Policy Directions for

Assessment at the Primary School Level

A Submission on the Government Green Paper
Assessment for Success in Primary Schools

EDUCATION FORUM

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EXECUTIVE SUMMARY

There is an emptiness at the heart of the Government Green Paper, Assessment for Success in Primary Schools (Ministry of Education, 1998), in that it does not explain how the various kinds of national assessment which it proposes will improve student learning. In pointing this out, the Education Forum does not wish to appear to be arguing against national assessment. On the contrary, it is strongly in favour of national assessment in primary schools. It fully recognises that accurate information and feedback can have a major part to play in improving educational performance. But this connection cannot be assumed; it has to be demonstrated.

Each of the four kinds of assessment in the Green Paper's package - diagnostic testing, exemplars, externally referenced tests and national monitoring - could have a significant impact on educational performance, but no clear rationale is provided for their intended role either collectively or individually.

The Education Forum has strong reservations about each of the proposals in their present form. Diagnostic assessment is already used extensively in our schools. Indeed, successful teaching could hardly proceed without it. The essence of diagnosis, however, is that it is tailored to students and conducted by teachers. Most assessments will be devised informally and formally by the teachers. Commercial and research organisations also develop and supply diagnostic tools, but it is for schools and teachers to draw on them as they find useful. We cannot see the need for the state to be involved in this aspect of assessment.

Exemplars of expected performance can be very useful. But if they are not to be arbitrary or idiosyncratic they have to reflect some systematic account of what learning should be taking place in schools and the levels of performance to be expected of students - that is, a national curriculum. But the curriculum in its present form is too vague and generalised to act as a blueprint. Exemplars as proposed in the Green Paper will only be able to claim validity if the curriculum is reframed and rewritten.

Externally referenced tests would be a substantial advance on current assessment procedures if they were valid and the results were readily available. What we have said

about exemplars, however, also applies to these tests. If education is to be curriculum-led rather than test-led there need to be agreed schema for the test constructors to follow rather than leaving them to invent what they feel is appropriate.

The Education Forum is also concerned that the form in which the results are to be presented is unnecessarily obscure. We suspect this may be intentional to keep schools' results, as far as possible, out of the public eye. The Education Forum considers that the effort and expense involved in developing, administering and marking tests would only be justified if the results could be readily understood and used to improve student learning.

With the National Education Monitoring Project, New Zealand has potentially an excellent means of checking how its education system has been changing over time and how it compares with that of other countries, but the reports to appear so far suggest that the information gathered by the Project is not adequately directed towards answering the questions of policymakers and neither are the various findings interpreted for them. The Education Forum would support a reformed National Education Monitoring Project which achieved what its name implies.

While each of these four approaches, suitably modified, could help to improve student learning, the absence of a clear rationale or strategy leaves the Green Paper full of confusions and contradictions which undermine the case for national assessment. The Education Forum regrets this because it strongly believes that national assessment in primary schools, judiciously applied, has a vital part to play in improving the educational performance and opportunity of New Zealand's children.

The Education Forum's starting point is that no New Zealand child is going to get as much out of life as he or she could without fluency in English and mathematics. We see it as the nation's responsibility to guarantee to all its children the opportunity to achieve high levels of literacy and numeracy by the age of 10. Therefore, the Education Forum wishes the government to establish national task groups, including teachers, parents and employers, to revisit the English and mathematics curricula and to agree in detail the levels of literacy and numeracy to be expected by the time children move from Standard 4 to Form 1.

Once these blueprints were available, reliable, valid and practicable tests could be devised. These could be administered to all children in the second or third term in year 6 under standard conditions and externally marked. All children, irrespective of their starting points in terms of ability, motivation, social background or ethnic group, would be expected to reach the threshold levels specified. The obligation would be on the schools to enable the children to get there and the proportion successfully doing so would be reported.

The administration of the tests would be only part of the strategy for raising levels of literacy and numeracy. An important purpose of the testing would be to identify which schools need extra support. The support could take a variety of forms including extra resources, improved pedagogic techniques and summer schools for children finding learning difficult. The tests would supply accurate, open and contestable information which would clearly point the way to what is needed to achieve the aim of a high level of literacy and numeracy for all children.

The Education Forum makes no apologies for concentrating in the first instance on literacy and numeracy. It holds the view that without fluency in these key areas little else can be understood. Such a focus would not narrow the primary curriculum but provide the backbone to support the rich variety of experiences which the schools have always offered. It would also provide a sound basis for secondary education.

Assessing human performance is difficult, time consuming and costly. Resources need to be directed to where they can have most effect. The state's interest in the external testing of primary pupils would be confined to ensuring that schools delivered every child's entitlement to a good start in literacy and numeracy.

If this were the organising principle some of the other proposals in the Green Paper would fall into place. Exemplars could be provided to illustrate what was expected, validated by the revised curricula for which we have argued. The National Education Monitoring Project could report on what effects the national literacy and numeracy drives were having. Teachers would have a better basis for deciding on appropriate diagnostic tools.

The Education Forum believes that appropriately targeted assessment could do much to improve performance in primary schools. Our report argues the case in detail and uses the experience of England as an experiment in progress.

Recommendations

We make the following specific recommendations derived from our analysis and interpretation of the evidence:

1. The government should rethink its policy of seeking to improve educational performance in primary schools through national assessment as expressed in the Green Paper.

2. The government should focus initially on strategies to enable all children to reach a high threshold of literacy and numeracy by the transition point at age 10. External assessment would be integral to that strategy.

3. The curricula in English and mathematics should be rethought by expert groups including parents, employers and representatives of government as well as educationalists. The curricula should be specified in terms of content and expected levels of achievement for students.

4. The curricula would be the blueprints for the national tests at age 10. The tests would be developed either in-house in the relevant qualifications authority or under contract by interested consortia. The relevant authority would be that which emerges from the current review of the National Qualifications Framework. We have argued elsewhere that there should be a School Qualifications Board.[1]

5. The results would be published at a national level and also by school, in terms of the proportions of the age group reaching the required levels in English and mathematics.

6. Schools where the results showed that the children were finding learning difficult would receive extra support in terms of, for example, improved pedagogic techniques, supporting materials and enhanced provision. Schools would be encouraged to learn from each other by comparing themselves with successful schools with similar intakes.

7. Once the tests for 10-year-olds were in place, we recommend that the qualifications authority would oversee or develop tests for each year of primary schooling. These would be voluntary and the results would not be published, but for any school choosing to use them they would be an important annual check on the progress of their students.

8. The thrust of these proposals has been on the role of externally referenced tests as an essential element in a strategy to enable all children to achieve high threshold levels in literacy and numeracy. We recognise that some of the other components of

the assessment package proposed in the Green Paper could, in appropriate form, also have a part to play. Exemplar materials based on the proposed reformed English and mathematics curricula would help to clarify for teachers what students were expected to achieve at each age. The National Education Monitoring Project could independently scrutinise whether the intended improvements over time were in fact taking place. But there would be no need for the state to become involved in developing new diagnostic tools. This could be left to individual enterprise with schools buying and using what the professional judgement of the teachers determined to be necessary. It is likely that the unfolding of the strategy would bring about a new emphasis on pedagogy, and new diagnostic and formative instruments would be developed as part of that process.

9. The central purpose of these proposed changes would be to put in place a backbone of literacy and numeracy tuition in primary schools which would enable all children to reach high threshold levels in English and mathematics. We envisage that this backbone would support and enhance the rich variety of experiences that primary schools have traditionally provided and would continue to provide. It would also be a sound basis for students proceeding to secondary education. The proposals would not narrow the primary school curriculum, but would clearly delimit the state's involvement in testing in this phase.

10. Since English and mathematics are international languages, it is recommended that a high-quality introduction to them should be the entitlement of all New Zealand children and that the provisions outlined here should apply irrespective of ability, social background or ethnic group.

CHAPTER 1

INTRODUCTION

Assessment for Success in Primary Schools[2], the government's latest Green Paper, is based on the belief that assessment will lead to better information which will, in turn, lead to improved learning. But, as might be inferred from the use of the term 'assessment' rather than the more sharply focused 'testing', the Green Paper takes a very generalised view of what might be involved.

Among the activities which can be subsumed under 'assessment' are:

- helping teachers determine students' strengths and weaknesses as a basis for their future tuition (diagnostic or formative);
- reporting on students' achievements towards the end of periods of education which may influence their paths through the system (summative);
- judging the effectiveness of teachers and schools (evaluative);
- tracking how the whole school system has been performing over time (monitoring); and
- making comparisons between different groups within the system and between the system and those of other countries (research).

But, while one word may cover all these activities, one method will not. These different requirements for information differ intrinsically and fundamentally. The multiple meanings of assessment can lead to confusion and complication.

It is very difficult, for example, to combine formative and summative assessment (although it has been tried - with disastrous consequences[3]). Those being assessed tend to respond according to what they perceive to be the purposes of the assessment. If students interpret the assessment as personal help towards the next stage of their learning then they are likely to be willing to bare their weaknesses, warts and all, but if they know that the mark given could affect their future chances then they are going to want to put their best foot forward. Think, for example, of the contrast between a counselling interview and a selection interview.

Another important difference is that assigning authentic numbers in assessment is more difficult than taking the temperature or weight. Well-developed instruments are available for many physical measurements. Attaching numbers or grades to educational performance is altogether less certain, and the means of doing so has to be appropriate for the purpose. In 'high stakes' summative assessment, it is important, given the many influences on assessment, that as far as possible assessment is based on common tasks carried out under standard conditions, independently set and marked, and readily communicated. The essence of diagnostic assessment, on the other hand, is interaction between the teacher and student, and it needs to be immediate and tailored to the individual's progress.

Just as summative assessment can be 'high stakes' for the student, so evaluative assessment can be 'high stakes' for the teacher or the school. However, while, in principle, properly conducted summative assessment can be used for evaluative purposes, so much of a student's educational performance depends on factors other than the quality of teaching or the effectiveness of the school that it may not be fair to judge by using the raw results alone. It has become fashionable to argue that a different approach - sometimes called 'value added' - would be more appropriate.[4]

In theory, the quality of teaching or the effectiveness of a school can be measured from the amount of learning taking place over a given period - rather like heat being added to a kettle. However, while the effectiveness of a kettle can be determined with some accuracy using a thermometer, the errors of educational measurement are such that often not much can be read into apparent changes between pre- and post-tests. In practice, value added becomes more of a research exercise than hard-nosed assessment.

Monitoring the educational system's performance over time also looks as if it could be combined with summative assessment. However, because it is hard to exactly equate test items the only way to be sure that results are going up or down is to use items from the same carefully prepared pool year by year. Clearly, this cannot be done for the summative assessment of the whole age cohort because the items would soon become known and the results compromised. Sometimes attempts are made to keep standards constant in summative assessment by validating each year's test against the previous year's, but it has been observed that continual drift occurs.[5] Monitoring is therefore best carried out on samples.

Summative assessment can, however, be used as a research tool.[6] Information on the whole cohort facilitates detailed comparisons between schools and groups of various kinds that would not be possible from the sampling that is often used in monitoring and research.

As well as the different kinds of assessment, it is also important to recognise that testing students for whatever purpose can significantly alter the dynamics of the teaching-learning process:

- It can set expectations and signal what is important more clearly than curricular descriptions themselves, as examination candidates well know when they search through past papers.
- It can give a sense of security to students and teachers because both know exactly what is required of them.
- It can alter the direction of teaching through teachers teaching to what is tested.
- It can be motivating causing students to work hard when otherwise they might not be inclined to put in the effort.
- It can have unintended consequences, including cheating, as teachers and students strive by all means possible to put themselves in a good light.

Assessment in schools is not, therefore, just a way of taking the educational temperature. It will have important effects on the system. Any national assessment is likely to become a significant punctuation mark in schooling. Other points need to be noted: assessment can be technically difficult; an approach suitable for one purpose may not be suitable for another; there may be unintended consequences; and to do it well is likely to be costly.

To be effective therefore and to secure the hoped-for improvements in student learning, it is necessary for the government to be very clear about the educational objectives being pursued and what part assessment can play in meeting them. In spite of the evident difficulties, assessment can be a powerful lever for changing educational systems and the behaviour of people within them. We now go on to explore whether the Green Paper identifies clear educational goals and how national assessment in primary schools can help to achieve those goals.

CHAPTER 2

THE GREEN PAPER

The government states as its general goal for education in *Assessment for Success in Primary Schools*[7] "that all students are taught the skills, knowledge, attitudes, and values necessary for them to meet their life-long potential" (p. 7). That is, it aims to give all children, regardless of ability, background or ethnic group a good start in life. It sees "[t]he results from assessment [as providing] the basis for informed responses that improve school programmes" (p. 2).

The government is concerned that there is currently no national assessment in primary schools. While the public examinations for secondary education are potentially a valuable source of information on student performance, they come towards the very end of compulsory schooling. There is nothing comparable along the way when there would be opportunities for making a difference. In particular, the government notes that there is little information available about "the relative achievement of students and effectiveness of programmes in the crucial primary years" (p. 2). The stated purpose of the Green Paper is therefore to propose "national assessment procedures for primary schools" (p. 2).

The national assessment system envisaged by the writers of the Green Paper is intended to be comprehensive, covering in varying degrees all of the aspects of assessment we have identified - formative, summative, evaluative, monitoring and research - though not necessarily clearly distinguishing between them. The Green Paper puts forward proposals which it expects will "provide important information to help:

- teachers diagnose learning needs and monitor student progress;
- teachers, principals, and boards monitor the effectiveness of teaching and learning programmes; and
- government monitor overall national achievement trends" (p. 6).

The Green Paper suggests that there are significant gaps in current approaches. While it accepts that teachers already regularly use diagnostic assessment in their teaching, it argues that the lack of a sufficient range of nationally available tests leaves teachers continually having to 'reinvent the wheel'. It also believes that the lack of tests leaves teachers,

principals and boards without the information "to see whether their expectations of achievement are consistent with national standards or whether their school is more or less effective than other schools with similar students" (p. 6).

The Green Paper proposes a national assessment package for primary schools which includes:

- new diagnostic tools;
- examples of student work to assist teachers to check if the judgements they are making about students' work are consistent with national expectations and levels of achievement;
- externally referenced tests, which would help teachers, parents, principals and boards of trustees to know how well their students are achieving compared with similar groups of students nationwide (ethnic, gender, and decile groups);
- a modified National Education Monitoring Project, which is more capable of providing differentiated information for government on the achievement of small groups of students, for example, Pacific-Islands students or Maori boys (p. 6).

National assessment is to be mandatory (p. 3), but the government does not intend to publish schools' results as "league tables" (p. 25).

The Education Forum welcomes the government's decision to introduce national assessment policies for primary education and to put its ideas before the public in a Green Paper. But it has serious reservations about the details of what is proposed. In particular, these reservations relate to:

- the lack of a rationale showing how the kinds of assessment indicated would lead to the improvements in student learning that are looked for;
- specific concerns about the proposals; and
- the failure to learn from the experience of other countries.

Before showing how relatively simple and cost-effective assessment could make a substantial contribution to helping the government towards its goal of giving all children a good start in life, we explain each of these reservations in turn.

CHAPTER 3

CRITIQUE

3.1 Absence of clear rationale

The Education Forum believes that a crucial weakness in the Green Paper is that it does not clearly state how the government construes the problem that it is trying to solve. In seeking to improve student learning, does the government believe that children in its primary schools, or particular groups within them, are seriously under-performing? If so, does it believe that the prevailing ethos in those schools is to blame and will need to be changed? Or does it consider that factors beyond school are mainly responsible and that most schools are generally performing well?

If it takes the former view, then it will need to decide in what ways it wants the system to change and what part assessment can play in bringing about those changes. If, however, it takes the latter position, then it will need to be careful not to pile on work to little purpose.

The Green Paper is, however, vague on these points. It seems to assume that there is a problem and that better assessment will somehow help to solve it. But we are not told how the package of measures proposed will actually lead to improved student learning. One reason for the government's difficulty is that its wish to introduce national assessment in primary schools brings it up squarely against the inadequacies of the national curriculum.

3.2 The national curriculum

A national curriculum embodies for a country the essential elements of education as it sees them. Once agreed upon these elements need to be stated in such a way as to enable them to be read and understood by a wide range of potential users, including, if national assessment policies are to be implemented, test developers.

The New Zealand curriculum is unusual in being outcome-based rather than content-based. Through what it calls "achievement objectives" it aims to set out in sufficient detail the desired knowledge, understandings, skills, attitudes and values that students should learn in school. However, as we shall see (Chapter 4), there are strong reasons for doubting that

the outcome statements alone are capable of conveying with sufficient clarity what is intended.

This has consequences both for teaching and assessment. As regards teaching, the national curriculum leaves unclear what should be taught, when, and with what priority. In testing, the national curriculum should act as a blueprint and be the basis for ensuring content validity. It could be argued that the tests and exemplar materials proposed in the Green Paper will *de facto* define the curriculum, but this is to put the cart before the horse, giving too much responsibility to those constructing the tests and selecting the materials. The national curriculum is so important in the life of a nation that its composition needs to be decided in an open, transparent and contestable way.

The Education Forum considers that the way the national curriculum is currently framed will make it hard to be sure of the validity of any system of national assessment. This, coupled with the lack of a clear overview and strategy in the Green Paper, leads us to consider each of the specific proposals in the Green Paper separately.

3.3 Additional diagnostic tools

Diagnostic assessment is already used extensively in our schools. Indeed, successful teaching could hardly proceed without it. The Green Paper is unclear on the extent to which diagnostic tools are used at present and calls for more information. It does, however, envisage that further diagnostic procedures will be developed centrally.

In our view, the state is justified in becoming involved in test construction only when the test prepared is integral to the learning which the state wishes to guarantee to all children. However, without a clearer statement of the national curriculum, the government is not in a position to know just what it is that it is seeking to provide. Furthermore, it has no basis for the claim that it can develop diagnostic procedures with high levels of validity and reliability (p. 20). If government-sponsored diagnostic tools are not perceived to be valid and linked to the concerns of schools, there is little likelihood of them being much used.

The essence of diagnosis is that it is tailored to individuals and, in the context of learning, conducted by teachers. It is for teachers to decide what tests they need, and teachers are

likely to want to devise many of them. There is scope for more support, however, for example through having a wider range of reading inventories available for teachers.[8]

The Education Forum considers that support for diagnostic and formative assessment is best provided by commercial and research organisations, as with the Progressive Achievement Tests[9] and Assessment Resource Banks[10] developed by the New Zealand Council for Educational Research. Prime responsibility must rest, however, with the schools and teachers who should be allowed to take up what they find helpful. The state's role in this regard should be limited to providing quality information on resources available. It should neither provide the tests nor insist on their use.

3.4 National exemplar materials

Exemplars clearly showing what is intended in practice by the verbal descriptions of expected performance could be very useful for assessing students' performance. But again we come up against the vagueness and generality of the curriculum. Without a clear statement of the learning that is required, any exemplars will be arbitrary and could be misleading. Exemplars such as the Green Paper proposes will only be able to make a contribution to setting expectations and improving student learning if the national curriculum is reformulated and rewritten.

3.5 Externally referenced tests

The Education Forum's concern that the national curriculum does not provide an adequate basis for specifying assessment also extends to the Green Paper's proposal for externally referenced tests. The Green Paper proposes that there should be externally set and marked tests in English and mathematics (p. 24), in the second term of years 6 (Standard 4) and 8 (Form 2), and also eventually in year 4 (p. 26). The results would be reported to the government as national and group levels of achievement, to individual schools with comparisons between their students and national levels and those of similar groups of students, and as a report for schools to send to parents.

But the government does not wish to publish performance tables for schools because it considers that the tests will be only a snapshot of a small number of key indicators, that the tests could not produce a single reliable score and that many schools are too small for

statistically reliable comparisons to be made. These objections, as we shall see (Chapter 8), do not hold water if the publication of results becomes an essential element in the strategy for improving student performance.

The Green Paper reads as if the government was intending to publish the results for schools, but changed its mind along the way. The proposed method of presenting results is for ranges of aggregated results to be plotted as box-and-whisker graphs for various components of literacy and numeracy, like number, measurement and geometry, reading, writing and viewing. This seems deliberately obscure, perhaps to make it harder for them to appear in the public domain. Nevertheless, enterprising journalists are likely to get hold of and publish what they can, and it may not be altogether accurate in view of the obstacles in their way.

Providing that the essentials of the curriculum have been identified - as the government does in the Green Paper as literacy (English) and numeracy (mathematics) - and providing also that the content and levels of achievement have been agreed, then it would be possible to devise valid, reliable and practicable tests. This being so, it would seem sensible to present the results as simply as possible and to make them publicly available so that everyone could see how well the schools were doing.

In these circumstances, it will be argued that teachers will teach to the tests but, in the Education Forum's view, provided that the assessment embodies the essentials of education, this would be an advantage. It capitalises on the motivational potential of assessment by setting clear expectations and creating incentives for teachers to help the children to do well. It might be argued that publishing the results would be unfair since schools differ in their intakes, but this criticism, as we shall see, is irrelevant if the main aim of the testing were to identify schools that need extra support as part of a national strategy to give all children a good start in literacy and numeracy.

The arguments presented in the Green Paper suggest that the government is clearly aware of the advantages of publishing the results of external testing, but has backed away from a simple, direct approach. In our view, the proposals in their present form are a missed opportunity that will yield little for what they will cost.

3.6 National Education Monitoring Project

In the National Education Monitoring Project (NEMP) based in the Educational Assessment Research Unit at the University of Otago, New Zealand would seem to have the basis of a system-wide means of education monitoring, whereby schools' achievements in the core areas are sampled on a regular basis. Reports have so far been published, in 1995 on *Science, Graphs, Tables and Maps,* and *Art,* and in 1996 on *Reading and Speaking, Technology* and *Music*.[11] Information is gathered on carefully selected random samples of around 1,450 (about 3 percent) of year 4 and year 8 students by four 'task approaches': one-to-one interview, stations, art making, and team (in 1996 there was no art making).

The same curriculum areas are to be revisited every four years, and definitive judgement about the value of the project will not be possible until information from the second cycle of testing is available. However, the Education Forum has some doubts about the direction NEMP is taking. Certainly NEMP is collecting a wealth of information, but while the reports contain the answers to the questions asked, those questions do not seem sufficiently focused. The reports do not interpret the data collected and appear to lack the systematic descriptions of the state of the education system that can be used by policymakers and teachers. The four 'task approaches' used by NEMP appear over-elaborate, yielding disparate information. It is difficult to see, for example, how they can be used to monitor changing levels of literacy and numeracy over time, or compare New Zealand's performance with that of other countries.

National monitoring must be completely independent of government because what is discovered may not always be to the government's liking. But to be valuable the monitoring project must provide clear, accurate and accessible information directed towards the questions to which policymakers and teachers want answers. The Education Forum supports the proposal for a modified National Educational Monitoring Project but would wish it to be given a more specific remit.

3.7 Conclusion

The package of assessment tools proposed in the Green Paper is an unconvincing assemblage. New diagnostic tools, exemplars of students' work, externally referenced tests

and modified national monitoring are all put forward as if their connection to student learning were self-evident. Moreover, the Green Paper anticipates that these tools will be gratefully taken up by schools and teachers as ways of improving the existing system.

There are reasons for questioning both these assumptions. There is no guarantee that teachers would use the voluntary diagnostic tools and exemplars provided. Neither do the proposed assessments form part of a learning strategy. The Green Paper's suggested presentation of results from the externally referenced tests seems intentionally obscure, making it difficult for the results to be turned into league tables.

This obfuscation will greatly reduce their usefulness. The results of the National Education Monitoring Project already seem unnecessarily complicated, and on the basis of information presently available it is not easy to see how they can be used to elucidate what has been happening to the education system over time.

The danger with the proposals of the Green Paper is that, in trying to find something which it believes is likely to be acceptable, particularly to those in education, the government will spend a lot of money and initiate a lot of work without any clearly demonstrable benefits to students' learning. If the government does want to make significant changes to the educational system it should not overlook the motivational aspects of assessment, particularly if the outcomes are linked to incentives and rewards. This makes it all the more surprising that the government should have, at this early stage in the consultation, apparently decided against publishing the results of externally referenced tests.

CHAPTER 4

THE NATIONAL CURRICULUM

Assessment and the curriculum are interdependent. In the Education Forum's view there will be great difficulty in introducing any acceptable national assessment system into the primary schools in New Zealand because the national curriculum is not stated with sufficient precision to convey what is intended. Without a clearer blueprint the validity of any tests that are devised, or exemplars that are provided, cannot be sustained.

In this chapter, as a basis for proposing a national assessment system for primary schools which we believe would improve educational performance, we offer a critique of the current national curricula for English and mathematics.

4.1 Curriculum framework

In the Education Forum's view the 1993 outcomes-based curriculum framework[12] seems more concerned with aesthetics than the practicalities of setting out systematically what should be taught. Very elegant schema are drawn purporting to show how "essential learning areas", "essential skills" and "attitudes and values" are to be expressed in "national curriculum statements" defined as "learning outcomes against which students' achievement can be assessed". Unfortunately, however attractive it may look, the structure is fatally flawed because it does not convey what is intended with sufficient precision.

The form of the curriculum framework has been criticised[13] since it was first established, and the criticisms put forward do not need to be repeated in detail here. But it is worth iterating the main points relating to the three conceptual building blocks of the curriculum structure - 'learning areas', 'skills' and 'learning outcomes'.

4.1.1 Learning areas

The Education Forum sees few advantages and many problems in attempting to frame the curriculum in terms of 'areas' rather than 'subjects' which are the principal ways of establishing truth about the world and with which people are familiar. This has led to the acute difficulties that have been experienced in trying to draft 'social studies' for the

national curriculum,[14] but it is also apparent in the way that, as we shall see, 'languages and literature' have re-emerged as English.

4.1.2 Skills

The Education Forum considers that the term 'skill', which has its roots in specific capacities developed through practice, is used inappropriately in the national curriculum.[15] The 'eight essential skills' which are identified refer to a wide variety of personal, psychological and social attributes. It is not only hard to know what they mean as 'skills', but it is by no means clear that, however desirable, they can actually be taught. Not surprisingly those responsible for setting out the curricula often appear to have been diverted from their main task in trying to incorporate them.

4.1.3 Learning outcomes

The Education Forum is strongly of the view that support for the outcomes-based approach to representing curricula and qualifications has passed its peak[16]. Experience with national curricula around the world suggests that for clarity, curricula must be stated both in terms of what is to be covered and the level of performance to be expected. By trying to pour the whole curriculum into one vehicle, into learning outcomes, the framework does not give sufficient scope to fully express what is intended.

With such insecure foundations the whole curriculum framework is necessarily unstable. It is not surprising then that the writers drafting the detailed documents on the 'learning areas' have experienced considerable difficulty. The framework demands that these documents are pitched at a high level of generality, and therefore they fail to address the hard questions of exactly what it is that the national curriculum is seeking to guarantee to all students. Let us consider, for example, the key subjects of English and mathematics.

4.2 English

The Education Forum has commented in detail and published its views on the draft English curriculum [17], but it remains profoundly dissatisfied with what has emerged. The point we wish to iterate and reinforce here is that, for all the warm words and all the apparent

elegance in design, there is too little detail for teachers to be sure what should be taught or, in the context of national assessment, for test constructors to know what should be tested.

English in the New Zealand Curriculum[18] is a lengthy document, but it fails to provide enough essential detail. We can see this in the specifications for 'reading' and 'writing' at level 3, for example, which is the level of achievement indicated for the typical student towards the end of the standards and before entering Form 1. The "achievement objectives" are given as:

- select and read independently, for enjoyment and information, different contemporary and historical texts, integrating reading processes with ease (personal reading);
- discuss language, meanings and ideas in a range of texts, relating their understanding to personal experiences and other texts (close reading);
- write regularly and with ease to express personal responses to different experiences and to record observations and ideas (expressive writing);
- write on a variety of topics, shaping, editing and reworking texts in a range of genres, and using vocabulary and conventions, such as spelling and sentence structure, appropriate to the genre (poetic writing); and
- write instructions, explanations, and factual accounts and express personal viewpoints in a range of authentic contexts, sequencing ideas logically (transactional writing).

The achievement objectives are supplemented by requirements for "reading and writing processes" for levels 3 and 4:

- identify, discuss and use the conventions, structures and language features of different texts, and discuss how they relate to the topic (exploring language);
- discuss and convey meanings in written texts, exploring relevant experiences and other points of view (thinking critically); and
- gather, select, record, interpret and present coherent, structured information from a variety of sources, using different technologies and explaining the processes used (processing information).

The "achievement objectives" and "reading and writing processes" are illustrated by some "teaching, learning and assessment examples" covering levels 3 and 4. In the case of 'reading' these are in the contexts of:

- a study of the heritages of the children in the class;

- independent reading of a self-selected text;
- preparing to write for a class magazine; and
- exploring language in use in a range of situations, with a focus on the language of instruction.

The examples given for ‘writing’ are:

- studying the work of a New Zealand author;
- writing a poem in a particular form;
- preparing for a school concert, visit or event; and
- exploring narrative in prose and poetry.

We give the description in full to show that, for all its apparent detail, it actually conveys very little information. Many of the words just state the obvious. Nowhere does the curriculum clearly specify what children should know and be able to do. The expectations for reading and writing are alluded to rather than described. Nowhere are there clear requirements for grammar, punctuation or spelling. Although examples of assessment are given, they are pitched at a similar high level of generality and vagueness. For example, the suggested assessment for “studying the work of a New Zealand author” is:

- the teacher notes the students’ responses to the material; and
- the teacher observes and discusses the process of finding and recording information with the students, and assess the effectiveness of the presentations.

The whole document of 143 pages, while appearing to say much, in fact says very little.

4.3 Mathematics

The mathematics document is almost inevitably more informative than the document outlining the English curriculum since this is a more structured subject, but much of the potential clarity is lost as it tries to comply with requirements of the curriculum framework.

Like English, the mathematics curriculum document[19] is written at a high level of generality. A review by Howson[20] for the Education Forum found “much to admire and welcome”, but also “some disappointments”. In particular, he found a “lack of specificity so far as the setting of goals is concerned and insufficient advice has been provided for the

teacher based on actual classroom experience". He also suggests more thought should be given to the weighting of and time to be allocated to the learning areas.

The mathematics curriculum is able to be more explicit than that for English because while paying lip service to mathematical processes skills it effectively sidelines them as the weft through the warp of the five learning areas: 'number', 'measurement', 'geometry', 'algebra' and 'statistics'. If we again take a specific example, we find 'number' for level 3 is set out as:

- explain the meaning of the digits in any whole number;
- explain the meaning of the digits in decimal numbers with up to three decimal places; and
- order decimals with up to three decimal places.

These are accompanied by ten suggested learning experiences ranging from:

- developing a number sense by exploring number in the context of students' everyday experiences and the world around them, and using numbers to explore events in their own lives; to
- investigating possible ways of renaming numbers using decimals.

It also offers some sample assessment activities:

- students explain in their own words which four in 0.444 has the greatest value;
- students use a calculator to explore different ways of representing a number as the sum of decimal numbers (1 is a good example); and
- students calculate fractions of decimal amounts, for example, six children decide to save two-fifths of their pocket money each week. How much will each save (a different amount is given for each child)?

There are also suggested experiences, called "development band activities", for the students making more rapid progress. Five are given for 'number' at level 3 of which we give two examples:

- students compare the appeal and mathematical content of a number of "mathematical" games;
- students explore arithmetic in, say, base 3.

This is clearer than the English curriculum, but one senses that the compilers have struggled to fit in with the format of the curriculum framework. By having to squeeze content into the achievement objectives they have not been left with the conceptual space to indicate the levels of performance that are required of students. As in English, the suggested learning experiences and assessment activities are at a high level of generality open to wide interpretation. Although the curriculum recognises that students can perform to different levels, again, the banded activities are very general. It appears, therefore, that even a highly structured subject like mathematics is difficult to present explicitly within the curriculum framework as it is formulated.

4.4 Conclusion

Much of what is present in the English and mathematics curriculum documents reads like *ex post facto* analysis rather than a recipe for action. Much of the description attempts to express at length what can be taken for granted, and too little of the text specifies the details of what children should be learning and what is expected of them.

In the view of the Education Forum, complying with the concepts and structure of the curriculum framework has distracted writers of the curriculum documents from considering the hard questions about the content of the curriculum. This can, of course, be a convenient way of side-stepping potentially difficult areas of disagreement. But unless the hard questions are confronted there cannot be a sound basis for teaching and assessment. The Education Forum repeats the call for the national curriculum to be revisited.

An example of a curriculum which was originally outcome-based but which has been progressively revised to set out both intended content and expected levels of achievement is the national curriculum in England. In the next chapter we set out its treatment of English and mathematics for comparison.

The Education Forum believes that New Zealand has the opportunity to learn from England's response to its initial mistakes and to move to a curriculum which would provide a sound basis for national assessment.

CHAPTER 5

ENGLAND'S NATIONAL CURRICULUM

A decade ago England embarked on a series of educational reforms including national assessment in primary schools. Its starting point was similar to New Zealand's and it was responding to the same Zeitgeist. We are therefore in the very fortunate position of being able to learn from England's mistakes.

5.1 National curriculum

A national curriculum was introduced for the first time in England through the Education Reform Act 1988.[21] The Act states that subjects (unlike the New Zealand curriculum, the curriculum in England is based on subjects) should be set out in terms of "programmes of study", "attainment targets" and "assessment arrangements". Like the New Zealand curriculum, England's curriculum was framed on an outcomes basis, but there was also provision for specifying content. Unfortunately, the Act was unclear whether the content was to be expressed in the programmes of study ("the matters, skills and processes which are required to be taught to pupils of different abilities and maturities during each key stage") or the attainment targets ("the knowledge, skills and understanding which pupils of different abilities and maturities are expected to have by the end of each key stage").

This ambiguity left the expert groups charged with recommending the curriculum requirements unsure as to which format to use. Both the English[22] and mathematics[23] groups opted first for an outcomes-based approach and tried to present their subjects as attainment targets subdivided into statements of attainment. The curriculum was set out in schematic form with each attainment target - five in the case of English and 14 in the case of mathematics - having three columns. In the first column, 10 levels of achievement were listed. In the second column against each level there were from one to six "statements of attainment" and in the third column some illustrative examples were given. As was required by the Act, the subject groups also specified programmes of study, but these consisted of a few paragraphs seemingly written for the sake of compliance.

This approach resulted in a combination of elaboration and vagueness redolent, in the Education Forum's view, of the New Zealand curricula as they are now. In the event, England's national curriculum proved unworkable. There had to be major revisions of both the English and mathematics curricula before Sir Ron Dearing (now Lord Dearing) was called upon in 1993 to review and simplify the whole curriculum.[24] When the revised curriculum was published in 1995 it emerged in a much slimmer, tighter form.[25] Crucial to this was a re-patterning whereby the content of the subjects was expressed in programmes of study and the expected levels of performance in level descriptions.

Creating the conceptual space to express both what teachers must teach and standards for students' attainment has enabled the curriculum to be stated more precisely and more concisely. Let us, again, consider English and mathematics.

5.2 English

England's revised national curriculum described programmes of study for four key stages - at ages 5 to 7, 7 to 11, 11 to 14 and 14 to 16. The programme of study for 'writing', one of the three components of English for 7 to 11-year-olds, is expressed in a series of statements of the following kind:

- In punctuation, pupils should be taught to use punctuation marks correctly in their writing, including full stops, question and exclamation marks, commas, inverted commas, and apostrophes to mark possession.
- In spelling, pupils should be taught: the meaning, use and spelling of common prefixes and suffixes; the relevance of word families, roots and origins of words; alternative ways of writing the same sound; and the spelling of words with inflectional endings.
- Pupils should be given opportunities to develop their understanding of the grammar of complex sentences, including clauses and phrases. They should be taught how to use paragraphs and how to link sentences together coherently. They should be taught to use the standard written forms of nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions and verb tenses.

As well as content, the curriculum also sets out the expected level of performance as a series of level descriptions. The level description in 'writing' for level 4, expected to be reached by the typical 11-year-old, is given as:

> Pupils' writing in a range of forms is lively and thoughtful. Ideas are often sustained and developed in interesting ways and organised appropriately for the purpose and the reader. Vocabulary choices are often adventurous and words are used for effect. Pupils are beginning to use grammatically complex sentences, extending meaning. Spelling, including that of polysyllabic words that conform to regular patterns, is generally accurate. Full stops, capital letters and question marks are used correctly, and pupils are beginning to use punctuation within the sentence. Handwriting style is fluent, joined and legible.

The extracts from the key stage 2 programme of study for 'writing' and the description of expected performance at level 4 give some idea of how the curriculum is expressed. They, of course, subsume descriptions for key stage 1 and levels 1 to 3. As well as 'writing', there are programmes of study for 'reading' and 'speaking and listening'. Beyond level 4 there are descriptions to level 8, plus an extra level for exceptional performance. Although still in need of improvement, this approach has proved much more acceptable than the early over-ambitious schemes, and it provides a clearer basis for developing national tests.

5.3 Mathematics

The mathematics curriculum is similarly specified. At key stage 2 - for 7 to 11-year-olds - it is described as four components: "using and applying mathematics"; "number"; "shape, space and measures"; and "handling data". The programme of study for "number" comprises requirements (mandatory except for italicised illustrations) in the form "pupils should be taught to":

- understand and use, in context, fractions and percentages to estimate, describe and compare proportions of a whole;
- explore number sequences, *e.g. counting in different sizes of step, doubling and halving, using a multiplication square*, explaining patterns and using simple relationships; and progress to interpreting, generalising and using simple mappings, *e.g. C=15n for the cost of n articles at 15p*, relating to numerical, spatial or practical situations, expressed initially in words and then using letters as symbols; and
- develop their use of the four operations to solve problems, including those involving money and measures, using a calculator where appropriate.

The description of expected achievement at level 4 in "number" is:

> Pupils use their understanding of place value to multiply and divide whole numbers by 10 or 100. In solving number problems, pupils use a range of mental and written methods of computation with the four operations, including

> mental recall of multiplication facts up to 10x10. They add and subtract decimals to two places. In solving problems with or without a calculator, pupils check the reasonableness of their results by reference to their knowledge of the context or to the size of the numbers. They recognise approximate proportions of a whole and use simple fractions and percentages to describe these. Pupil explore and describe number patterns, and relationships including multiple, factor and square. They have begun to use simple formulae expressed in words. Pupils use and interpret co-ordinates in the first quadrant.

5.4 Conclusion

Whereas the first national curriculum in England was mainly outcomes based, it is now specified in terms of programmes of study and levels of attainment. This constitutes a framework in which both the content and students' expected levels of performance can be expressed. While not everyone would agree with the details of what is specified, it is at least transparent and contestable.

The New Zealand curriculum statements remain at a high level of generality and are consequently vague. The Education Forum urges the government to look at developments in England to see if the New Zealand Curriculum Framework and the curriculum statements could be better expressed. It is not advocating that New Zealand should follow England's curriculum in detail, only that it consider the advantages of having the means of expressing both content and outcomes.

A clear description of content and levels of attainment is important so that the requirements can be understood and openly debated, but also, in the context of assessment, to provide the ground plan of what should be assessed. Like New Zealand, England made an uncertain start in its assessment policy. In the next section we describe the evolution of assessment in primary schools in England so that New Zealand can learn from what, in effect, is a convenient site for testing the Green Paper's proposals.

CHAPTER 6

ENGLAND'S EXPERIENCE WITH ASSESSMENT

England began its reform of primary education in 1987 from a position not dissimilar to that of New Zealand's now. It wanted to introduce national assessment into its schools as a way of providing better information to parents and being more informed itself. Margaret Thatcher, the Prime Minister, had in mind some relatively simple tests in the key areas of English, mathematics and science.

6.1 Initial developments

A Task Group on Assessment and Testing[26], composed mainly of academics, was established, and it drew the important distinction between formative and summative assessment. The Task Group took the view that formative assessment was the more important of the two, but it also claimed that the observations of teachers (the basis of formative assessment), supplemented by standard assessments tasks from a task bank, could be aggregated to provide reliable summative assessment. Margaret Thatcher was unconvinced, but was persuaded to this view by the then Secretary of State for Education, Kenneth Baker, who saw the approach as a necessary fudge between the views of the government and the teachers to get the principle of national assessment accepted.[27]

Whatever the apparent short-term advantages, the consequence was a nightmare from which the country is only just emerging. England's first national curriculum for primary schools introduced in 1988 comprised nine subjects, each consisting of a number of components called "attainment targets", with, for example, 17 in science and 14 in mathematics. Each attainment target could be assessed at 10 levels through compulsory schooling, six in the primary school. This led to each attainment target at each level being stated as a numbered (usually from one to six) "statement of attainment".

Summative assessment was to take place at the end of each of the four key stages. Teacher assessment was the main means of assigning pupils to levels, and an early interpretation of the Education Reform Act 1988 was that each child should be assessed on every statement of attainment even though statements of attainment did not appear in the Act. This left

primary school teachers teaching the whole range of subjects and having to tick literally thousands of boxes for each child. Not only was this exhausting and bureaucratic, but the product was largely incomprehensible.

Having realised the dreadful mistake it had made, England has spent nearly 10 years, and millions of pounds, trying to dig itself out of the hole. In 1992, Kenneth Clarke, as Secretary of State, dismissed the assessment procedures as nonsense and insisted that they be replaced by some simple pencil and paper tests. A review of the national curriculum and testing by Sir Ron Dearing[28] recommended in 1994 that the testing for 7-year-olds should be confined to English and mathematics, and that for 11-year-olds (the end of primary schooling in England) to English, mathematics and science.

At first the tests were externally set, but administered, marked and collated by the teachers. Following a dispute over workload, the government took the opportunity of having the tests externally marked and also tightened other aspects of the administration procedures. Under Dearing's proposals, teachers would assess pupils in all subjects but against level descriptions for each subject rather than for individual attainment targets (which in any case were to be much reduced). Teacher assessments for English, mathematics and science would be published alongside test results thereby getting over the difficulty of having to agree how to combine them.

Under the Education (Schools) Act 1992[29] national results are published by age and gender. Schools were also required to report results for individual children to their parents and to present the school's results alongside the national results in reports to parents, the school's prospectus and the governors' annual report. But performance tables for individual primary schools were ruled out. This was, however, reversed in 1996 as one of the last decisions of the succession of Conservative administrations which had brought in the national curriculum and testing. The publication of schools' results was supported by the incoming Labour government.

6.2 Current tests

England's revised curriculum provided the basis for national tests in English, mathematics and science at the end of primary schooling.[30] The tests were developed by teams in

research organisations and universities working to the qualifications authority. In English, reflecting the organisation of the national curriculum, there are tests in "reading", "writing" and "spelling and handwriting". In mathematics, there are two papers of about 45 minutes each, addressing the curriculum components of "number", "shape, space and measures" and "handling data", but in one test the use of the calculator is allowed and in the other it is not. There is also a mental arithmetic test of 20 minutes delivered orally by means of a standard tape. Science is tested in two papers of 35 minutes each. The English, mathematics and science tests are held on set days over a week in May, that is, in the third term of the final year of primary school.

6.3 Test results

The national programme of testing all children in state primary schools is providing a wealth of information[31], particularly in relation to levels of literacy and numeracy, variation between schools, and gender differences. Table 1 shows the proportions of 11-year-olds achieving at the level considered appropriate for their age. The first published results in 1995 showed that less than half were achieving at this level. In the two years since there has been steady improvement, even before the introduction of a dedicated learning strategy.

The Labour Party in opposition was so struck by these low levels of performance that, on coming to power in 1997, it made raising standards in literacy and numeracy a major plank in its schools' improvement programme.[32]

Table 1: Performance in Tests at Age 11 by Year[1]

Subject	1995	1996	1997
English	48	58	63
Maths	44	54	62

1. Percentage level 4 and above.

Source: DfEE (1997), *Results of the 1997 National Curriculum Assessments of 11-year-olds in England*, DfEE, London.

The results of the national tests for 11-year-olds also showed wide variation between schools similar in their intakes[33], and a big gender gap with the girls being much ahead in English.[34]

6.4 Impact on policy

One of the new Labour government's first actions on taking power was to say that over the lifetime of two parliaments it wanted to see all 11-year-olds (subsequently interpreted as 95 percent to allow for special needs) reaching at least the levels of literacy and numeracy appropriate to their age. It formally stated that, as steps towards this objective, it was setting targets for 80 percent of children to achieve this level in English and 75 percent in mathematics by the end of the present parliament (expected to be in 2002). Putting its reputation on the line, it declared that it would be judged by its success in achieving these targets.[35]

This commitment has placed the obligation on primary schools of getting all children to the specified levels irrespective of ability, background or whether English was their first language, and it has given a sharp focus to the efforts to improve children's learning. The drive has been to find the means of raising all children up to the required level, not providing officially sanctioned excuses.

Publication of results has been underpinned by a four-year cycle of inspections by the Office of Standards in Education.[36] Together these actions have led to renewed interest in how to teach, and support has been provided to schools through detailed literacy[37] and numeracy[38] strategies. Consideration has been given regarding what to teach, how to teach, and the length of time to be devoted to each area. There have also been changes to teacher training.[39] Extra tuition is being provided for children who find learning difficult.[40]

6.5 Impact on practice

The introduction of national assessment and the publication of the results of 11-year-olds has had a major impact on practice in primary schools in England. Previously, as a result of having no external check on pupil performance through tests and only infrequent inspections, teachers were used to doing their best for children according to how they, the teachers, saw it. They tended to sympathise with children who found learning difficult, or who came from poor homes, or for whom English was an additional language, and they did not always set expectations that would challenge the children to overcome their difficulties.

Now that their reputations and those of their schools are on the line, teachers have an additional incentive to help the children improve. It is true that they are tending to teach to the tests, but care has gone into devising tests which embody the essentials of education as they are understood for the children's age. The tests set clear expectations, and evidence is mounting that both teachers and pupils are growing to like them because they know where they are.[41] The downside is that some teachers and schools are buckling under the pressure and instances of cheating are coming to light.[42]

Although teachers and their unions initially resisted the tests they have become increasingly an accepted part of the national scene. Recently the responsible authority, the Qualifications and Curriculum Authority, has begun to devise tests for the end of each primary school year, which are available for use by schools on a voluntary basis.[43] The acceptance of tests may be gauged from the fact that these are being taken up by schools in large numbers, though unlike the national tests they have to be purchased.

6.6 Conclusion

England's somewhat tortuous introduction of national assessment into its primary schools is a clear warning of what can happen if the purposes of assessment are not clearly thought out at the beginning. The purposes have now crystallised out as targets aimed at giving all children a good start in literacy and numeracy irrespective of their origins.

The targets are, however, a tall order, more so than perhaps the British government realises. In basing them on a particular level, it has interpreted what was originally considered to be appropriate for the *average* 11-year-old as a *minimum* for that age. Once the government fully appreciates this, it may be provoked into reconsidering the threshold level to be achieved by children by the end of primary schooling. If the New Zealand government should be persuaded by the arguments presented in this report, this would be the obvious starting point for revisiting the New Zealand curriculum.

What other lessons can New Zealand learn from England's experience? In the next chapter we attempt to draw out the pointers towards developing a successful policy for assessment.

CHAPTER 7

POINTERS TO ASSESSMENT POLICY

England's experience with introducing national assessment into its primary schools offers a number of pointers about what is involved in creating a successful policy. From early confusion, it has taken 10 years for a clear strategy to emerge. The first message is, therefore, to be as sure as possible of the educational objectives at the outset.

7.1 The purposes of national assessment should be clearly thought out.

England's national assessment policies began from a general belief that more information was needed about how the system was performing. Under Margaret Thatcher testing became part of an attempt to improve education by subjecting it to the discipline of market forces. The central idea was to make parents the customers of education. Parents would receive accurate information about the performance of schools, they would choose schools for their children, and the money received by a school would depend on the number of children that it attracted. Thus schools would have to strive to optimise pupil performance in order to survive.

Not surprisingly, teachers were very resistant to these ideas, but they also claimed to be in favour of assessment of the right kind, meaning diagnostic or formative assessment (on which they could not be judged). It looked at one time as if the whole policy would fail, so to get something off the ground the government accepted a fudge between diagnostic and summative assessment which was burdensome and bureaucratic, and ultimately unworkable.

Consequently, a great deal of money and effort was spent attempting to rescue this situation. A simpler and more focused policy had just about emerged – involving externally set tests at ages 7 and 11 in English and mathematics - when Labour was elected to government. The new administration immediately incorporated the test results at age 11 into targets, backed by support to schools.

The New Zealand government's Green Paper suggests to the Education Forum that New Zealand may be in danger of repeating this process of embarking on a costly exercise, or

rather a series of costly exercises, without having decided in detail what it wishes to achieve. With its proposed four approaches there seems to be an attempt to cover all angles without ever getting to grips with just how assessments are intended to improve student learning.

7.2 National assessment and the national curriculum are interdependent.

A source of some of England's early difficulties in trying to devise valid assessments was that its national curriculum was not stated clearly. In particular, it had attempted to set it out on an outcomes basis through numerous "statements of attainment". It was only when the curriculum was thoroughly revised and expressed as content ("programmes of study") and levels of performance ("level descriptions") that it provided the blueprint that was needed for the tests. The revision also concentrated on trying to identify the essentials of learning rather than appearing to prescribe everything.

The present New Zealand curriculum has been constructed on an outcomes basis similar to that which failed in England. Moreover, it has moved away from subjects to the more elusive "learning areas" and "skills". Without a conceptually sound and clearly stated national curriculum, the government will have great difficulty in constructing a valid national assessment system of any kind. What emerges will inevitably be test-led rather than curriculum-led.

A national curriculum is the means by which a country represents its children's learning to itself. Since education and values are so intimately connected, there is always considerable room for debate about what should be included in the curriculum. But few would disagree that a good start in literacy and numeracy is essential for all children. In the first version of England's national curriculum for primary schools, for example, there was a statutory obligation to teach and assess nine subjects. But in order to allow the teachers sufficient time to devote to English and mathematics, and also science, the legal requirements have been relaxed in six of them and it is now left to the schools' discretion to provide a broad and balanced curriculum in the non-core subjects.[44]

The New Zealand government's Green Paper does not explicitly recognise the interdependence of the national curriculum and national assessment. In order that national

assessment can contribute to student learning, the national curriculum will have to be reformed. In primary schools it will be necessary to start with English and mathematics.

7.3 National assessment should be part of an explicit strategy to improve student learning.

Assuming valid, reliable and practicable measures can be developed, they can at best provide information about the education system. Of themselves, they will do nothing to improve student learning. To achieve this improvement, assessment must be an integral part of a defined strategy.

After its many false starts, England has now settled on such an approach. The test results for 11-year-olds are in part to be used to identify schools that need extra support. Money has been diverted from other sectors of the education budget to allow more teachers to be appointed, training packs are being provided to support the teaching of literacy and numeracy, and extra tuition is being made available to some students through summer schools. The pointer for New Zealand is that for national assessment in primary schools to be worthwhile it must be backed by a clear strategy of learning support.

7.4 Assessment should be as simple and direct as possible, and not over-elaborate and striving for impossible perfection.

Judging human performance is difficult, as we well know from the mistakes referees invariably make in sport. In education, assessment experts are inclined to take one of two views. They advise governments to introduce something either so complicated that it is unworkable or so difficult that no assessment should be attempted. The Task Group on Assessment and Testing in England, for example, came up with a very elaborate approach based on aggregating teacher observations, supplemented by standard assessment tasks, which virtually took over the life of primary schools, but yielded little in the way of comprehensible information.

The complicated package presented in the Green Paper also seems to bear the imprint of advice that educational performance can only be captured through a range of sophisticated assessment approaches. For example, a reason given for proposing that the results should not be publicly available is that “the testing proposed in this package is designed to give a snapshot of a small number of key indicators only and will not provide such a

comprehensive picture" (p. 26). The National Education Monitoring Project already seems to have lost itself in its own complexities.

The alternative view is that the assessment instruments proposed are so blunt as to be not worth the cost.[45] Diagnostic, summative, evaluative assessments and monitoring and research all tend to be run together in the Green Paper to magnify the complexities and suggest that accurate assessment is out of reach.

The Education Forum argues that neither view is correct. It is no good striving after unattainable perfection, _but neither does it help to deny that useful information is obtainable. The pointer we would take from this analysis is to be aware of the tendency of academic experts to get lost in the details. Providing that the assessment has a clear intention and is based on an agreed curriculum, it should be possible to devise valid and reliable measures that are practicable in the sense that they will not take too much time or money to develop or administer.

7.5 It is important not to confuse assessment which benefits children with judging the effectiveness of schools.

A major reason for the resistance of schools and teachers to externally set and reported tests is that they fear that the results will be used to judge them. Summative and evaluative assessment become caught up in each other, and the reason given for rejecting summative assessment is that, since the intakes of schools differ, it is unfair.

The Green Paper has been clearly influenced by these arguments. It emphases the links between achievement and ethnicity and socio-economic status (p. 27), makes the claim that 40 percent of New Zealand primary schools are too small for statistically reliable comparisons to be made (p. 26), and seems to have proposed an intentionally obscure presentation of results from the externally referenced tests. It also hints at some value-added indicator based on School Entry Assessment.

In the Education Forum's view much of the difficulty here could be resolved if the ideas of student assessment and judging the effectiveness of schools were clearly separated. Student assessment must work to the benefit of students. It does them no good at all to have excuses built in for them through value-added measures relating their social background or ethnic group to their performance at school. What matters to the individual is what he or she can

do, not how this reflects on the school. Moreover, a consensus now seems to be emerging that value-added measures will never be sufficiently reliable or accurate to hold schools to account.[46]

Given the complexities and sensitivities of judging the effectiveness of schools, the Education Forum believes that the most appropriate means of assessing schools is through improving the school inspection service of the Education Review Office. Trained and experienced inspectors are able to take into account a wide range of factors, in the way that tests are not, to make a comprehensive judgement on how a school is performing. In England, the new inspection arrangements organised through the Office for Standards in Education (Ofsted) has had arguably more impact on school improvement than the testing regime.

If external test results were clearly seen to be for the benefit of the students and not a surreptitious way of checking on teachers, then the Education Forum believes that many of the objections to externally set and reported tests would disappear. Without the tests having to bear the weight of school effectiveness, it would be possible to devise some relatively simple tests of sufficient validity and reliability to be genuinely helpful in reporting on the attainment of students.

7.6 Results of national assessments should be available in readily accessible form so that they can be acted upon.

The Green Paper seems ambivalent about publishing the results of the externally referenced tests. The results are to be made available to schools but not published on a school-by-school basis. The results are provided for the components of literacy and numeracy as box-and-whisker graphs. There are to be no simple and readily interpretable scores for literacy and numeracy in case they get into the wrong hands. The Green Paper reads as if the original intention was to publish and the government has retreated.[47]

England's initial experience with implementing national assessment tasks, which were intended to provide full student profiles obtained through teacher assessment in naturalistic settings, was that the results were so complicated that they could have little impact on the system. It was only when tests that produced readily accessible results were devised that policymakers and parents were able to see what was being achieved by students.

Constructing, administering and marking appropriate and practicable tests is expensive and only value for money if the results are to be put to good use.

7.7 Parents like simple and clear information about student performance.

In the early reactions to the Green Paper appearing in the media, teachers and academics tended to be hostile[48], but parents most often voiced their support.[49] In England, it appears that parents have become more interested in their children's education than ever before. Parents commonly take into account a school's Ofsted report and test results before deciding to enrol their children.

Good information to parents can act as a lever for school improvement. Even if parents do not have the degree of choice they have in England, any parent who feels that their child's school is not doing as well as it might is likely to make his or her views known to the principal. Conversely, clearly presented results will help a principal to make a case requesting support from parents.

A child's learning depends on an active and soundly based partnership between the home and school. It does no service to either home or school to imply that there is something secret and mysterious about test results.

7.8 Teachers tend to be initially resistant to tests because they feel they will be unfairly judged, but many grow to like them when they can see that the children benefit from the tests.

Teachers tend to be very defensive about external tests of their students since they fear that they may be judged unfairly. In England, the teacher unions, reckoning that it would be politically unwise to oppose assessment completely, claimed to be in favour, but interpreted assessment as exclusively diagnostic or formative. When the Conservative government realised the error of its initial fudge and instead promoted summative assessment, the teachers' representatives managed to confuse summative and evaluative assessment and sent the government off on the 'goose chase' of value-added measures. Her Majesty's Chief Inspector of Schools, Chris Woodhead, and his inspection department, Ofsted, receive a lot of flak in the educational press because inspection is also recognised to be about school effectiveness.

The difficulties of educational measurement and the wide differences in student intakes probably justify the reservations that teachers have about the test results being used to judge their own or their school's effectiveness. But that does not mean that tests cannot be devised that will accurately record a student's performance in the key areas of literacy and numeracy. And it is the students' actual performance - unadjusted for background - that matters to the students because it shows what they know or can do.

Once it is apparent to teachers that the test results are for the students' benefit, and not a measurement of the teachers themselves, their attitude tends to change. In England, the tests for 11-year-olds are part of a strategy to get all children to a threshold level of literacy and numeracy for their age. Schools' results are published to show what proportion of children have reached the required level, so it becomes a matter of teachers' professional pride for the children to do well. At the same time, the government recognises that it is harder for some schools to succeed than others, and that the results also identify those that require extra support.

Since the tests have been introduced in England, somewhat to the surprise of academics, there is evidence that both teachers and pupils are responding favourably, because they feel they know where they are with them.[50] As well as the compulsory tests at ages 7 and 11, the Qualifications and Curriculum Authority is developing voluntary tests for the end of each school year. These are modelled on the national assessment tests, and they are being bought by the schools in large numbers, partly to give their pupils practice in test-taking.

It seems possible, therefore, to enjoy the motivational and informational benefits of external tests provided the teachers do not feel they are on trial. The pointer for the New Zealand government is that to overcome the resistance of teachers to the proposed national assessment policies for primary schools, it should clearly distinguish between the summative and evaluative functions of assessment.

7.9 Conclusion

Drawing on England's experience of ten years of national assessment in primary schools, the advice given to the New Zealand government in formulating the Green Paper and the early reactions to it, the Education Forum identifies four main pointers for the development of an assessment policy.

First, assessment must be integral to a strategy to promote student learning. Second, in primary schools the strategy should focus on literacy and numeracy and be based on curricula clearly expressed in terms of content and expected student performance. Third, assessment should be by simple and direct tests and the results should be published. Fourth, it needs to be clearly understood that the tests would be to benefit children and would not be about the effectiveness of schools - which would be the province of the Education Review Office.

Such a system has every prospect of being beneficial, acceptable and affordable. Taking the above pointers as its basis, the Education Forum now outlines a set of assessment arrangements for primary schools which it believes would make a substantial contribution to improving student learning.

CHAPTER 8

IMPROVING LEARNING THROUGH ASSESSMENT

The Education Forum shares with the government the desire to see an improvement in the quality of student learning in primary schools. It also shares the view that the two key areas for this phase of education are literacy and numeracy, because without them little else can be achieved. Literacy and numeracy are not only the basis of communication, but of thought itself. The Education Forum can also see the advantages of encouraging schools to benchmark their performance against schools with similar intakes. However, while it shares the general aims of the government, it is firmly of the view that the objectives of national assessment in primary schools have not been stated with sufficient precision, nor has the part to be played by assessment in improving students' learning been made sufficiently clear.

International comparisons of literacy and numeracy[51] indicate to the Education Forum that the key problem to be addressed is the under-performance of primary students in the basic languages of English and mathematics. What is known about the performance of primary students suggests that New Zealand shares with England a large gender gap, wide variation between schools, and major differences associated with ethnic and social background.

The Education Forum would like to suggest, therefore, that New Zealand learns from England's experience and translates the general wish to see improvement in student learning into specific educational objectives. After a period of experimentation and evaluation, England has set literacy and numeracy targets for the end of primary schooling. Adapting this approach for New Zealand would involve establishing the levels of literacy and numeracy to be achieved by all pupils by year 6. The state should guarantee this level of achievement to all its young people. The expectation that Maori students, and others for whom English may be an additional language, can achieve at the specified level in English reflects the importance of this language not only in New Zealand but internationally.

What constitutes an appropriate level of literacy and numeracy for 10-year-olds is, of course, a matter for informed judgement. The government should call together representative task groups of parents, teachers, employers and the government to make

recommendations which could be fully debated and eventually agreed upon. These curricula, set out as content and levels of performance, would become the blueprints for devising valid, reliable and manageable tests.

The tests would be externally set, administered in all schools according to a set timetable, and externally marked. Principals would have to certify that all procedures had been complied with and there would be spot checks to counteract any tendency to cheat. The results for schools would be published, and the government would have the test results for the whole age cohort to analyse. The results of individual pupils would be confidential to their teachers and parents.

The obligation would be on the schools to get all children up to the specified levels irrespective of the children's ability, social background or ethnic group. The tests would clearly show which schools were having difficulty, and the government would provide support to these schools, including better information on how to help students to learn. Comparisons between schools with similar intakes but differences in performance would enable the factors associated with effective schooling to be more clearly identified.

The mere fact of publishing the results of assessment becomes a motivating force. Schools and teachers want to be thought well of and will adjust their behaviour towards enabling the children to do well in the tests. This would be reinforced by the parents' wish to see their children at a good school. Through this combination of measures the efforts of the schools will become geared to the government's overall aim of giving all children in New Zealand a good start in life.

The exemplars proposed in the Green Paper would have a part to play in this strategy. The role for the National Education Monitoring Project would be defined: its task would be to scrutinise how standards were changing over time and whether the hoped-for improvements were occurring. Since the results would be politically important, it is essential that the independence of the monitoring procedures is guaranteed. On the other hand, the government would not need to devise diagnostic tools as these would form part of the pedagogy schools would be developing, supported by the universities and colleges of education, to enable all their children to reach the specified levels.

If clear educational objectives for primary education were adopted, as outlined in this submission, many of the apparently insurmountable problems seen in the Green Paper would recede into the background. There would be no need to make special allowances for small schools or any group in the testing or reporting of results, since the aim would be for everyone to receive his or her entitlement without regard to gender, social origins, race or creed.

If this seems hopelessly idealistic and unfair in its expectations of, say, south Auckland schools, there are some very encouraging results from England to support this view. In an East London School, for example, nearly all the pupils are Bangladeshi and reach the age of five without being able to speak English. But their national test results at age seven (in mathematics as well) put them in the top five percent of the country. Success of this kind, according to a report by the Office for Standards in Education[52], is achieved through finding appropriate and effective teaching methods, in this case a phonological reading scheme devised by the school's principal. The children's performance in English and mathematics extended to other subjects, where they also did very well. The response of this school exemplifies what can be achieved when we refuse to accept that little can be expected of schools in disadvantaged areas. In adopting a perspective of this kind, New Zealand would not have to get entangled in the technicalities of value-added measures.

It might be argued that what the Education Forum is proposing would unduly narrow the scope of primary education. But critics should see these proposals for what they are: an attempt to provide an essential backbone of literacy and numeracy for all children to enable them to realise their potential. This backbone would support all the activities of primary schools, and it would be up to the schools to continue to provide the rich variety of experiences they already offer. Students would be much better prepared for secondary education. They would follow the full national curriculum and teachers would be responsible for their progress.

If our recommendations were adopted, national assessment in primary schools would be confined to underpinning the state's objective of giving all its young citizens a good start in life through the development of threshold levels of literacy and numeracy.

8.1 Recommendations

1. The government should rethink its policy of seeking to improve educational performance in primary schools through national assessment as expressed in the Green Paper.

2. The government should focus initially on strategies to enable all children to reach a high threshold of literacy and numeracy by the transition point at age 10. External assessment would be integral to that strategy.

3. The curricula in English and mathematics should be rethought by expert groups including parents, employers and representatives of government as well as educationalists. The curricula should be specified in terms of content and expected levels of achievement for students.

4. The curricula would be the blueprints for the national tests at age 10. The tests would be developed either in-house in the relevant qualifications authority or under contract by interested consortia. The relevant authority would be that which emerges from the current review of the National Qualifications Framework. We have argued elsewhere that there should be a School Qualifications Board.[53]

5. The results would be published at a national level and also by school, in terms of the proportions of the age group reaching the required levels in English and mathematics.

6. Schools where the results showed that the children were finding learning difficult would receive extra support in terms of, for example, improved pedagogic techniques, supporting materials and enhanced provision. Schools would be encouraged to learn from each other by comparing themselves with successful schools with similar intakes.

7. Once the tests for 10-year-olds were in place, we recommend that the qualifications authority would oversee or develop tests for each year of primary schooling. These would be voluntary and the results would not be published, but for any school choosing to use them they would be an important annual check on the progress of their students.

8. The thrust of these proposals has been on the role of externally referenced tests as an essential element in a strategy to enable all children to achieve high threshold levels in literacy and numeracy. We recognise that some of the other components of the assessment package proposed in the Green Paper could, in appropriate form, also have a part to play. Exemplar materials based on the proposed reformed English and mathematics curricula would help to clarify for teachers what students were expected to achieve at each age. The National Education Monitoring Project could independently scrutinise whether the intended improvements over time were in fact taking place. But there would be no need for the state to become involved in developing new diagnostic tools. This could be left to individual enterprise with schools buying and using what the professional judgement of the teachers determined to be necessary. It is likely that

the unfolding of the strategy would bring about a new emphasis on pedagogy, and new diagnostic and formative instruments would be developed as part of that process.

9. The central purpose of these proposed changes would be to put in place a backbone of literacy and numeracy tuition in primary schools which would enable all children to reach high threshold levels in English and mathematics. We envisage that this backbone would support and enhance the rich variety of experiences that primary schools have traditionally provided and would continue to provide. It would also be a sound basis for students proceeding to secondary education. The proposals would not narrow the primary school curriculum, but would clearly delimit the state's involvement in testing in this phase.

10. Since English and mathematics are international languages, it is recommended that a high-quality introduction to them should be the entitlement of all New Zealand children and that the provisions outlined here should apply irrespective of ability, social background or ethnic group.

APPENDIX A

Education Forum

The Education Forum has been formed to contribute to education policy through research and debate on the current issues, structures and expectations at all levels of New Zealand education.

The Education Forum believes that New Zealand education requires an approach to learning and achieving which encourages all individuals to reach their full potential, and which will take New Zealand to the leading edge of international performance and achievement.

The Education Forum is an association of individuals who have a common concern for the future direction of New Zealand education. The membership is drawn from primary, secondary and tertiary sectors of education, together with leaders of industry and commerce.

The principles incorporated in the above statements include the following:

- a commitment to excellence and high expectation in all human endeavour, based on a lifelong desire for learning;
- the belief that the community and government should ensure that all young New Zealanders have access to quality education;
- the teaching of values and life skills which will preserve the dignity of the individual and the integrity of the family;
- the acceptance of healthy competition for both individuals and the education sector;
- the encouragement of cooperation, creativity, adaptability and enterprise;
- the encouragement and recognition of personal responsibility, goal setting and achievement in all endeavours, through self-discipline and hard work;
- the acceptance of a compulsory core curriculum in primary and secondary schools;
- the necessity for high standards of assessment of student performance and of accountability of teachers and institutions;
- the promotion of a New Zealand cultural identity;
- the key involvement and responsibility of parents in their children's education;
- the emphasis on the value of parental choice and the self-management of education institutions; and
- the development of closer links between education institutions and industry.

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APPENDIX B

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