in the standards setting process and a subsequent failure to ensure that vocational education and other labour-market oriented education and training met the needs of employers – something which, as elaborated in the previous chapter, was one of the main claims of many outcomes-based systems. This might explain not only why particular competence based models are fiddled with, but why, in some cases, one competence based training system is completely replaced by another. In each instance, the previous format of standards is seen as inadequate, and so the systems and structures for developing them are changed in the hope that they can be made more representative.

The complexity of the outcomes or competence documentation could be a contributing factor to lack of industry participation. In our research, some representatives from industry described the approach as one imposed on them by education institutions. This is ironic, as education institutions were found, in most countries, to be the most unwilling partners in the process, and to be generally unhappy with the outcomes and competence-based approach, describing it as something imposed by industry.

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Finally, this elaborate system, unworkable because of the documentation generated by the layers of specification, ends up in the place it was trying to get away from: reliance on the judgement of specialists. In other words, if you are trying to measure the performance of specialists in a particular area, it always comes down to specialists in that area making the judgement. This raises the question of why the whole system was necessary in the first place. Outcomes are an unnecessary addition to the judgement of the specialist because despite being so long and cumbersome, they do not capture specialist knowledge.

In order to illustrate the relationship between learning outcomes and knowledge, let's consider some examples. My research demonstrates how the extremes of the spiral of specification in South Africa made the qualifications framework unworkable<sup>2</sup>. The outcomes tended to become narrower and narrower, as developers tried to make them more specific, and less likely to be 'misinterpreted'. This resulted in lengthy documents specifying very narrow and low level tasks, such as packing groceries or washing hands. What makes the South African study particularly interesting was that learning outcomes were not confined to vocational or occupational areas, as will be seen below from the small sample of unit standards extracted from the more than 15 000 which have been registered on the South African qualifications framework. As discussed in Chapter 4 the vast majority of these qualifications were never used, and the main qualifications used in South Africa now are those developed through education institutions, against a set of qualification types that are much broader than the original outcomes-based qualifications.

### THE SPIRAL OF SPECIFICATION IN PRACTICE: THE SOUTH AFRICAN CASE

The building blocks of most of the outcomes-based qualifications in South Africa were called unit standards. The first place in which outcomes were specified was in the titles of these unit standards. Titles were supposed to be "a coherent and meaningful outcome (milestone/end point) of learning or training that is formally recognized" (SAQA, 2001a). The title was supposed to represent the outcome or learning achievement that was registered on the qualifications framework and against which learners would obtain credit; the title *was* the learning outcome. A title needed to provide a "concise yet comprehensive and pointed indication of the contents of the unit standard"; and had to contain a maximum of 100 characters, including spaces and punctuation (SAQA, 2000b, p. 5).

Outcomes were developed for high and low level qualifications, and for broad and narrow competences. Some examples are listed below:

Control traffic

Demonstrate knowledge and understanding of the characteristics of Burial Societies in South Africa\*

Attend to and handle a domestic violence incident\*

Access, process, adapt and use data from a wide range of texts

Apply Maritime Geography

Develop and implement the creative process

Manage one's own development

Match personal lifestyles with Biblical values

Identify and describe learning processes

Interact with people in textile processes

Apply knowledge of anatomy, physiology and medical terminology relevant to phlebotomy

Sweep floors

These examples are typical of outcomes in the South African framework. There are over 15 000 of them which can be viewed at [www.saqa.org.za](http://www.saqa.org.za). While some of learning outcomes relate to disciplinary areas, and others more directly attempt to capture workplace competences, none of the learning outcomes in the South African framework have a clear meaning to anyone who reads the title outside of a context. Upon learning that an individual had obtained credit against any of the standards listed above, for example, a member of society, an employer, or a state representative would not really be any the wiser. If an employer was presented with applications for a job, and was told that the applicants could 'Match personal lifestyles with Biblical values' or 'Interact with people in textile processes' they would be none the wiser about what the applicant knew and could do.

For instance, does the learning standard 'Match personal lifestyles with Biblical values' demonstrate an ability to smite one's enemies? The developers of this unit, standard might well argue that what is being described here is the ability to analyze one's own lifestyle, analyze Biblical values, and analyze the extent to which there is a relationship between the two. But this doesn't account for different interpretations of what Biblical values are, or even what a 'personal lifestyle' is, or how the one could be matched with the other. Even if you throw out wild interpretations and take it seriously, this is not a clear and recognizable competence. It could describe anything from a highly complex to a very superficial process: it could mean that a learner has entered into a profound and philosophical venture involving applications of sociology, psychology, and theology to every facet of their existence, or it could mean simply that they have been told that Christianity is charitable and then given money to charity.

The title of the unit standard, which is supposed to clearly represent the learning outcomes to be attained, does not represent some fixed 'competence' that will be recognized in general, outside of a specific context. The title of every unit standard has, to varying degrees, the same problem: they do not mean much on their own. Of

course, the appropriate titles could mean something very specific to the designer of a learning programme, for instance, within a specific religious training programme, or a teacher training programme, or a conservation programme. This meaning, however, would be confined to people within that programme. Once the learning outcome was uprooted from that context, it would lose this meaning. But this uprooting is precisely central to the claims made about learning outcomes.

To solve the lack of clarity, various layers of additional specification were added, which were supposed to clarify what is being specified in the title. In South Africa these included “specific outcomes”, a “purpose statement”, and “assessment criteria” (SAQA, 2001a, p. 22). Furthermore, each unit standard was situated within a field and a subfield<sup>3</sup>, and allocated a level and amount of credit.

Let’s consider specific outcomes first. Each competence captured in a unit standard title was supposed to be broken down into *specific learning outcomes* which “together reflect and capture the purpose of the unit standard in ways that are *measurable* and verifiable” (SAQA, 2000b, p. 9, my emphasis). Specific outcomes were “smaller, more manageable outcomes” (SAQA, 2001a, p. 22). The specific outcomes, however, had to represent the essence of the title outcome: “[t]he specific outcomes of each unit logically make up the title without going beyond the title or falling short of the title” (SAQA, 2001a, p. 22). Like many outcomes- or competence-based systems, the South African Qualifications Authority emphasized the grammatical structure of the specific outcomes: “Verb + noun + modifying phrase(s)” (SAQA, 2001a, p. 23). For example, the unit standard “Facilitate the optimal functioning of the client with a psychiatric disorder” included:

- Differentiate between psychiatric disorders and intellectual disability
- Describe the meaning, possible causes and effects of psychiatric disorders
- Assist the client and family in coping with activities of daily living
- Transfer work related social skills to the client
- Explain rights and responsibilities relating to psychiatric disorders

After reading the specific outcomes, we do have a better sense of what the designers meant when they said that a competent learner would be able to ‘facilitate the optimal functioning of the client with a psychiatric disorder’. But it is still by no means clear what the specific outcomes mean: How much exactly would the qualifying learner have to know about the ‘meaning, possible causes and effects of psychiatric disorders’? What form does the assistance to the client and family in coping with activities of daily living take? How much assistance must be given? Which daily activities must be assisted? What are ‘work related social skills’ and what does it entail to transfer them to the client? What are rights and responsibilities relating to psychiatric disorders?

The purpose statement further elaborated the competence captured in the unit standard title. The South African Qualifications Authority (2000b) clarifies that the purpose statement, together with the ‘specific outcomes’, showed what the standard

was intended to achieve for individuals, for the field or subfield, and for social and economic transformation. The Authority describes the *purpose statement* in the following way: “The purpose statement succinctly captures what the learner will **know and be able to do** on the achievement of the unit standard” (SAQA, 2000b, p. 8, emphasis as in original text). As with all the other features of unit standards, the purpose statement followed a specific format: it had to complete the sentence “Persons credited with this unit standard are able to...”

So, for example, although, the learning outcome “Pack customer purchases at point of sales” could be interpreted as not requiring a sense of customer relations, the purpose statement further clarifies that

Persons credited with this unit standard will be able to pack customer purchases so that damage is minimised and the customer’s image of the organisation is enhanced.

The credit allocated to a particular unit standard gave some sense of how much the learner was expected to learn. As in many outcomes- or competence-based systems, the unit standards were not allowed to include time specifications the way a syllabus would, because individuals were supposed to be able to acquire the outcomes at their own pace. But any educational process is time-bound, even if individuals differ, and outcomes-based approaches cannot run away from this. Credit ratings were based on the idea of ‘notional learning hours’, which were in turn based on a judgement about how long it would take an average learner with the necessary prior knowledge to master the outcome. Thus, credit ratings gave an indication of required breadth and depth. For example, the unit standard about psychiatric disorders mentioned above (“Facilitate the optimal functioning of the client with a psychiatric disorder”) was worth sixteen credits, while a full time learning programme for a year was worth roughly 120 credits. This indicated that learning to facilitate optimal functioning of people with psychiatric disorders was expected to take up a fair amount of time, nearly a sixth of a full time programme of study, and therefore was reasonably in depth.

The unit standard “Develop and implement the creative process” was worth 40 credits. The designers of the unit standard were thereby signalling that this was a broad competence, that would take a long time to acquire; about a third of a full time year of study. However,

Demonstrate a basic understanding of the physiological processes in plant growth and development

was worth only three credits. This gives us a bit more information about how basic the ‘basic understanding’ was. Without this information, we may have expected the outcome to be something rather more extensive.

The South African Qualifications Authority suggested that only clear learning outcomes enable assessment that is fair, open, reliable and consistent, and that a unit standard becomes a clear learning outcome if it is supplemented by a purpose statement, specific outcomes, and assessment criteria (SAQA, 2000b). Thus, for each specific outcome,

there were *assessment criteria*, which were statements that “describe the standard to which learners must perform the actions, roles, knowledge, understanding, skills, values and attitudes stated in the outcomes. They were supposed to be entail a *clear and transparent* expression of requirements against which successful (or unsuccessful) performance is assessed” (SAQA, 2001a, p. 21, emphasis is mine). The Authority also described assessment criteria as the “associated standard of performance used by the assessor to determine whether the outcome has been met” (SAQA, 2001a, p. 22). They also “must be *sufficiently transparent* to ensure ease of understanding across a range of learning providers, learning services and learners” (SAQA, (2000b, p. 10) (emphasis mine). The format of an assessment criterion was specified in this way: “We will know that you are competent (insert specific outcome) if or when... (insert assessment criterion)” (SAQA, 2000b, p. 9). One of the aims of these criteria was to “minimise the subjective judging required” (Hallendorff, Richardson, & Wood, 1999, p. 82). The Authority (SAQA, 2001a, p. 21) argued that “if different standards are applied across the system, the credibility and integrity of the whole system is placed in jeopardy”. Assessment criteria were the mechanism to ensure that this did not happen.

The South African Qualifications Authority (2000b, p. 23) provides the following advice to writers of unit standards, with regards to assessment criteria:

The important question to consider at this stage, is:

**What critical evidence do we need as proof of competence?**

Be careful to avoid breaking the specific outcome into a set of tasks or steps or things to be learnt. A useful trigger is to ask: “if I walked into the room and a competent person was doing/had done this (insert specific outcome here), what would I expect to see in terms of his/her *performance* and in terms of any *product produced?*” (bold is original emphasis, italics are my emphasis)

One of the specific outcomes for the standard “Demonstrate an understanding of agriculture as a challenging and applied system” is “Analyse the geographical distribution of agriculture and its socio-economic impact.” The five assessment criteria for this specific outcome are:

The links between agricultural and other economic activities are explained.

Maps to show the type and distribution of agricultural production are labelled, interpreted, summarised and presented.

Information which summarises and demonstrates the significance of agriculture in society is collected and presented.

Link between society and agriculture is established and clarified.

Link between economy and agriculture is established and clarified.

But much is still open to question: What is ‘the link’ between society and agriculture? What kinds of agricultural production are included? What would be an adequate



summary of agricultural production? What would be an adequate explanation of the links between agricultural and other economic activities?

Young (1996, pp. 31–32) argues that “it is never possible to be 100% certain that a piece of evidence fits a learning outcome and that all assessors would reach the same conclusion”. The fifteen assessment criteria for hand washing are a clear demonstration of this problem. In an attempt to ensure that there was no ambiguity, or different interpretation of hand washing across the system, fifteen assessment criteria were specified, as shown in Box 4 below.

*Box 4: Assessment criteria for specific outcome “Wash hands effectively”.  
Extract from South African unit standard, ‘Maintain personal hygiene, health, and presentation’ (level one, four credits)*

**ASSESSMENT CRITERIA**

**ASSESSMENT CRITERION 1**

1. Applies soap or hand washing detergent.

**ASSESSMENT CRITERION 2**

2. Explains why soap and water needs to be used for washing hands.

**ASSESSMENT CRITERION 3**

3. Lathers hands for a minimum of 10 seconds.

**ASSESSMENT CRITERION 4**

4. Explains why the lather needs to be on the hands for at least 10 seconds.

**ASSESSMENT CRITERION 5**

5. Washes palms, backs of hands, between fingers and under jewellery.

**ASSESSMENT CRITERION 6**

6. Explains the areas where most of the dirt and germs can collect on hands.

**ASSESSMENT CRITERION 7**

7. Rinses and dry hands.

**ASSESSMENT CRITERION 8**

8. Closes taps after use.

**ASSESSMENT CRITERION 9**

9. Dries his / her hands thoroughly after washing.

**ASSESSMENT CRITERION 10**

10. Explains why hands need to be dried.

**ASSESSMENT CRITERION 11**

11. Explains why hands should not be dried on clothing.

*(Continued)*

*Box 4: Continued***ASSESSMENT CRITERION 12**

12. Explains why hand washing is important.

**ASSESSMENT CRITERION 13**

13. Gives 3 examples of when one needs to wash hands.

**ASSESSMENT CRITERION 14**

14. Explains the proper hand washing techniques.

**ASSESSMENT CRITERION 15**

15. Gives an example of health problems that can be prevented by hand washing.

Even with the absurdly detailed list of the different things involved in hand washing, it is still not transparent. For instance, it is not clear what constitutes an adequate explanation of why hand washing is important, or what entails an adequate explanation of the ‘proper hand washing techniques’, and whether or not, for example, this would include techniques to wash hands when soap is not available, with sand or ash. No matter how important hand washing is to everyday hygiene, it is hard to imagine an education system which could benefit from this type of specification. A content specification located in the context of a specific learning programme at a specific level—which might look something like ‘Hygiene requirements’—seems far more practical, and could be done far more simply. Teachers, lecturers, and trainers of surgeons, cooks, nurses, and childminders know what the hygiene requirements are, and how they should be taught to learners. Thus a programme syllabus or content guide only needs to make clear that these requirements must be taught. But when the ‘competence’ of hand washing is taken out of such a context, this endless spiral of specification occurs, without achieving transparency.

These hand-washing specifications related to one sub-outcome of an outcome which was worth only 4 credits. Bear in mind that a qualification in South Africa was supposed to be a minimum of 120 credits, and think about how much detailed documentation this entailed! These narrow, over-specified, detailed, unwieldy, documents were supposed to be the basis for curriculum design, assessment, and quality assurance. The very length and complexity of these documents made them rather unintelligible to anyone other than those involved in standards design, and very difficult to use in practice. This may account for why so many qualifications and competence-standards are developed but not used (as discussed in Chapters 3 and 4). It also makes the notion that learning outcomes will mean something similar enough to people in different contexts impossible to sustain. Policy makers who make claims about what learning outcomes can achieve in the reform of curriculum, as well in regulating the delivery of education, improving education/labour market relationships, improving worker mobility, and so on, seldom add a caveat that in order to make sense of a particular outcome, it will

be necessary to consider a whole lot of additional specifications, and that once these specifications are added, each individual learning outcome is accompanied by lengthy documentation.

The downward spiral of specification is frequently accompanied by an upward spiral. For example, in South Africa, regulations were added to the unit standards, to govern who could make judgements against them, and who could judge whether judgements were made correctly against them. Each learner needed to be individually assessed against the learning outcomes specified in the unit standards and qualifications. Assessors were to be checked by moderators, who were to be checked by verifiers. But in order to be an assessor or a moderator or a verifier, an individual had to be found competent against an assessment unit standard, moderated by a moderator who had been found competent against an assessment and a moderation unit standard, and verified by an individual who had been found competent against assessment, moderation, and verification unit standards. This led to a system which was incredibly cumbersome and complicated.

#### STRUCTURED, ORGANIZED, COMPLEX BODIES OF KNOWLEDGE

While learning, of course, happens everywhere and all the time, education provides access to knowledge which is *not* typically learnt in the course of everyday life. Organized bodies of knowledge enable us to treat the world as an object of study, and not simply as an environment or place of experience; they are systematized because objects must be seen in the relations they maintain with other objects within bodies of thought, and not only by a direct connection with a individual referent, as often happens in the world of experience (Charlot, 2009). Education allows people to spend time in a non-productive (in economic terms) activity, thus enabling reflection on and analysis of aspects of the social and natural world (Masschelein & Simons, 2013). This distance from everyday life makes education and the knowledge acquired through education powerful, as it enables us to stand back and reflect on the world, as opposed to simply experiencing it by virtue of living in it (Young & Muller, 2013; Young, 2008).

The knowledge that is taught in educational institutions is structured and organized in conceptual relationships. Bodies of theory or groups of concepts hang together because they contain internal conceptual relationships. Disciplinary knowledge is the clearest example of structured specialized knowledge. Disciplines are not static, 'given' bodies of knowledge, beyond questioning or changing, they are socially developed and systematically revisable (Collins, 1998; Moore, 2009; Young, 2008). But they do inherently "take the form of a coherent, explicit and systematically principled structure" (Bernstein 2000, p. 157 in Moore 2004, p. 144) which, to a considerable degree, is independent of specific groups in society that work in them or transmit them.

Some bodies of knowledge build cumulatively and progressively on themselves (Bernstein, 1971; Moore, 2009; Young, 2008). For example mathematics, one of

the clearest examples of disciplinary knowledge, has a clear hierarchical structure. This means that some concepts need to be acquired before others. Barring the odd extraordinary genius, most of us need to learn it systematically, with sequencing derived at least in part from its inherent structure. Often we have to have been learning it for a fairly long time before much application can be mastered. Of course there is considerable contestation within the discipline about sequencing, teaching how to apply knowledge, and so on. But nonetheless, it is clearly structured; it is not a set of individual ‘facts’ or segments of information that can be acquired separately from each other in any order, and that are constantly changing with changes in society. Apart from the geniuses mentioned above, generally people who do not learn mathematics in a (good) educational institution, do not learn much mathematics at all. Similarly, playing music requires mastery of simple pieces first, gradually building up to a reflective and more original practice, which requires not only practice, but insight into musical conventions and boundaries, even if only in order to violate them. Some bodies of specialized knowledge are less ‘vertical’, and the concepts do not build on each other in as clear a manner as they do in mathematics. They do, nonetheless, build on each other to some degree, and relate to each other. While sequencing of knowledge is less rigid in such cases, acquisition of a systematic body of knowledge is no less crucial, as concepts still relate to each other. Max Weber’s ideas did not build on Karl Marx’s ideas in the way that calculus builds on algebra, but they did build on them, incorporating insights about society and the economy that were not known before Marx developed his theories. Weber also did not ‘replace’ Marx in the sense that the idea of a heliocentric solar system replaced the idea of a geocentric solar system. Rather, they offer different but interrelated ways of analyzing the social world. In order to fully appreciate what sociology can explain about the social world, we need to understand both contributions, and how they can relate to each other.

Because of the internal structure of bodies of knowledge, the conditions for their acquisition are different from the conditions for the acquisition of the knowledge acquired in everyday life (Moore 2004). Necessarily, bodies of knowledge are often not directly practically useful, or easy to learn. Learners need to be introduced to them in a sustained way, gradually acquiring greater levels of conceptual depth and breadth. Mastery of particular concepts, principles and facts is needed before progress can be made, and this requires uninterrupted, extended, well-planned and structured educational programmes. Bodies of knowledge cannot be disaggregated easily, as learning needs to be sustained, sequenced, and systematic. Furthermore, they cannot be provided easily. It takes time and resources to build institutions able to deliver sequenced and systematic courses. If this knowledge were easy to learn in the course of everyday life, we would not require education institutions; we could simply allow individuals to acquire knowledge in the world. This is the logical conclusion of the argument that the same ‘outcome’ can be acquired anywhere, as Jan Masschelein and Maarten Simons (2013) point out.

None of this means that the relationship between education programmes and bodies of knowledge is straightforward. Some professional and vocational qualifications, for example, combine and recontextualize different disciplines; school subjects contain selections from disciplines; and, in discipline-based courses at universities, there is often disagreement about what knowledge to introduce when. But, notwithstanding this complexity, I want to focus on two important points about the idea of structured bodies of knowledge. Firstly, as discussed above, there are necessary conditions for the acquisition of specialized knowledge: learners need to be introduced into it in a sustained way, gradually acquiring greater levels of conceptual depth and breadth. This has substantial implications for curriculum design and delivery. Secondly, structured bodies of knowledge are important: they allow us to account for and explain the natural and social world in systematic ways as well as to participate in and reflect on key human experiences such as the literary, visual, or musical. Some disciplines enable abstraction, reflection, prediction, and application across time and local contexts (Bernstein 2000; Muller 2000a). The knowledge acquired through disciplines can enable people to envisage alternative and new possibilities which are not obvious if they are bound only by what they have direct experience of (Young & Muller, 2013). Thus, as Bernstein (2000) argues, abstract theoretical knowledge enables society to conduct a conversation about itself, and to imagine alternative futures. For example, the theories of Karl Marx can help individuals to understand how and why they are exploited at work, and see their frustrations as more than just a personal problem. This knowledge is valuable, and, rather than being narrowly linked to specific tasks, projects, or situations, can be put to infinite ‘uses’.

Specialized knowledge is not just ‘information’, and so disciplines and knowledge areas cannot be captured in outcome statements, and cannot be read off them. Furthermore, often knowledge, whether theoretical or practical, cannot be inferred from competent performance, as has been demonstrated extensively by Wolf’s (1993, 1995) empirical and conceptual research. Some argue that although outcomes-based qualifications frameworks are not appropriate for general or higher education, the specification of learning outcomes is appropriate in a vocational context, in which the learner is ultimately required to be competent in the workplace (for example, Ensor, 2003). Young (1996, p. 28) argues:

It is not by chance that outcomes-based systems have largely been developed in relation to vocational education where performances are more unambiguously specifiable and where it is far easier and more appropriate to be precise about outcomes.

But this approach does not work for vocational education. Gamble (2002, 2004b) demonstrates that, for example, craft knowledge, which is often a component of vocational programmes, has a part-whole relation inherent to its knowledge structures, and that this part-whole relation is evident from the beginning of a teaching programme, and is in fact the purpose of pedagogic transmission. Thus,

craft knowledge is undermined by being fragmented into learning outcomes, and a narrow outcomes or competence-based approach can result in workers receiving a narrow and limiting education (Gamble, 2005; Wheelahan, 2008)

Craft knowledge is mainly tacit, in the sense that it is not written or spoken. As learning outcomes must put into words what is entailed in any particular area of competence, craft knowledge is in some ways even less suited to outcomes statements than disciplinary knowledge. Gamble (2004b) demonstrates that partly because the principles of craft knowledge are implicit, they require sustained and systematic study, and are not easily disaggregated. Much of the teaching in traditional craft training programmes, such as apprenticeships, is not verbal, instead involving teaching through drawing, modelling, or physically working with the learner. It might be easier, during the course of everyday life, to pick up discrete skills in carpentry than in mathematics, and it may be easier to be a self-taught carpenter than a self-taught mathematician, but this does not mean that the teaching of carpentry is irrelevant. The more teaching of carpentry there is, the more people will acquire carpentry skills, and the more carpenters there will be. Thus it is still the case that if a country feels the necessity for carpenters, it is better to create learning programmes to train them, than to hope that enough people will stumble upon the relevant skills in the workplace.

Practical knowledge or workplace knowledge that is not a traditional craft *per se* (such as knowledge of managing a restaurant), is also difficult to reduce to transparent task specifications. The higher the level of professional competence in a workplace, the more difficult it is for someone outside of that particular area to be able to make a judgement. As Wally Morrow (2001, p. 105) puts it:

Practices are sustained or corrupted to a considerable degree by the ways in which participants and significant others interpret, think about, and discuss, them. But those interpretations, thoughts and discussions do not float freely above the 'reality' of the practice, they are part of that reality.

By emphasizing descriptions and explanations, the learning outcomes approach seems to favour verbal knowledge. Yet skills are not easily verbalized. It is ironic, then, that one of the ideas behind outcomes-based qualifications frameworks is to recognize the *skills* that people already have. Because competences are described in words, writers of outcomes and competence statements frequently emphasize the learners' ability to describe, explain, or talk about, rather than *perform*, the activity in question. Consider the South African grocery-packing unit standard. The following three specific outcomes specify the measurable and verifiable learning outcomes contained in the unit standard title 'Pack customer purchases at point of sales':

Explain factors impacting on the packing of customer purchases.

The importance of packing customer parcels correctly is explained.

Pack customer purchases.

Two of the three specific outcomes of the competence of packing groceries involve talking about packing groceries. It is quite conceivable that many individuals who pack groceries and are quite competent at this would not be deemed competent against this unit standard, as they would not be able to explain factors impacting on the packing of customer purchases. Perhaps the most extreme example I have come across is the standard 'Communicate verbally' which has three specific outcomes:

Explain the importance of being able to communicate effectively.

Describe how to communicate with people who only speak foreign/regional languages.

Describe the various ways of communicating in a particular context.

In other words, while the competence is supposed to be about communication, the specific outcomes are not about communicating, but about *explaining* communication.

In many instances, the criteria for judging competence cannot be articulated by a person who is not relevantly skilled, and are often not verbalizable at all. Thus they cannot simply be written up into a standard or qualification. In Gamble's (2002, p. 79) words, "evaluative criteria reside not only with the master, they reside *in* the master as the carrier of a collective knowledge tradition". This also means that specified outcomes and criteria do not enable quality improvement, as those who are inside the practice do not need them, and those who are novices or outside of the practice cannot understand them.

Furthermore, practical knowledge is often embedded in and dependent on the acquisition of disciplinary knowledge. Many vocational programmes contain a component of disciplinary knowledge that is applied within the vocational area, such as mathematics for engineering, or physics for motor mechanics. With the increasing prevalence of technology, many vocational programmes increasingly require higher levels of disciplinary knowledge, although, as Kennedy (2012) and Livingstone (2012) demonstrate, technology also often has the effect of decreasing the knowledge used in work. In addition, particularly at a junior secondary level and at primary level, where vocational programmes exist at this level, vocational programmes generally contain disciplinary knowledge essential to a basic education, such as language and mathematics. So the belief that outcomes are appropriate for vocational education is wrong. And, as it is primarily applied to vocational education, it is likely to weaken it.

The problem is not poor implementation. The South African experience demonstrates how the outcomes-based approach and its requirement for transparency can distort education and training programmes. Although the South African system was arguably an extreme version of the outcomes-based approach, and had its own idiosyncrasies, the problems the country experienced were not the result of the incompetence of South African policy makers but were inherent to the outcomes-

based approach and the requirement for—but impossibility of achieving—transparency.

The specification of particular criteria does not disclose what good practice is. Shalem and Slonimsky (1999) explore this by examining criteria specified for assessing the competence of teachers. They show that the interpretation of any particular criterion—for example, that the teacher can ‘use the language of instruction appropriately to explain, describe and discuss key concepts in the particular learning area/subject/discipline/phase’—is always open to debate. A teacher who does not have a reasonable sense of the key concepts will not know whether or not she is explaining them appropriately. Similarly, a teacher who does not know how to communicate key concepts to learners in a manner appropriate to their conceptual and linguistic level will not be in a position to start making a judgement about whether or not he is doing so appropriately. Criteria cannot be provided or legislated or disclosed through the specification of learning outcomes, but rely on a prior understanding of the practice.

It is not inconceivable that different people may design curricula from, teach from, and assess to, learning outcomes in a reasonably similar manner. But where this happens, it is because there is a strong community of professionals or experts who already have an internalized sense of the required standards, with enough professional cohesion to keep this interpretation reasonably similar. In other words, the written outcomes specify enough that they can be interpreted within particular communities or professional groups. But the claims made about learning outcomes are precisely that they provide information to people outside of these specialist communities, and it is this that they cannot do. As Morrow (2001, p. 91) explains:

I cannot in non-aesthetic language describe what it is I am trying to achieve in teaching someone how to read literature or appreciate music, and nor can I in non-mathematical language describe what I am trying to teach in teaching someone mathematics. From outside these practices it is not possible to understand what these practices are, or even what their value might be. By definition the learner is outside of the practice, or at best is a novice in respect to the practice, thus, it is not possible for the learner to understand in advance what it is she will learn when she learns to become a participant in the practice.

In a research project I led for a South African government institution (Allais, King, Bowie, & Marock, 2007), we asked evaluators to compare the standard of different courses which were ostensibly at the same levels. A key finding of this research was that learning outcome specifications did not appear to be an appropriate vehicle to ensure a commensurate standard. The judgements that could be made about the quality of the courses were very limited, due to serious differences in the kinds of documentation that could be acquired for each course. But to the extent that judgements were possible, it was clear that there were substantial differences between courses which were designed *against the same learning outcomes*. While differences



could be attributed to weak capacity or unscrupulous behaviour in some education institutions, in many instances it appeared that there were legitimate and dramatic differences in the interpretation of learning outcomes. In language learning, the same learning outcomes could be interpreted at many different levels. An outcome such as ‘show an awareness of manipulative devices’ could be displayed by primary school children (for example, through nursery rhymes), newly literate adults (for example, through the understanding of simple slogans), and by those using language with a high level of academic proficiency. The learning outcomes on their own were not enough for providers to know what to teach and assess.

Although this was aggravated by a poorly designed outcomes-based approach (for example, we found mathematics unit standards which contained wrong mathematics), the problem was largely a conceptual one: learning outcomes alone could not express consensus, leading to detailed specifications in an attempt to achieve consensus. However, as discussed above, over-specification is counterproductive because it leads to very lengthy documentation and cannot, in any case, create consensus.

Of course learning outcomes can be stipulated at a sufficiently general level that they mean something to most people (for example, ‘be a competent plumber or nurse’). However, the fact that broad outcomes like ‘be a competent nurse’ can be understood by non-specialists does not mean that non-specialists will always be able to judge whether or not a particular person is sufficiently competent to be awarded this outcome.

A ‘softer’ approach to learning outcomes would be to use outcomes as useful statements of aim that would enable course designers to describe their understanding of their field of knowledge. Instead of starting with outcomes and designing the content down from them, this approach would derive the aims from within the logic and content of the knowledge field or practice. Aims would be articulated *in relation* to specific content rather than be used to *determine* the content; to a large extent the content would determine the aims. Based on the reasoning that the primary point of providing a course is to give learners access to specialized content, the aims would be designed in relation to the specialized demands of that content. This would not discount the potential instrumental goals of using this knowledge to do useful things in daily life or in the workplace, but would make the relationship between content and aims more iterative, and would not imply that specific ‘bits’ of content led to specific outcomes.

If a learning outcome is seen as something embedded *within* a knowledge area or learning programme, and derived from the knowledge area, it does not need to be transparent to everybody, because people within the knowledge area, whether it is carpentry or eleven dimensional physics, will interpret it. If institutions that teach knowledge and skills determine what the aim of a programme is, the aim will be located within their expertise. Whether the educator in question has designed their own curriculum, as is usually the practice in higher education, or is teaching a curriculum designed by someone else, its particular specifications—for example that

a learner can make Victorian cabinets, offer an interpretation of Kant's transcendental idealism or have knowledge of North American fiction—will be immediately intelligible to them. Specialists within those areas will know what needs to be taught and how it needs to be taught in order to achieve those aims, and will be able to judge whether or not learners have achieved them. Of course, these specialists can be relatively competent or incompetent, dedicated or uninterested. Different educators will teach the same things in different ways and to different standards, and will debate amongst themselves as to what, for example, a reasonable interpretation of Kant's transcendental idealism is, but this is not a problem if the outcome does not claim to be transparent to any outside observers.

If outcomes or competences are seen as educational standards, then they only make sense in the context of that curriculum and the knowledge area that it is derived from. This point is explained in detail in Brockmann, Clarke, and Winch's (2011) discussions of how the European Qualifications Framework will be used in practice to 'translate' across qualification systems. They suggest that a far more detailed mapping, which considers factors such as the length of training programmes and the content of curricula, will have to be brought to bear when comparing qualifications. They also point out that while all four of the European countries in their study (England, France, Germany and the Netherlands) use the idea of learning outcomes or competences, in the three continental European countries, learning outcomes or competences are not abstracted from curricula.

In developing a qualifications framework, the alternative to outcomes is to determine levels primarily with reference to existing qualifications, and the accepted relationships among them. Of course, this is a circular solution, and does not provide a mechanism for resolving disputes. On the other hand, in practice, this approach is often used even in those frameworks which are officially described as outcomes-based. Although they may make it formally possible to challenge implicit and generally accepted judgements, level descriptors and outcomes often do not replace these judgements. Decisions in the end revert to balancing professional judgements against stakeholders' (especially employers') interests.

The lack of transparency demonstrated in the previous chapter as well as in the section above titled the spiral of specification, renders invalid all other claims made for learning outcomes and outcomes-based qualifications frameworks. If the outcomes are seen as part of, or related to, the knowledge that gives education programmes their meaning, if, that is, they are embedded in what they are the outcome of, then they cannot 'cross boundaries', or create transparency for the non-expert, the employer, the manager of a state regulator body, the 'foreigner'. This contradicts the claim that learning outcomes can cross national boundaries. The learning outcome would have to do two things: firstly, capture some essence which can be recognized by different people (employers, admissions tutors, and so on) in different countries; secondly, allow for different routes towards achieving that essence. They would have somehow to capture a 'sameness', or disclose an *essence* which is or could be achieved through a variety of different curricula and learning experiences and

even in learning experiences beyond formally taught learning programmes. In other words, the learning outcome must be sufficiently transparent that it can be mapped back onto a whole set of potentially different curricula, selections of knowledge, and learning activities—in different states, different parts of education and training systems, and different education programmes, as well as in life (especially work) experiences.

The argument that outcomes-based qualifications frameworks are an integral component of quality assurance systems is also often based on the assumption of transparency. The idea is that national regulatory bodies would be able to measure programmes against the outcomes, and employers and educational institutions, whether at home or in other countries, would then have a good sense of what it was that the bearer of a qualification was competent to do. Because judgements would be made against clear, agreed, and understood criteria, outside bodies would easily be able to see the *essence* of what needed to be taught, and so could evaluate the quality of provision—whether it was provided formally or informally. This is dependent on outcomes being transparent.

Learning outcomes are also claimed to be a way of ‘crossing boundaries’ between different *types* of knowledge, as well as enabling all learning to be recognized, as qualifications could be separated from specific institutions and specific (or even any) learning programmes. Thus it is hoped that they could empower everyday knowledge relative to the perceived power of school knowledge. It is this particular claim which reveals the confused notion of knowledge that underpins the advocacy of learning outcomes. Outcomes are situated as the mechanism to capture the ‘sameness’ of different learning experiences, but in the process of ignoring the specifics of the different experiences, they create an official undervaluing of the important specifics of both everyday and school knowledge. The implication is that it is this sameness—captured in the outcome—that makes the knowledge or experience valuable. And this notion—that it is the outcome which knowledge leads to that makes the knowledge valuable—is the logical conclusion of the idea—found in the works of Bobbit discussed in Chapter 2, and continued through the ‘functional analysis’ approach developed in the United Kingdom discussed in Chapter 3—that the starting point for curriculum design, and for the selection of knowledge, is activities in the ‘real world’.

#### LEARNING OUTCOMES AND CURRICULUM COHERENCE

Although the idea of learning outcomes implicitly rejects the idea of differentiated, structured bodies of knowledge as the starting point for curriculum design, its advocates do not accept that they have forfeited curriculum coherence, but argue that they have provided an alternative notion of curriculum coherence. For instance, Jessup (1991, p. 4) argues: “Coherence is ultimately a matter for the individual learner. It is only the learner who can make sense of the diverse inputs he or she receives and relate them to his or her perception of the world.” In other words, coherence

is created when a learner compiles a set of learning outcomes that makes sense for her. Of course each individual's learning path is different, and their experiences and knowledge of other areas will shape how they acquire knowledge, and the nature of the understanding they acquire. But this does not mean that knowledge itself is entirely an open question, simply a flat set of bits of information to be combined in any way at all, blended into some learner-specific whole. The internal coherence and the substance of a learning programme are produced, in the main, by the logic of the knowledge that informs them. As demonstrated above, if the starting point is learning outcomes instead of the knowledge areas in question, then the content knowledge will be marginalized, even when, as in many policy documents advocating learning outcomes, there is a formal assurance to value it.

Thinking about the knowledge area in question is key to the process of designing a coherent curriculum, because, as discussed above, knowledge areas have internal conceptual relationships. Curriculum design should instead be informed by the key procedures, and the concepts that together inform the logic of a field of knowledge and, at higher levels, the practices it adopts for the socialization of practitioners—how knowledge is developed, how research is done, and so on (Shalem, Allais *et al.* 2004). Winch (2012) argues that systematic knowledge is organised both in terms of the classification of its various conceptual elements and the relationships between them, but also in terms of the procedures required to gain and to validate knowledge. Curriculum design, he argues, concerns

introducing novices into the conceptual field that distinguishes the subject. This conceptual field can itself be seen in hierarchical terms with central organising and methodological concepts at its core and derivative concepts at the periphery. It follows that one cannot be introduced in a serious way into a subject unless one starts to acquire at least some grasp of these central concepts.

There is always much debate and disagreement about the sequencing of curricula, as well as the relative importance of different concepts, and in many instances such debate is not easy to resolve. Developing simple pathways through knowledge areas is not easy, and specialized knowledge is not easy to acquire. But it is nonetheless from the intrinsic logic of knowledge areas that curricula derive their coherence. This is why syllabus documents which specify what knowledge should be taught as well as advise about sequencing and pacing are more useful than outcome statements.

Brockmann, Clarke, and Winch (2008) argue that educational standards and learning outcomes are conceptually at odds with each other. With specific reference to the European Qualifications Framework, they point out that the learning outcomes approach tries to achieve two incompatible goals: providing a notion of progression, whilst also demonstrating competence at a particular level irrespective of competence at any other level. In other words, whilst the learning outcome approach suggests that if one is found competent at a particular level, it must be the case that one

would be competent at all levels below the level in question, the official claim is that learning outcomes provide a means of assessing if someone is competent at a particular level, *irrespective of their achievements at any other level*. Qualifications frameworks acknowledge hierarchies of ability and of ‘competence’—they are presented as ladders of ever-higher levels of competence—but, unlike knowledge areas such as disciplines or subjects, the hierarchy that qualifications frameworks present is not based on a hierarchy of knowledge itself. In fact, level descriptors go to immense trouble not to draw on such hierarchies, making the explicit claim that learners do not need to work through the hierarchy of knowledge at each level, but can enter at any level. They instead attempt to create hierarchies in terms of other things such as the degree of independence of work. There is a tension, Winch<sup>4</sup> argues, between (1) the idea that learning outcomes are a complete specification of ability/knowledge at a given level, and (2) the idea that learning outcomes exist in a cognitive hierarchy. If (2) is true, then (1) cannot be true, and vice versa. If (2) is true, then the learning outcome does not specify all presupposed knowledge and ability, and if (1) is true then the cognitive hierarchy cannot be taken seriously. For cognitive hierarchies cannot be understood without thinking about fields of knowledge and ability and the relationships within them, both conceptual and practical. Given that these are absent from learning outcomes, then these cannot do the job that they are supposed to do of establishing a meaningful hierarchy.

Brockmann Clarke, and Winch suggest that the contradiction described above leads to an attempt “to produce something that is either of little value or that is bound to throw up paradoxes that undermine its credibility” (Brockmann *et al.*, 2008, p. 100). And, they argue, this is precisely what the outcomes-based qualification model does:

Learning outcomes in the NVQ sense, however, purport to act – be this inadequately and impossibly – as a surrogate both for aims of education and for standards, as a statement of the knowledge, skills, attitudes and understanding that a student is expected to have reached at the end of a vocational programme or when he/she has attained a particular level of certification. (Brockmann *et al.*, 2008, p. 104)

They argue that learning outcomes fail in the first sense—as aims of education—because they specify too narrowly, and fail in the second sense—as standards—because they do not provide a basis for assessing how *well* someone has met a standard, instead providing a binary target of competent/ not-yet-competent. One of the main problems, as they see it, is that to be an outcome of something a learning outcome would need to be linked to *that something*. Standards, criteria, outcomes, and aims can only be understood if they are embedded in a particular curriculum: “Just as standards can only be really understood in terms of the aims for which they provide a measure, so they also need to be understood in terms of the curricula that are designed for the aims to be achieved” (Brockmann *et al.*, 2008, p. 105). Standards, they go on to argue:

... face “upwards” towards aims and “downwards” towards curricula and

failure to refer them to one or the other is a recipe for confusion. Yet this is what “outcome” based approaches to education threaten to do, by detaching criteria of success from any meaningful educational context. (Brockmann *et al.*, 2008, p. 106)

They further elaborate:

any curriculum that is reasonably complex, which seeks to develop abilities, knowledge, understanding, attitudes and dispositions, is bound to be difficult to encapsulate in simple, very precise, statements related to highly particular behaviours. This, however, is precisely what is required of learning outcomes when these are referred to performance outputs.

None of the above discussion should be read as implying that there is no role for aims or outcomes within curriculum design, or that discussing the outcomes of learning programmes can play no role in aligning qualifications. It is possible to have a syllabus which includes on the aims of a course, derived from the internal logic of the disciplinary or craft area. But the internal coherence and the substance of the learning programme would still have to be produced, in the main, by the logic of the knowledge area.

Aims would have to be articulated in relation to specific content; they would not be able to determine the content. And their appropriateness would have to be judged in relation to the specialized demands of the content that learners are being given access to (Shalem, Allais *et al.* 2004).

I am also not arguing that subjects and disciplines are static, ‘given’ bodies of knowledge, beyond questioning or changing. In the next chapter I discuss sociological theories of knowledge which provide a way of understanding that while knowledge is organized in specialized bodies, and in conceptual relationships which are often hierarchical, it is nonetheless socially developed, contingent, and open to constant change.

The focus of my argument in this chapter has been that, together with the focus on short-term and low-level employer needs discussed in the previous chapter, the spiral of specification means that the outcomes and competence-based model entrenches a narrow notion of skills. Curricula designed from narrow specifications of knowledge, in which knowledge becomes lists of information or task specifications, will not provide learners with the knowledge they need to progress to higher levels of learning. This trivialisation of knowledge may explain the low take-up of such qualifications in general, and particularly at higher levels. And as it leads to narrow qualifications without theoretical components, it is not only unappealing to learners, but also directly contradicts stated policy goals related to ‘knowledge economies’, as well as broader aims of raising the education levels of the workforce. Beck and Young (2005, p. 189) argue that relying on ‘task specifications’ and ‘standards of performance’ smacks of knowledge

authoritarianism, for it denies trainees “access to the forms of knowledge which permit alternative possibilities to be thought” and thus will inevitably “negate the possibilities of understanding and criticism”.

In a recent spat around curriculum reforms in the United Kingdom, respected education commentators Margaret Brown and John White criticized Michael Young’s notion of ‘powerful knowledge’ as the starting point for curriculum design. Instead, they argued, there should be general aims for what the curriculum should achieve, which should then be broken down into sub-aims and sub-sub-aims, and what students learn should be chosen in relation to these (Brown & White, 2012). They argued that if, for example, ‘responsible citizenship’ was taken seriously as a curriculum aim, students would need to know something about the society in which they live, to understand something about the way in which its economy works, and have some sense of the scientific and technological basis of that economy. They argued that this could be the basis for deciding about which knowledge to include in the curriculum: in this case, aspects of physics, chemistry, ICT, and so on would be considered most relevant to understanding today’s economy<sup>5</sup>. And, as discussed in Chapter 2, and is further discussed in Chapter 7, radical left-wing activists have suggested similar approaches, but with the starting point for curriculum design being the needs of the community and learners, rather than the economy.

However, this ‘aims-based’ curriculum also undermines the structured nature of bodies of knowledge. The idea that ‘bits’ of physics, chemistry, and other subjects can simply be selected and combined into a coherent curriculum ignores connections between concepts within bodies of knowledge, and the fact that certain concepts need to be mastered before others can be. It also ignores the value of bodies of knowledge, suggesting, much like outcomes-based approaches, that they derive their value from the practical aims they lead to. Sedunary (1996, p. 383) points out in relation to vocational education reforms in Australia:

Competencies are thus increasingly accorded a foundational authority in curriculum design and practice. This trajectory certainly redraws, and promises to undermine, compulsory schooling’s immanent capacity for a critical tension with the immediate conditions of life and work hitherto carried in the relatively detached school subjects.

Another fundamental problem, starkly demonstrated in the outcomes-based qualifications phenomenon, is that the idea that education can be, and should be, defined in terms of what learners, communities, parents, employers, and governments want it to be, results in education being seen as some kind of ‘free-for-all’. Long wish-lists are inevitably produced, which frequently contain desires for schools to solve all the problems of society, including doing many things for which they are clearly not suited. As North American curriculum historian Herbert Kliebard (1975, p. 33) puts it:

The missing ingredient in all this is some attention to the nature of the school.  
... the knowledge that is of the most worth may not be the kind of knowledge

## CHAPTER 6

that can be transmitted in a school context. ... if curriculum makers do not temper the question of what is most important to know with the question of what schools can accomplish, their claims for programs designed to reduce crime, improve human relations, prevent drunken driving, ensure economic independence, or remove sex inhibitions are unreliable.

Besides Kliebard's point that schools are unlikely to achieve success in preparing students for the specific goals that are seen as important by particular groups at particular moments in time, the idea that education is something that can be specified according to the needs of parents, communities, or industry has, as I discuss in detail in the following chapter, opened up education to extreme commodification.

### ENDNOTES

- <sup>1</sup> This does not necessarily mean that every institution which provides education designs its own syllabus—a syllabus for all schools could be designed within the state education system, for example.
- <sup>2</sup> All unit standards were obtained from [www.saqa.org.za](http://www.saqa.org.za) during November 2005, except for those recommended by the South African Qualifications Authority as examples of good unit standards, which were obtained during November 2006, and have an asterisk after them.
- <sup>3</sup> As mentioned in Chapter 4, the South African qualifications framework was originally divided into eight *levels* and twelve *fields*. Each field was broken into an unspecified number of *subfields*.
- <sup>4</sup> I am grateful for personal correspondence with Christopher Winch in which he elaborated these ideas.
- <sup>5</sup> This perspective is elaborated in Reiss and White (2013).