

Thinking, Language and Learning in Initial Teacher Education

Nick Taylor

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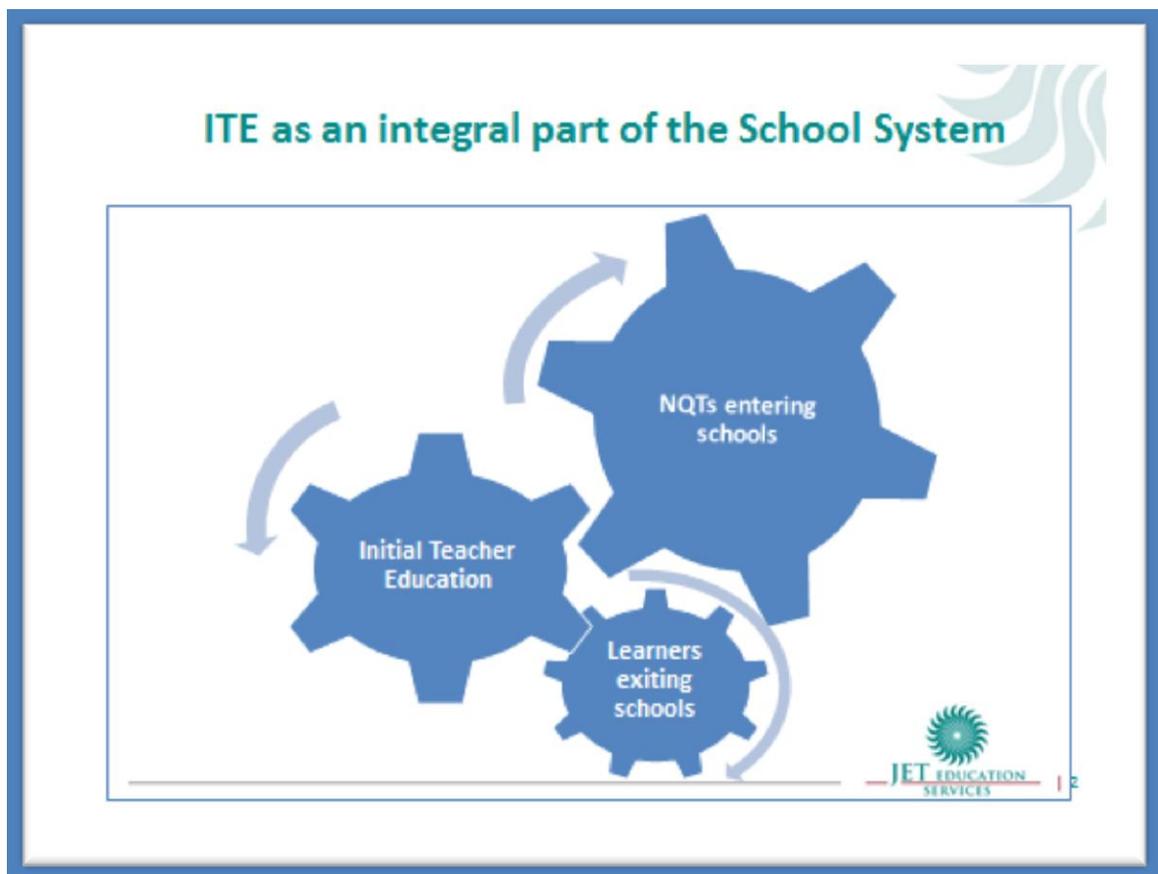
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ITE as an integral part of the School System

The South African school system currently serves to reproduce apartheid's grand plan nearly five decades after the assassination of its principal architect (Taylor and Muller 2014). It is noteworthy that the terrain of Initial Teacher Education (ITE) is generally considered to be separate from schooling, with only incidental overlap during the annual teaching practice exercise and other rare and incidental occasions. Thus, in the quest for greater efficiency and improved quality in a school system that is manifestly underperforming, ITE hardly raises a mention outside the sector itself. Political leadership, parental involvement, governance and management, curriculum reform, materials development, in-service training, all get their share of blame in the ongoing debate about the state of South African schooling. There is hardly a mention of ITE. Yet, given a threshold of institutional leadership and management expertise – as currently exists in significant parts of the system – what goes on behind more than a quarter of a million closed classroom doors daily is fundamentally a function of *teacher professional expertise*. And, given the demonstrably poor pedagogic facility exhibited by large numbers of teachers, coupled with the failure to advance teacher capacity through the multi-billion rand in-service training (INSET) industry over more than three decades, the importance of ITE in playing its proper part in the rescue of schooling from its present predicament looms ever larger.

This is not to set ITE up as the next bashing boy, but to attempt to theorise its full educational function and, most important, to try to understand its role in the systemic reform required to close the apartheid gap.



ITE serves as a bridge between prospective teachers exiting the school system to enroll in teacher education faculties, on one hand, and newly qualified teachers (NQTs) embarking on a career in schooling, on the other. In what follows, I aim to describe the language and thinking skills student teachers bring to their ITE programmes, and the conditions faced by NQTs when they enter schools on the other side of the chalkface. The assumption behind this approach is that it is only through the analysis of these two sets of bracketing conditions that the following question can be adequately examined: *To what extent are the universities providing the teachers required by the school system?*

But first, some theoretical considerations concerning professional expertise.

Professional Expertise

The nature of professional knowledge, and the knowledge required of teachers in particular, has long been the subject of debate and a number of reviews over many years (for example, Gamble, 2010). Work on this topic took a step forward this year through the publication of a collection of essays edited by Michael Young and Johan Muller: *Knowledge, Expertise and the Professions* (2014). In his chapter entitled *Know-how, knowledge and professional education* Christopher Winch embarks on an extensive discussion of the topic, commencing with the notion of *epistemic ascent*, a phrase which resonates evocatively with the theme of today's seminar. From an educational perspective, what is particularly appealing about the term is that it assumes that knowledge can be categorized into different types and that the relations between these categories can be described with a view to supporting the progression of learners. This brings us to the idea of curricular progression, or growing the subject under study.

The term *subject* here refers to a body of knowledge organized around a defined field, that adopts characteristic methods for validating existing knowledge and acquiring new propositions. With specific respect to *professional knowledge* Winch poses three criteria for establishing the extent to which a learner *knows* the subject. First, she will have an understanding of some coherent set of propositions making up the defined knowledge field in question. However, being able to recite a list of propositions does not constitute any sense of 'knowing' the discipline. Elaborating Ryle's (1949) classic distinction between 'knowing that' (propositional knowledge) and 'knowing how' (how to deploy propositional knowledge), Winch describes two kinds of 'know how'. This brings us to the second criterion for assessing how well a learner knows the subject: she will understand at least some of the connections between propositions. In this regard, good subject knowledge is reflected in the learner's ability to 'find her way around the subject'; to negotiate what David Guile (2014) calls 'the space of reasons': giving and asking for reasons, and being able to *justify* what one says.

Winch's third test of subject expertise, and second kind of 'know-how', is indicated by an understanding of how knowledge in the subject is tested, validated and added to. While only relatively advanced students of a subject may be expected to create new knowledge, understanding the test for validation of an inference or deduction within the discipline is a key expectation of knowing a subject.

From this perspective, an occupation can be said to be a profession when competent practice depends, in the first instance, on knowing one's way around a systematic body of knowledge. But the professional

also needs to know how to reason within the subject's propositional net, and how to apply the knowledge to practical action. Winch emphasizes the close relationship between propositional knowledge and professional action:

Professional expertise depends crucially on the ability to use systematic knowledge to inform practical judgement and action.

Winch 2014: 52

In the same vein, David Guile describes the exercise of professional expertise as '*... making conceptually-structured professional (ie practical) judgements in context-specific circumstances*' (2014: 81). Young and Muller (2014b) add that, in the development and deployment of a body of professional knowledge, two kinds of *knowledge specialization* are distinguishable: knowledge specialized to *conceptual generality* (elaboration of theory), and knowledge specialized to *purpose* (practical application). The former is directed toward extending the generality and reach of the conceptual edifice, while the latter is aimed at deriving a more elegant or efficient solution to a technical problem. Separated here for analytical purposes, these two strands of knowledge development generally work best in tandem. Thus, Galileo's achievements in astronomy in the seventeenth century were enabled by advances in the lens-grinding industry (knowledge specialized to practical purpose), which in turn was based on the physics of optics and the laws governing the behavior of light under conditions of reflection and refraction (knowledge specialized to generality).

The final point concerning Winch's conceptual map of professional expertise, and a crucial one for what follows in the remainder of the present paper, is to emphasise his conclusion that reaching a level of professional competence on the part of a learner involves the exercise of relatively complex forms of reasoning: inductive inference (formal or material), hypothetico-deduction and, where the knowledge base is founded on experimental method or statistical techniques (such as physics or psychometrics), an understanding of measures of significance and confidence.

Drawing on this perspective, we may say that the ability to exercise complex forms of reasoning is necessary for the acquisition, application and elaboration of professional expertise. This is not to imply that students should come to their ITE studies with these procedures fully formed – they will inevitably strengthen as they are exercised – but some threshold level may be required before significant progress can be made. The questions then arise as to how these reasoning abilities – the building blocks of professional judgement – are nurtured among children and young adults in schools, and what kinds of reasoning skills they bring to their ITE courses.

The roots of reasoning: literacy comprehension in schools

Primary schools

The roots of the reasoning abilities described by Winch and others in our theory of professional expertise are explicitly mentioned in the taxonomy of reading comprehension skills on which the

Progress in Reading Literacy Study (PIRLS) is based. The PIRLS scheme defines reading skills exhibited at four Benchmark levels: Advanced, High, Intermediate and Low (Table 1).

Table 1: PIRLS Benchmark descriptors

PIRLS Benchmark	Score	Reading Skills	Intl median	SA G4 Scores
Advanced	625+	Advanced readers. Learners are able to <u>integrate information across relatively challenging texts</u> and can provide full <u>text-based support</u> in their answers. Learners are able to make <u>interpretations</u> and can demonstrate that they understand <u>the function of organizational features</u> in texts.	7%	SA 1% 1% A 3% E
High	550-625	Competent readers. Learners exhibit the ability to retrieve significant details embedded across the text, to provide text-based <u>support for inferences</u> , and to recognise <u>main ideas</u> , some textual features and elements and are able to begin to <u>integrate ideas and information</u> across texts.	41%	SA 3% 8% A 10% E
Intermediate	475-549	Some reading proficiency. With regards to reading stories, learners are able to understand the plot at a literal level and to make <u>some inferences and connections</u> across texts.	76%	SA 7% A 22% E 23%
Low	400 - 474	Basic reading skills. Learners able to recognise, locate and <u>reproduce information that is explicitly stated</u> in texts, and make <u>straightforward inferences</u> .	94%	SA 13% A 37% E 36%

A, E: scores of Afrikaans and English home language speakers, respectively.

Source: Constructed from Howie, *et al* 2007, emphasis added

While the international median achievement for the Low Benchmark across 40 participating countries is 94%, only 13% of South African Grade 5 learners demonstrate this level of reading comprehension. This means that 87% of SA Grade 5 learners struggle to reproduce information not explicitly stated in the text, and to make straightforward inferences, as opposed to a median of only 6% internationally. It is true that most participating countries can be classified as developed, in contrast to South Africa, with its large population living in poverty. But is it really the case that poverty acts as such a large brake on literacy achievement, or could our teachers not be far more effective if they used a different pedagogy? Do we know what the most effective pedagogy is for SA primary schools? Are we ensuring that all our primary school teachers are competent in its application, given the fact that they will all encounter many children, at all grade levels, whose poor reading and writing skills are severely compromising their epistemic progress?

High schools

At high school level, we can continue to trace the development of the reasoning abilities which form such an integral part of Winch's theory of professional expertise, through an examination of the assessed curriculum for English First Additional Language (EFAL), the LOLT for 80% of South African learners. The recently released Report of the Ministerial Task Team on NSC (Department of Basic Education, 2014) makes its strongest recommendations with respect to the level of reasoning skills demanded by EFAL. The Task Team characterises many students in the school system as 'semi-lingual' both in the LOLT and their home language, exhibiting small vocabularies and incorrect grammar, consciously thinking about their language production, being stilted and uncreative with each language, and finding it difficult to think and express emotions in either language. These features impact on learners' understanding of all their school subjects. The introduction of English into the Foundation Phase CAPS curriculum is an attempt to improve standards of LOLT for the majority of children, but, as the TT Report says, the success of this policy will depend on the language proficiency and pedagogical skills of their teachers.

According to the Task Team, reviews of the quality of the 2010 EFAL NSC papers by three international benchmarking authorities – Cambridge International Examinations (CIE), the Scottish Qualifications Authority (SQA) and the Board of Studies, New South Wales (NSW) – collectively found that:

- The cognitive levels assessed in the exam questions are heavily weighted towards lower-order skills such as literal comprehension and grammar translation tasks, with far fewer questions testing the higher-order cognitive processes of inference, evaluation and appreciation.
- Students are not given sufficient opportunity to explain and analyse the content, purpose and audience of the texts, and this reflects an insufficient focus on critical literacy and language analysis skills.
- The majority of questions require short-answers and students can avoid writing an essay entirely in the literature paper (Paper 2).
- The grammatical activities themselves reflect a drill and practice approach to language learning which does not support the need to develop students' language for work and participation in the broader community.

The Ministerial Task Team concludes that 'The level of most learners' and teachers' proficiency in English is too low to use English as LOLT optimally, and so to realise their potential' ((Department of Basic Education, 2014: 76). The Report makes a number of recommendations to address this situation, including intensive training of teachers in EFAL, through both INSET and ITE. Do we have effective INSET and ITE programmes to address this recommendation? Furthermore, the Task Team proposes raising the pass requirements for Bachelor (50%) and Diploma (40%) study. Wedekind (2013) has calculated that implementation of these recommendations would hardly change the numbers qualifying for Bachelor study. Perhaps the most important recommendations are concerned with raising the cognitive demands of NSC exam items in EFAL. Thus, longer texts should be set as comprehension exercises, while the kinds and level of comprehension tasks should significantly reduce recall and retrieval type items and include more questions demanding application and inferential reasoning.

Demands on NQTs when they enter schools

The previous section outlines the reasoning skills that students bring to their ITE studies. But what of the other side of the sandwich, the challenges they will face with entering schools as newly qualified teachers (NQTs)? At least four important conditions are relevant to the present discussion.

1. **English is the LOLT** in 90% of schools, and for 80% of learners this is English First Additional Language (EFAL)

2. **Inadequate reading/numeracy pedagogies are practiced in the majority of primary schools**

Poor pedagogy results in large numbers of learners reaching Grade 5 essentially illiterate/innumerate, as shown in Table 1 with regard to the PIRLS scores (see also NEEDU, 2014). The implications are that NQTs in the Intermediate and even the Senior Phase will be required to identify and remediate reading difficulties experienced by up to half the class in many schools.

3. **Poor Subject competence among teachers**

For example, the SACMEQ tests administered to Grade 6 teachers in a national sample of primary schools indicate low levels of the sorts of reasoning skills identified in our theoretical model of professional expertise.

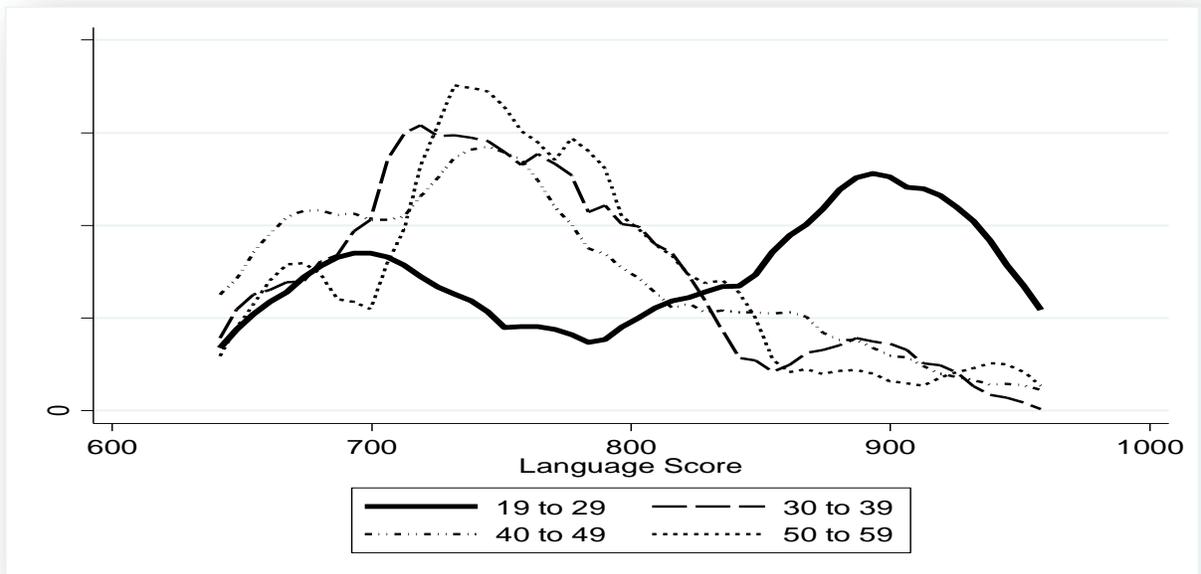
Retrieve	Infer	Interpret	Evaluate
75.06	55.21	36.61	39.73

Source: Taylor and Taylor, 2013

The same low levels of subject expertise are revealed among Grade 6 maths teachers.

Of course, the majority of teachers currently in the system were trained by the ITE sector in operation prior to 2003, when the ITE landscape was radically restructured. And the good news in this regard is that, when the SACMEQ 2010 teacher test results are disaggregated by age, teachers in the category 19 to 29 outperform their older colleagues by some margin. Nevertheless, there is a noticeable second peak of young teachers who score very poorly (Figure 1).

Figure 1: SACMEQ III Teacher language test scores by age



Source: Armstrong, 2014

Teacher maths scores exhibit the same pattern.

4. Schools tend not to recruit and deploy primary school teachers according to subject specialisation

The assumption among most principals is that a qualified primary school teacher can teach any subject. As a result, most teachers at primary level will be required to teach maths and English at some or other stage during their careers.

These conditions must be taken into account if the ITE sector is to prepare teachers to work effectively in South African schools.

How is ITE addressing these conditions?

How is the sector bridging the gap between the abilities which student teachers bring to ITE, and the demands of the schools their NQTs will enter on graduation? And, in the first instance, how is ITE developing the language and thinking abilities required for the exercise of professional judgement?

The Initial Teacher Education Research Project (ITERP) is attempting to answer these questions (ITERP, 2014a). Table 2 and Table 3 provide details of the English curricula offered to BEd students training for the Intermediate Phase, but not specializing as teachers of English, across 5 (A to E) of the 23 institutions providing ITE.

Table 2: English courses for IP teachers not specialising in English

	A	B	C	D	E
Academic Literacy	1 year course: New Literacies for Teachers	2 semesters: Academic & Comp Lit: 1 for all students + 1 for weak readers	No Academic Literacy courses	2 semesters: Academic Literacy	2 year courses: Academic Literacy
Subject Knowledge	None	None	2 semesters: One for Eng Lang; one for Eng Lit	None	HL 2 year courses: Eng Lang & Lit. FAL 2 year courses: Eng Lang & Lit (non-credit, elective).
School and Pedagogic Knowledge	1 year course: Language Method	2 semesters: English as LOLT (FAL)	2 semesters: English Method HL and FAL	None	HL 2 year courses: Eng Method. FAL 2 year courses: Eng Method (non-credit, elective).

Source: ITERP, 2014a

Table 3: Proportion of BEd degree made up by English courses for IP teachers

Elective	A	B	C	D	E
IP English Specialists	120 (25%)	162 (34%)	72 (15%)	120 (25%)	HL: 72 (15%) AL: 5 (1%)
IP English Generalists	30 (6%)	28 (6%)	36 (7.5%)	24 (5%)	HL: 28 (6%) FAL: 29 (6%) AL: 5 (1%)

Source: ITERP, 2014a

Two features of these tables are relevant to the present discussion. First, in recognition of the poor language and reasoning skills that students bring to the university, all but one of the ITERP sample institutions offer Academic Literacy to student teachers. To what extent do these programmes address the difficulties most learners face in the reading, writing and reasoning skills demanded by professional knowledge development, given the low levels of English proficiency they bring from school? A great deal has been written on this subject, and on the question of Academic Development in general, but it seems that this question is far from resolved (see, for example, Lewin and Mawoyo, 2014).

But the most striking feature of Table 2 and Table 3 is the paucity of English offered to those students who are not specializing as English teachers. Based on the theoretical arguments about the nature of professional knowledge outlined above, a feasible hypothesis is that most students would benefit

greatly from intensive courses in English language and literature, which explicitly seek to develop the sophisticated reasoning skills required for the acquisition and exercise of professional expertise. Indeed, our theory predicts that intensive courses in English for all primary school teachers, focusing explicitly on higher order reasoning in verbal and written communication, is likely to have a profound positive influence on the development of professional expertise among student teachers.

In terms of the content of English courses offered to students specializing in English teaching in the IP, ITERP found low levels of attention paid to teaching English as FAL, and to understanding and applying appropriate pedagogies for teaching reading and writing (ITERP, 2014b). Teaching literacy is complex and challenging. What is evident from the data is that each of the universities in the study approaches this 'topic' differently but may not be doing enough to equip beginner teachers with the knowledge and skills to support struggling readers on the one hand or to extend excellent readers on the other. The omission of any input on literature for children and adolescents at some institutions and the limited attention given to this important area in some others is also a cause for concern.

Conclusion

What is the practical import of the foregoing discussion? What would the first steps be in putting the occupation of educating onto a firmer professional footing, with particular respect to literacy instruction in the primary school? The first step is to pay attention to the professional knowledge base.

The professional curriculum

As we have argued, professional expertise consists of a combination of conceptual understanding and fit-for-purpose action. In this milieu, reasoning ability is the medium of knowledge exchange, and English is the vehicle. But what of the content? Taking the example of Literacy Instruction, the following questions must be asked of the current state of professional knowledge:

- Do we have a coherent theory of Literacy Instruction, or is the field still characterized by name calling across ideological barriers, with no way of adjudicating the claims of competing assertions?
- Do we have well defined reading pedagogies, derived from and feeding into the theory, that are effective in suburban, township and rural schools in South Africa?
- Are NQTs able to operationalize this professional knowledge to teach reading effectively?

From this perspective, a scheme for the development of professional expertise in reading instruction among student teachers is summarized in Figure 2.

Figure 2: Development of Professional Expertise in Literacy Instruction



Becoming professional

According to our theory, teaching cannot be classified as a profession, in the first instance because practice is not reliably guided by a formal knowledge base. There are those who think that this is a good thing, that teaching is more of an art than a science, based largely on tacitly acquired routines (Taylor, 2014). According to this view, attempt to formalize the knowledge base would undermine teachers and inhibit the autonomy required to respond to a myriad of contingent situations which arise daily in classrooms. There are others, like myself, who envisage the emergence of a theory of literacy instruction, for example, and associated pedagogical routines, the combination of which, in the hands of competent teachers, are effective in teaching reading in South African classrooms. Would this not be the most important step the ITE sector could take to dramatically improve the state of school learning? Would it be repressive of teacher autonomy to develop and advocate such a programme, and make sure that all NQTs destined for primary schools are able to apply it effectively in real classrooms in real time, as a condition of graduation?

There are two views about how an occupational grouping like teaching could become more professional. There are those who adopt what might be called an exogenous approach, which assumes professional status is conferred from outside; that if the occupational field of teaching were treated with more respect and not subjected to so much monitoring and testing, they would have more space to exercise

their full creative potential and behave more professionally. I would argue that causality in this case works the other way around, that once the occupational field can demonstrate that its theories point to practices which are effective, which reliably do the job, then it will generate the kind of respect accorded members of high status professions. This is the endogenous approach: social trust in an occupation derives from the ability of the field to demonstrate that its theories and practices are more effective in providing a particular service than those of competing groups. I don't think that it is too much to expect the ITE field to begin to demonstrate this more convincingly than it has in the past. That is the first marker of a professional field of labour. Because representations to policy makers from any occupational group will inevitably be directed by at least some degree of special interest pleading, policy recommendations should be defensible in terms of the overall interests of society and, where appropriate, should be supported by evidence of superior effectiveness.

Now, it is one thing to achieve this first marker with respect to one or more parts of the field, and certainly we have a wide range of practices in ITE, as Table 2 amply shows. But it is quite another to achieve it as part of a collective endeavor, across the entire sector. This is the second mark of a profession: there is consensus on best practices. The requirement is not uniformity – otherwise there would be no possibility of innovation, even revolt, and progress – but at least there should be broad convergence on a limited number of minimum sets of practice protocols and how to understand them theoretically.

The third condition of professionalism is that the knowledge and practice standards are maintained and jealously guarded by practitioners within the occupational field, not by government. This is professional quality assurance, as opposed to bureaucratic managerialism. It could not be any different, since only adepts within a field have the expertise both to judge the value of new professional knowledge claims, and to certify novice entrants into the profession. This is one of the most important characteristics of the strong professions, and again it is practiced in the breach in the ITE sector.

Finally, in the face of such an enormous task which will be decades in the making, how could we make a start that has a good chance of success within a reasonable time horizon? I want to suggest that we take the case of literacy and numeracy, and commit ourselves, as a field rather than a postmodern scattering of individuals, to developing effective Literacy and Numeracy programmes within 10 years, along the lines sketched in Figure 2. This would require the participation of government, statutory bodies and the unions, but I hope I have made a convincing case that the initiative should be led by the ITE field.

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