Contents

New Basics
Research Program

1 ABOUT THIS BOOKLET

This booklet is an internal working document of the New Basics Unit (NBU) within the Assessment & New Basics Branch (ANBB) of Education Queensland (EQ).

The booklet may be read from start to finish all the way through or be dipped into as appropriate.

The booklet is organised into six main sections.

1. **What is a trial?** Explains how the New Basics Research Program fits into the New Basics Project.
2. **The research premise.** Discusses one of the five premises underpinning the New Basics.
3. **The research logic**. Elaborates the approach taken to the key (primary) research question, and details the secondary questions that this primary question raises.
4. **The research operation**. Details the subordinate questions associated with the secondary questions and outlines the analyses that will serve to answer these questions.
5. **The research approach**. Enunciates the principles and considerations that guide the research program.
6. **Research management.** Describes who is doing the research and what is to happen with the research findings.

The New Basics Research Program is the fourth booklet in a series written for the New Basics Project.

The Assessment & New Basics Branch was first known as the New Basics Unit when it was formed in 2000. At the time of publication, it comprised the New Basics Unit and the Assessment & Reporting Unit.

For information on the five premises of the New Basics, see *The research premise,* page 4.

The term *New Basics* has a number of meanings, both general and specific, and is understood in the context of there being the 'old' basics or the three Rs – reading, 'riting, and 'rithmetic – which remain at the heart of the 'new' basics but are not sufficient for 'new times'. In the general sense, the New Basics is the integrated framework for curriculum, pedagogy and assessment; that is, the New Basics Framework. In the specific sense, the New Basics is also the term for the four clusters of practice that act as curriculum organisers within the New Basics Framework. The New Basics is understood to refer to the framework unless a specific alternative meaning is indicated.
The term *New Basics* is singular, like *mathematics*.

The previous three titles, in order of appearance, are:

- *New Basics – Theory into Practice* (EQ, 2000c): An overview of what the New Basics Framework is about and the way the trial works.
- *New Basics – Curriculum Organisers* (EQ, 2000a): An elaboration of four futures-oriented categories for organising curriculum, of particular interest to those composing their school's three-year curriculum plan(s).
- *New Basics – The Why, What, How and When of Rich Tasks* (EQ, 2001): The rationale for Rich Tasks and almost everything there is to know about how they were intended to work and to be undertaken.

The reader seeking a deeper understanding of the New Basics should go to the *New Basics Project Technical Paper* (EQ, 2000b), referred to in this booklet as the *technical paper*.

The first three booklets were written primarily for teachers in the 59 Queensland schools who are on their four-year journey in the New Basics trial. For the 38 schools in Phase I, this journey commenced in 2000; for the 21 in Phase II, the journey began in 2001. These earlier booklets outlined critical information, at progressive stages of the trial, by exploring specific aspects of the technical paper.

The texts of the booklets mentioned are available at www.education.qld.gov.au/corporate/newbasics

It is assumed that the reader of this fourth booklet is familiar with the contents of the previous booklets.

The orientation of this fourth booklet is different from that of the first three. Whereas the first three were primarily for teachers in New Basics schools, this booklet, as an outline of the New Basics Research Program, is intended primarily for researchers within the ANBB. It does, however, provide valuable information for teachers about the New Basics trial, and ways that the school community is expected to contribute to the research.

There exists a broad and universal understanding that equity, futures and new technology issues have resulted in a completely new set of challenges for education systems. Countries, states, regions and other jurisdictions are desperately seeking out any attempt at thinking 'outside the square' in order to meet those challenges. The New Basics Project is part of a reform agenda that espouses the view that educational outcomes should be futures-oriented – based on a philosophy of education committed to the preparation of students for new workplaces, technologies and cultures.

The trial is a far-reaching exploration of things of consequence: of the valuable knowledges and skills that students are capable of acquiring, of what teachers can do to make a difference, and of what school leaders, school communities and the system can do to encourage and support innovation. Therefore, the results of the trial are of interest not only to trial schools, but also to other stakeholders, members of the wider community, and educational researchers and policy makers in Queensland and elsewhere.

2 WHAT IS A TRIAL?

The purpose of this section is to place the New Basics Research Program within the New Basics Project by outlining the nature of the trial.

According to the technical paper (p.106), the aims of the trial are to:

- fully develop and articulate the New Basics, Productive Pedagogies and Rich Tasks into mature and generalisable approaches to curriculum, pedagogy and assessment that lead to verifiable improvements in student outcomes
- determine the school organisational capacities needed to successfully implement these approaches.

This terminology is explained in *Research management*, page 30.

Studies will be conducted under the New Basics Project to establish the extent to which these aims have been met. Both quantitative and qualitative research methods will be employed.

The New Basics Project is a four-year trial that encompasses the following four aspects:

- development of the New Basics Framework – the integrated framework for curriculum, pedagogy and assessment
- implementation of the New Basics Framework for Years 1–9 in selected state schools across Queensland that volunteered for the trial and have, for the duration of the trial, been exempted (or 'quarantined') from certain curriculum, assessment and reporting obligations of state schools, and given special assistance and resourcing
- a research program designed to answer the key question: Is the New Basics viable?
- evaluation of the trial that focuses on the part New Basics should play in the future strategies of EQ for delivering, via schools, improved student outcomes.

The third of the four aspects listed above is the reason for this booklet. The research aspect of the trial, the New Basics Research Program, commenced at the beginning of the 2000 school year and will continue throughout the whole trial until the end of 2003. The New Basics trial is itself a process of active questioning and inquiry: theory building not theory testing. Many of the things to be discovered or created through the trial will arise from this process.

The developmental aspect of the trial comprises conceptual work and planning to devise the components of the framework and to establish optimal conditions in schools for successful implementation. It includes elaborating the New Basics categories, developing and promulgating the Productive Pedagogies in New Basics classrooms, refining the Rich Tasks, designing curriculum plans, and developing models for assessment, moderation and reporting.

The implementation aspect of the trial comprises a year-by-year school implementation of the framework, starting with Years 1, 4 and 7, and culminating in the third year (Years 3, 6 and 9) in the moderated school-based assessment of students' Rich Task work. It includes professional development for teachers, resource organisation, orientation of critical friends, school support from Central Office, preparation and dissemination of documents and support materials for schools, and the establishment of effective communication mechanisms such as electronic discussion lists and forums for principals.

Research may be characterised as finding out things unknown; evaluation may be characterised as finding the 'value' – the worth or merit – of a thing. In an educational setting, the methods are the same in both cases and the spirit of inquiry is the same. The distinction, if there is one, is mainly about utilisation. An inquiry to say if a thing works or has merit can be called an evaluation; an inquiry to discover what works best can be called research. In educational research, perhaps more than most other fields, there is little room for 'pure' research – we do not have laboratories or controlled conditions. Rather, we study real students and real teachers interacting in real classrooms and real schools.

The external evaluator is Dr John Ainley, Deputy Director and Head of the Policy Research Division, Australian Council for Educational Research. See Appendix 1 for further details of the external evaluation. The appointment of an external evaluator demonstrates EQ's commitment to the scientific principles of auditability, objective judgment and unbiased research.

First expounded in the technical paper (EQ, 2000b), the five premises are:

1 **The Pedagogy Premise**: Improved student outcomes require a systemic, principled and practical coordination of the message systems of curriculum, pedagogy and assessment.

2 **The Futures Premise**: Outcomes should be futures-oriented, based on a philosophy of education committed to the preparation of students for new workplaces, technologies and cultures.

3 **The Equity Premise**: A principled selection and pedagogical provision of important, common learnings should address the economic and cultural aspirations of the most at-risk and culturally diverse communities.

4 **The Research Premise**: Reconstruction of curriculum, pedagogy and assessment needs to be explicitly guided by documented analysis and rigorous discussion of current school practices.

5 **The Professional Learning Community Premise**: Improved, equitable student outcomes and effective reforms in curriculum, pedagogy and assessment require high levels of teacher professionalism, sustained intellectual work and shared ownership of reform within dynamic school communities focused on learning.

Because there is an extensive research program, a large-scale evaluation study that gathered its own data would be redundant. An appropriate and cost-effective evaluation strategy is to contract an independent program evaluator to review data and research findings each year of the trial and to compose an independent evaluation at the end of the trial.

Although we would rather not draw a strict distinction between research and evaluation, we have reserved the term *evaluation* for what the independent external 'evaluator' does, and the term *research* for what the 'researchers' working within, or associated with, the NBU do. This booklet describes the latter.

3 THE RESEARCH PREMISE

The New Basics Project is founded on five educational premises. The research premise links the New Basics Project to active research; that is, collecting data, forming hypotheses, empirical testing, collecting more data, searching for trends, creating new hypotheses, unearthing the research results of others, changing practice on the basis of results, and so on.

The New Basics Project had its beginnings in extensive research into what was likely to be the best way forward for Queensland state education. This study, the results of which are reported in the technical paper, looked at what was happening in schools, and what interventions had been successful, both in Australia and overseas.

The research was able to draw on the findings of the *Queensland School Reform Longitudinal Study* (QSRLS).

The QSRLS (Lingard & Ladwig, 2001) investigated:

- current teaching practices and the quality of student work in a broad sample of Queensland schools
- the degree to which reform of Central Office support and school organisational capacity was capable of generating pedagogical change and improved student outcomes.

Reform is the key word here. The New Basics is not just one more educational innovation that slots into existing school and system practices and structures. It is a vehicle by which these very practices and structures can be reshaped so that there is an improvement in students' learning outcomes because the **capacity** of schools and the system to improve outcomes has itself improved.

The Research Premise – together with the challenges and revelations that come with undertaking a process of reform – demands that research occurs even as the New Basics Project is under way. The New Basics Project is a *trial*, and the participating schools are *trial* schools: each is very different in nature, each expected to encounter different obstacles and meet those with different strategies, and each will have different degrees of success in implementing the New Basics Framework. The research program is designed to provide opportunities to capture information about differences and commonalities.

This ongoing research will throw light on the extent to which the integrity of each of the four other premises has been maintained during the development and implementation of the New Basics Framework.

Changes in the **nature** of the learning are important in that they show that there are significant differences between the enacted curriculum under the New Basics and the sort of curriculum that students in trial schools would otherwise have experienced. For example, the students involved with the New Basics might, as a matter of course, exhibit predispositions and capacities to connect their classroom experiences and the world outside the classroom that are not often seen elsewhere. Other differences in the nature of students' learning would be expected to reflect the transdisciplinary emphasis in the New Basics; that is, the stress on appropriating, as the task warrants, the understandings and modes of operating of several, often disparate, fields of knowledge.

Changes in the **depth** of learning are important in that they indicate realisation of some other critical intents of the framework. The New Basics calls for an 'uncluttered' curriculum – one that provides students with time and space to tackle challenges that increase intellectual demand and foster development of higher-order thinking skills.

Nature and depth need not be treated as independent. Changes in the nature of the tasks undertaken by students can invite them to engage with their learning in greater depth.

No matter how valuable such considerations of the premises might be, however, these cannot constitute the full scope of the research. There is more to be investigated – how student performance has changed in 'nature and depth', how teachers' actual classroom practices have changed, and the differences that external support, professional development and resources make to successful implementation of the framework or its components. And there is even more to be investigated before there can be any certainty about the extent to which, or the conditions under which, the New Basics is able to deliver improved student outcomes across the full range of Queensland schools.

4 THE RESEARCH LOGIC

This section focuses on the primary research question and the three secondary research questions that the program seeks to answer.

4.1 Primary question: Is the New Basics viable?

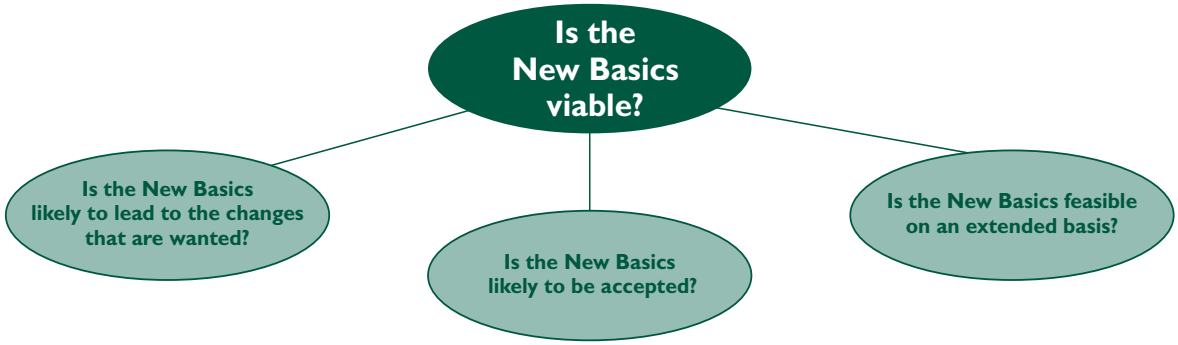
The purpose of the research is to answer the question: Is the New Basics viable?

The context for this question is pragmatic: ultimately the New Basics Research Program leads to an evaluation of the trial, and every evaluator has a commissioner; that is someone or some group who wants answers for a purpose. In this case the group is the people of Queensland as represented by the State Government, and the purpose is to inform the direction of education policy in the State of Queensland.

So, the decisions about what questions to ask are pragmatic. They are influenced by the utilisation imperative of the research program (it has to provide answers that are useful in the context of the New Basics trial) and by the resource constraints of the trial. The emphasis, therefore, is on the must-know rather than the nice-to-know, and on providing robust and publicly defensible answers. There will be many other questions of interest to many other people and, in time, these may be answered.

The key element of the primary question is the term *viable*. Viable means being capable both of functioning and of separate existence (i.e. existence without close and intensive support). When we ask whether the New Basics is viable, we are asking, among other things, whether it is capable of continued existence within EQ schools.

In the context of this trial, viability is also defined by the three secondary questions shown in the diagram below.



Thus, the New Basics is viable if it:

- leads to the desired outcomes
- is or is likely to be accepted
- is feasible on some basis, both in time and space, beyond the scope of the trial.

These three secondary questions are the core of the research program in its goal to provide useful, robust and publicly defensible answers to the Minister for Education about this important trial.

4.1.1 Secondary question 1: Is the New Basics likely to lead to the changes that are wanted?

This is possibly the most important of the three secondary questions because it is the only one for which a positive answer is necessary in order to respond 'yes' to the primary question. Lack of acceptance can be addressed by consultation and marketing. Feasibility is ultimately a question of resources. If the New Basics is not found to be likely to lead to the desired changes then questions of acceptance and feasibility become irrelevant.

There are two key elements in this question: the meaning of the phrase *likely to lead to* and the identity of the concept *the changes that are wanted*.

Lead to denotes causality, as in A leads to B. In any research, causality can be problematic because it cannot be proved in any absolute sense, and is generally only provable in a more restricted sense with experimental designs involving randomisation or strict controls. Nevertheless, causality is something understood as part of people's day-to-day existence (even though the conclusions may be fallacious). It is also explicit in government, which takes actions in order to achieve certain outcomes. The function of government policy is to guide actions, and one function of research is to determine whether the outcomes intended from these actions have occurred and to what extent and, if not, why not.

The tension, then, is between an understanding of causality as a scientifically provable and deterministic concept (i.e. we can show that on this occasion A led to B, and are confident that it will do so on all similar occasions) and causality as a public policy concept. We resolve this tension by the words *likely to*, which mean that there is a level of support for the causal relationship. This support level will depend on the robustness of the research design, and will be higher for simple, closed systems open to investigation by rigorous experimental designs than for complex, integrated systems that are open at best to a quasi-experimental design. The New Basics Research Program is an example of the latter and so we are constrained to indicative and inferential designs.

An example of such a design in the medical field is the multi-centre, double blind, completely randomised crossover trial. This has the features of dealing with site-specific confounds, experimenter or participant confounds, and placebo effects.

Methodologically, we are further constrained because we are attempting to evaluate significant educational change over a very short period – change that may well take much longer for the results to be seen. Even if we were to use a design that allowed us to infer a strong causal link, the changes we seek may not yet be observable.

The other element of the question is about the wanted changes. These are improved student outcomes, improved teaching practices and improved organisational capacity of schools. Improved student outcomes, however, have primacy because student learning is the *raison d'être* for teachers. The other improvements – in areas such as teachers working together in teams and teachers having meaningful dialogue about intellectual quality – although desirable by-products of the trial, are not the reason for the trial.

Operationally, the question can be expressed as: Is there a causal link between the New Basics, as practised, and improved student outcomes? This re-statement emphasises causality and student outcomes. In terms of causality this question is understood to mean: Can we infer, to an acceptable level of certainty, a causal link? The phrase *as practised* is an important qualifier because there may well be differences between the New Basics as intended and the New Basics *as practised* (the extent to which the New Basics has been transmogrified will be explored under secondary question 2: Is the New Basics likely to be accepted?).

The New Basics as practised is unlikely to be a perfect incarnation of New Basics as intended. What we mean here is New Basics being transmogrified (literally); that is, transformed in a surprising manner.

4.1.2 Secondary question 2: Is the New Basics likely to be accepted?

Acceptance raises two issues. 'Accepted by whom?' is the first issue. The New Basics must be accepted by schools, parents, and the wider community. It must also be accepted by government, and thus relies indirectly on its being accepted by senior bureaucrats, academics, and so on. Rejection out of hand by such significant stakeholders would render the New Basics Framework unviable, even if some of its particular directions and intents were later to resurface. The reasons for rejection by stakeholders might, or might not, align with the eventual research findings.

The second issue is that the level of acceptance by the stakeholders might impinge on the viability of some particular aspects of New Basics. For example, the level of support of the New Basics by the system – itself a subject of research – might be contingent on the government's level of acceptance. Similarly, it might transpire that, for schools to enact a particular Rich Task that is highly connected to the local communities, the schools require positive involvement, not only of their students, but also of community members, which in turn might depend on the community's level of acceptance of the New Basics.

This question is about perceptions and understanding, about mechanisms and processes. The basis for answering this question is each school's journey in putting the theory of the New Basics into practice. The New Basics trial is explicitly a process of exploration and discovery.

It is also a learning and development process. We cannot know beforehand the particular conditions under which the New Basics will work well, or how those who implement it will understand the New Basics, or even what will be productive and what will be unproductive.

What we do know is that the New Basics will need to have the backing of certain players for it to have a future.

4.1.3 Secondary question 3: Is the New Basics feasible on an extended basis?

The key word here is *feasible*. Feasible means capable of being done, with the connotation of convenience and practicability in the doing. While many things are possible, fewer are feasible. The phrase *on an extended basis* is an important qualifier in how the question is put because it raises yet another question: How extended? The New Basics may be feasible only in some places or at some times, or in a limited way. It may be feasible for some students and teachers but not for others.

Feasibility is not about probability (being likely to happen). Nor is it about value (being worth doing). It is about whether something can, realistically, be done. Feasibility, therefore, is about understanding where, when and for whom the New Basics (or its components) will be practicable and achievable – the conditions under which the decision to do the New Basics makes sense.

Part of the understanding of feasibility, then, includes the concepts of cost-effectiveness and cost-efficiency. To be cost-effective, the benefits must outweigh the costs. To be cost-efficient, the approach must deliver more benefits for its cost than does another approach. For the New Basics, cost-effective means that there is a discernible benefit for its cost, and cost-efficient means identifying those individual pathways or journeys that deliver this benefit with the lesser cost. Costs and benefits could be estimated in human as well as in financial terms.

This is not the same as choosing one's own adventure. The non-negotiables for trial schools are:

- compose a three-year curriculum plan
- adopt a transdisciplinary approach
- get the research in
- have students complete all Rich Tasks for a given three-year span
- attend moderation meetings or equivalent
- report on student performance in a standardised format at the end of three years.

An interesting example is the first four flights by the Wright brothers on 17 December 1903 at Kitty Hawk, North Carolina. Each flight was longer in distance and duration than its predecessors, and the fourth was over four times the distance of the third. Until then nobody had flown a powered aircraft and the brothers were mastering flight of such a craft in the only way possible – trial and error. Admittedly, the brothers had knowledge and previous experience of flying non-powered craft (gliders) at the site. Similarly, in the New Basics, we are doing things not done before, but with knowledge and understanding of things that have been done before, and discovering what works and what does not through informed and reflective practice.

The primary research question about the viability of the New Basics can therefore be answered through three secondary questions. These questions, in turn, have subordinate questions that focus the specific activities in the New Basics Research Program. The subordinate questions and the analyses that will produce answers to them are the subject of the next section.

5 THE RESEARCH OPERATION

While the primary and secondary questions are about the big conceptual things in the research, it is at the next level that conception becomes action. This section describes the operationalisation of the secondary research questions.

Read this section in conjunction with the diagram *Hierarchy of questions in the New Basics Research Program*, presented on pages 18–19 of this booklet.

Each of the secondary questions has subordinate questions that will be answered through a set of analyses, some of which feed into answering more than one question. Although these are shown as a hierarchy in the diagram, there are interrelationships among the questions that are not made explicit here. Also, the questions are not mutually exclusive nor completely exhaustive. Many other questions could be asked, but they do not fit the pragmatic context of the program. Also, there are other questions being asked, but at lower levels than is useful to show in this diagram.

5.1 Secondary question 1: Subordinate questions

The key to answering this secondary question – Is the New Basics likely to lead to the changes that are wanted? – is to find out whether there is an association between changes in students' classroom experiences (including, perhaps, the classroom itself becoming not just a room in a building but a place that is part of the wide world) and changes in student outcomes. In other words: Is there a causal link between New Basics, as practised, and student outcomes?

Therefore, two subordinate questions are:

- Are there differences in what happens in the classroom?
- Are there changes in student performance in nature and depth?

The first of these gives rise to two more questions:

- Are Rich Tasks, as enacted, richer?
- Have pedagogic practices changed?

Richness is understood to mean requiring significant intellectual engagement; involving significant problem solving, decision making and action; and involving both transdisciplinary learning and learning in specific disciplines.

5.1.1 Analyses

Comparison of student work in trial schools and other schools

The aim of this research activity is to find out whether Rich Tasks as enacted in schools are richer than conventional devices, through analysis of actual student work from trial schools and non-trial schools.

The method of paired comparisons will be used to find out if there are discernible differences in the dimensions of richness between what happens in trial schools and what happens elsewhere.

The nature of the work submitted by schools for analysis will vary depending on whether they are trial or non-trial, and will even vary among the trial schools. This lack of uniformity might be a confounding factor if our aim were simply to determine which students (from trial schools and non-trial schools) performed better on some well-defined task. The research interest here, however, lies in comparing the students' learnings as revealed through their achievements. Comparison is still possible because, in each case, the work is a collection deemed by the school to demonstrate the substantive achievements of students over a certain period during the school year.

For trial schools, the work includes Rich Task demonstrations, achievements resulting from activities deemed by teachers to contribute to Rich Tasks, and substantive work undertaken concurrently with the Rich Tasks. For non-trial schools, it includes the work deemed by teachers to demonstrate substantive achievements of the students across the curriculum.

Analysis of values, priorities, pedagogies, curriculum evidenced by student work

The aim of this research activity is to examine the curriculum, pedagogic and assessment practices of schools and teachers, as they are actually experienced by students, by analysing actual student work from trial schools and non-trial schools.

Collections of student work from the preceding research activity will be used and subjected to qualitative analysis. The research interest this time lies in what the student work reveals about the school's values and priorities. Richness is understood to imbue all aspects of a student's experience in school so the judges in this analysis will be attempting to study results of the enacted curriculum for manifestations of these values and priorities.

The paired comparison method (e.g. David, 1988) allows for quantitative analysis of differences. People compare items two at a time and make judgments about which has more, less or about the same of a certain attribute. From a set of such comparisons an overall rank order can be generated. This method has at least two important advantages over other ranking methods. First, it replaces the potentially complex process of making judgments about many objects simultaneously or of positioning an object on a scale with the much simpler and usually more reliable process of comparing objects two at a time. Second, the set of comparisons of a single judge can be checked for internal consistency, something that cannot be done for a set of ratings against a single scale or a single rating. In this method it is neither necessary nor efficient for every judge to consider every pairing of student work; it is sufficient if pairs are allocated in such a way that links exist to allow at least indirect comparisons of all possible pairs.

Achievement refers to something accomplished or done, rather than level or standard attained. So it is about what students have actually produced.

The aim is to collect evidence, in the form of student work, of teachers having provided students with opportunities to:

- expand their base or store of basic facts and skills (mental and physical)
- engage in problem-solving activities that require them to draw selectively on basic facts and skills and then manipulate them in a critical manner
- explore how they arrive at their opinions and perceptions of the world and how this process may differ for different groups of people
- experience learning activities that draw from and integrate knowledges and skills from more than one discipline.

Replication of QSRLS observation methodology

The QSRLS investigated teaching practices and student outcomes in part by using trained observers to code teachers' classroom practices. This research activity replicates that part of the method.

This research activity focuses on understanding the pedagogic strategies employed by teachers in trial schools. It uses the same method as that used in the QSRLS.

This method allows researchers to learn more about the values and priorities that underlie pedagogy in the trial schools at the time of observation and, to a limited degree, the nature and extent of any changes in pedagogic practices of teachers in the various trial schools since they joined the New Basics Project.

According to the QSRLS, there are four dimensions of classroom practice that are conducive to enhancing academic and social outcomes for all students. The four dimensions are intellectual quality, connectedness, supportive classroom environment, and recognition of difference. There are 20 associated teaching strategies within the Productive Pedagogies, such as higher-order thinking and inclusivity.

Pedagogical change is not something that the New Basics Project assumes can happen indirectly or by association. Professional development of trial teachers in Productive Pedagogies is supported by direct in-service training courses. Also, a stated aim of the New Basics is to effect change in the three 'message systems' of curriculum, pedagogy and assessment (Bernstein, 1990). The four New Basics curriculum organisers necessitate the adoption of Productive Pedagogies; the Rich Tasks are not deliverable without significant shifts in pedagogy.

In this research activity, observations of teachers' classroom practices are made and coded by trained observers using the instruments and processes developed and employed in the QSRLS; these include the scoring manuals for Classroom Observation, Assessment, and Student Performance.

This research activity will be a longitudinal field-based study of a sample of the 38 Phase I schools. The variables of interest are change within the sample over time and change relative to the schools in the QSRLS.

Comparison of student performance on external tests

Like schools are groupings of schools that are similar according to the following three characteristics: school size and complexity (as indicated by the band level of the principal); school community socioeconomic level (as indicated by the Index of Relative Socioeconomic Disadvantage); and school cultural diversity (as indicated by the proportion of Indigenous students enrolled). The groupings are determined each year by EQ on the basis of latest available statistics.

This research activity is in two parts, each with a different aim. One part requires that we study the performance of students in standardised tests of literacy and numeracy, with the aim of comparing trial schools with other schools. The other part requires that we study students' performance in a test of higher-order thinking skills, with the aim of detecting the development of these skills.

The first part of this activity is concerned with comparing the literacy and numeracy skills of students from trial schools with that of students from 'like' non-trial schools, using standardised tests. Although the tests and their use have some limitations, noted below, they allow us to monitor performance of students at an elementary

level because we would expect that, at worst, student performance on these tests would not drop because of their experience of the New Basics.

In measuring any changes in student performance, we have the conundrum that, in undertaking the New Basics and doing the Rich Tasks, students are performing in a different domain from, and one that is not directly comparable with, what students are doing elsewhere in the State.

The standardised tests are the Year 2 Net and the primary literacy and numeracy testing program: standardised tests with results reported against national benchmarks in Years 3, 5 and 7. While these results will give us some information on student performance, there are a number of significant limitations.

One limitation is that the tests of literacy and numeracy are administered to selected student cohorts at fixed points in the students' journey that do not align with meaningful culminating points in the experience of students in the New Basics trial. For example, standardised testing occurs at Years 3, 5 and 7 but of these, only in Year 3 will students be at the end of their three-year New Basics span. Another limitation is that these tests do not measure the type of higher-order skills that are the emphasis in New Basics. A third limitation is that testing regimes of this scope and dimension yield useful data but miss more than they capture. For example, they do not provide insights into the varied achievements of students across disciplines. The suites of Rich Tasks act as a form of authentic performance-based assessment designed to assess students' acquisition of targeted repertoires of practice; hence the second part of this activity.

There is also information on student behaviour – in the form of data on suspensions, detentions, and expulsions – that will tell us something about students' experience and acceptance of schooling, and changes in manifestations of alienation.

Embedded in this analysis is a review of the extent and nature of data held within the EQ system.

Important differences between the domains in which students in trial and non-trial schools will have performed relate to the following four factors.

- In non-trial schools, the curriculum is organised according to eight Key Learning Areas (KLAs), which are based on composite fields of knowledge, each with its own content and context. In trial schools, the futures-oriented curriculum is organised according to the four New Basics categories, each of which has an explicit orientation towards researching, understanding, and coming to grips with newly emerging economic, social and cultural conditions.
- In non-trial schools, Productive Pedagogies may well be present but are not mandatory. In trial schools, they comprise one of three essential components of the New Basics Framework.
- In non-trial schools, outcomes are expressed in terms of what students are expected to know and to be able to do within a specific field of knowledge at certain stages. In trial schools, outcomes are expressed as Rich Tasks – the specific activities with real-world value and use, through which students are able to display their grasp of important ideas and skills.
- In non-trial schools, there would have been a staggered implementation of the KLA syllabuses. In trial schools, all Rich Tasks in the set were made available concurrently.

Repertoires of practice are the cognitive and cultural, social and linguistic skills that students need to develop in order to do the Rich Tasks.

Transdisciplinary skills articulate with the cross-curriculum skills of the Queensland senior curriculum.

WCTs require students, using pen-and-paper and electronic media, to:

- think quickly and accurately
- generate creative working solutions
- work systematically
- communicate their thoughts and ideas to others
- process unfamiliar information
- apply knowledge and experience to create solutions.

The WCTs are an initiative of the Excellence in Cities policy in England. The tests are intended for the top 10 per cent of the 9- and 13-year-old population. They are offered at least twice per year. The Qualifications and Curriculum Authority in London has the government remit for developing the tests while the Assessment and Qualifications Alliance in Manchester is responsible for administration and marking. Before being made available internationally for the first time in 2002, the tests were trialled and calibrated in several countries, including Australia.

Problem-solving is the type of higher-order thinking that is valued in the New Basics.

The QCS Test measures individual student achievement in 49 generic skills – curriculum elements common across the senior curriculum – and is well recognised in Queensland and overseas. Both the QCS Test and the New Basics Framework encourage the development of, and actively assess, skills in higher-order repertoires that can be transferred across the various domains of knowledge.

The second part of this activity is concerned with tracking the performance over time of students from trial schools on a suitably validated test of transdisciplinary skills. A suitable test, which can be administered to students in Years 4 and 8, is the World Class Test (WCT) in problem solving.

The analysis of data from the WCTs will provide information about:

- the development of certain higher-order thinking skills over time
- differences in student performance within and among the trial schools.

Another option for measuring higher-order thinking, problem solving and transdisciplinary skills, as foreshadowed in the technical paper, would be to devise a miniature form of the Queensland Core Skills (QCS) Test composed of suitably adapted items, and administer it to a sample of students from the Year 9 cohort of the New Basics trial.

The motivation given for developing such an instrument is the capacity for the results of the QCS Test to be used to triangulate the other information about student performance emanating from the trial. This is seen as particularly useful should concerns be expressed about fairness (e.g. lack of comparability, cheating, lowering of standards).

5.2 Secondary question 2: Subordinate questions

This secondary question – Is the New Basics likely to be accepted? – gives rise to two subordinate questions:

- How do stakeholders perceive and understand the New Basics?
- How do stakeholders perceive the process of implementing the New Basics?

The second of these questions is partly answered by the answers to the question:

- What are the factors – both barriers and facilitators – that appear to have a significant effect on how, and how successfully, the New Basics was implemented?

The analyses underlying the question about acceptance are primarily qualitative, exploring as they do the voices and concerns of various stakeholders. We are answering this question by considering how stakeholders perceive and understand the New Basics since this is essential to long-term, informed acceptance. As well, we are considering how stakeholders, especially educators, perceive the process of implementing the New Basics. In doing so we are also considering what factors have a significant effect on the

implementation of the New Basics. These factors may be barriers to implementation or they may be facilitators.

5.2.1 Analyses

Discussion list discourse analysis

A discussion list operates when people in an interest group subscribe to a list-server, known as a listserv. An email sent to the listserv is automatically distributed to all subscribers (this is known as posting). Lists may be restricted in various ways: by screening the items posted, by limiting the types of matter posted (e.g. text only), or by restricting subscription.

The FRAMEWORK list is an open list for all who have an interest in the New Basics; the NEWBASICSPRO (for the New Basics Project) list is for principals of New Basics schools, interested teachers, and staff of the NBU within Central Office; and the CRITICALFRIENDS list is for critical friends and NBU staff.

In the early stages of the New Basics trial, three email-based discussion lists were established. All postings are archived and are available for analysis as research data. The topics of conversation may be analysed simply to identify positions and points of view (i.e. what has been said on the list, by anyone, about the New Basics), but may also be mapped across time and across groups of participants.

This analysis may help identify how understandings of key concepts have developed over time, or are different for different groups – or have developed differently over time within different groups. Problematic matters such as the heterogeneity of the various groups and the representativeness of the various participants need to be taken into account. The extent to which the discussion lists have been constructively used at all may be analysed as an indicator of the success of the key implementation strategy of teacher dialogue and exchange, supported by targeted use of electronic communication.

Critical friend review

EQ provides targeted additional funding to trial schools for the employment of critical friends. Trial schools appoint critical friends to:

- undertake school-level research
- assist school teams in writing school-specific documentation
- assist school management teams in the process of pedagogical reform
- provide advice and strategic recommendations to the NBU on a wide range of implementation issues.

The role of critical friends in the New Basics trial is a crucial one. It has implications for the professional development of teachers, local curriculum development, the collection of school-based research data, and funding. The model of critical friend adopted in the trial has given considerable flexibility and responsibility to schools and to critical friends themselves. Information about how the flexible possibilities of the critical friend role have been realised across the range of trial schools, as well as indications of the success and accountability of the undertaking in different schools, may be obtained from focused discussion groups of principals and critical friends, from surveys of stakeholders, and from the records kept by NBU staff on school visits and during other communications with the schools.

Analysis of messages and text

The New Basics trial involves a complex system of communication, in which many meanings are created, communicated, perceived, implemented, adapted, restated and responded to. Texts produced both within NBU and within schools (texts being understood in a broad sense) may be deconstructed in a critical discourse analysis to illuminate the diverse perceptions and social actions within the

New Basics schools. In particular, the social factors within different schools that influence the ways that the key messages of the New Basics are perceived and acted upon may be identified.

Analysis of structural and organisational change in schools

The New Basics Framework recognises that significant change at the school level requires certain cultural, administrative and educational resources, and is in agreement with Fullan (1993) that educational reform initiatives that focus initially on reculturing lead to restructuring that is more effective and sustainable than those that do not. The question of whether schools entered the New Basics trial with the capacity to set enabling conditions for reform, and the degree to which this capacity in schools has been strengthened in the course of the trial, is important in charting the progress of the New Basics. Baseline data about the existing climate of change at the start of the trial may be obtained by a survey of school staff based on Fullan's eight 'change lessons'. Subsequent information about organisational change may be obtained in the course of the trial through case studies.

Analysis of support to schools

This analysis focuses on the support provided to, and requested by, schools. This analysis will draw on multiple data sources including the following:

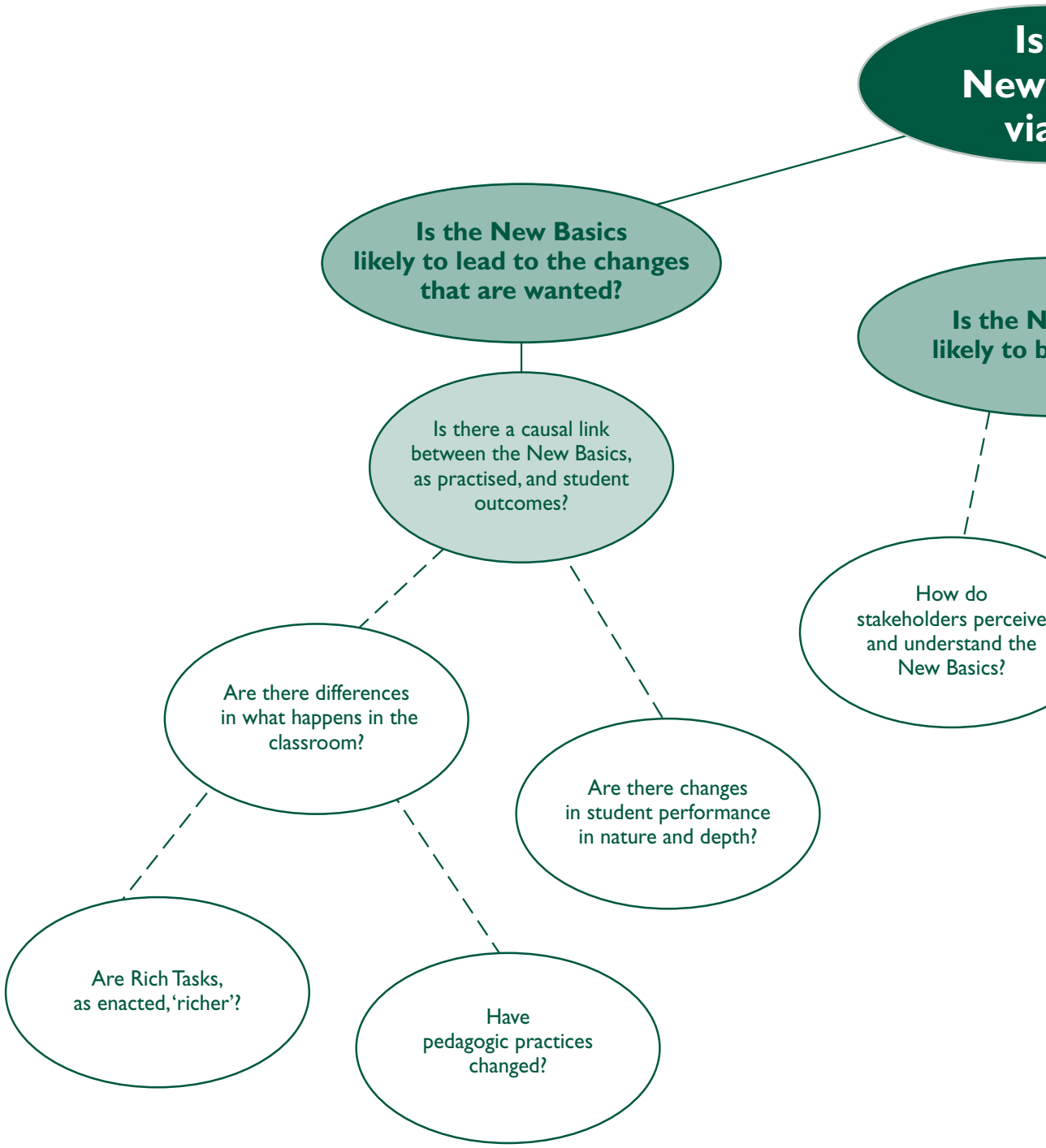
- record of visits to schools by staff of the implementation team
- record of formal requests for school support and the responses to those requests
- professional development activities in protocols, Productive Pedagogies, Rich Tasks, assessment and moderation
- principals' forums
- public forums such as the colloquium held early in the trial
- case studies
- structured interviews with school personnel.

5.3 Secondary question 3: Subordinate questions

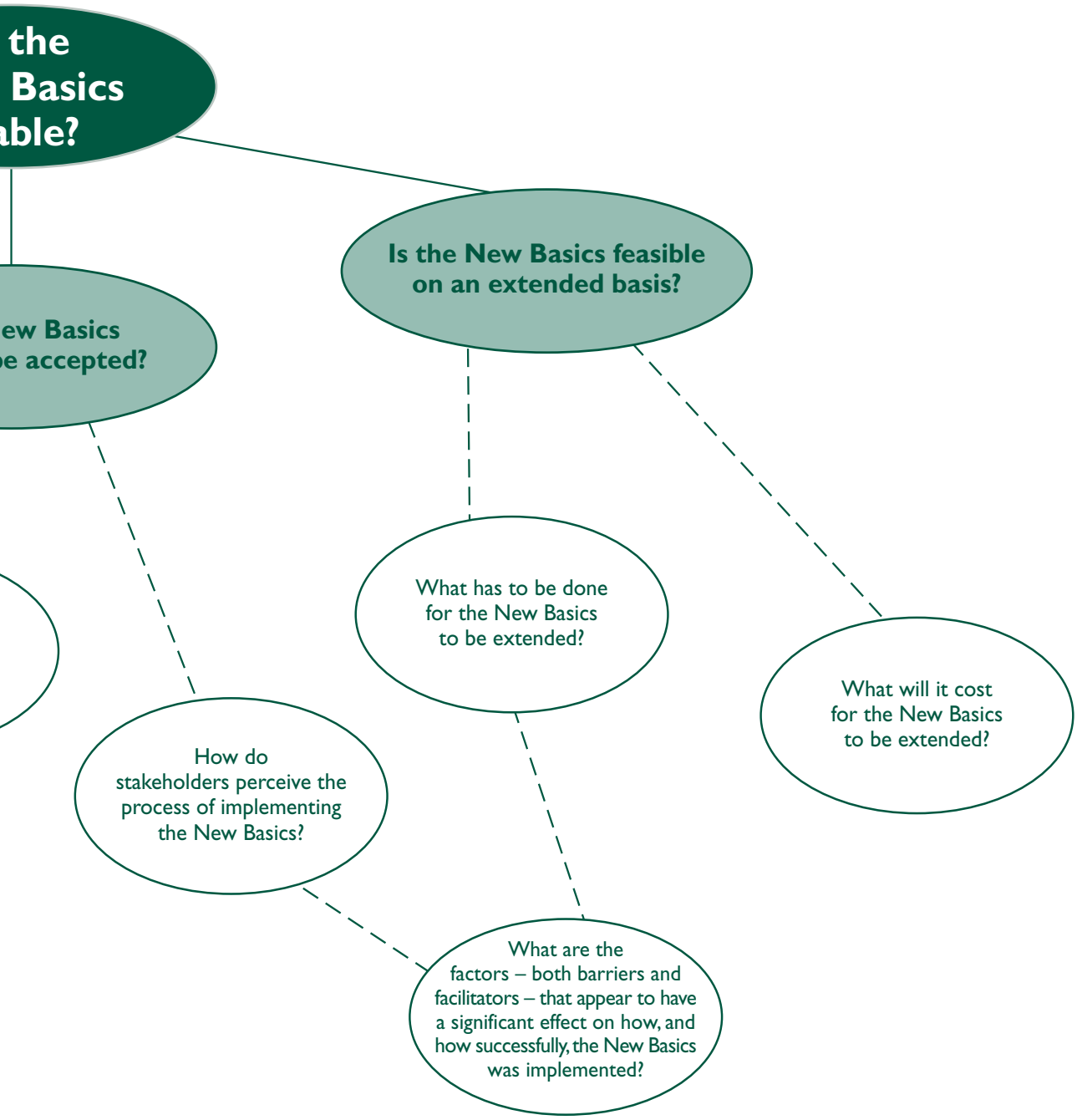
This third secondary question – Is the New Basics feasible on an extended basis? – gives rise to two subordinate questions:

- What has to be done for the New Basics to be extended?
- What will it cost for the New Basics to be extended?

HIERARCHY OF QUESTIONS IN THE



NEW BASICS RESEARCH PROGRAM



The first of these subordinate questions links to the question related to the second secondary question and restated here: What are the factors – both barriers and facilitators – that appear to have a significant effect on how, and how successfully, the New Basics was implemented?

This particular secondary question is arguably the most complex of the three because it is about prediction and extrapolation rather than just explanation and interpolation. It is also the question that places the system itself under examination.

We will ask what has to be done to extend the implementation of the New Basics Framework beyond the trial schools. This will be answered through the questions about influencing factors and through reviews of the content and processes developed as part of the trial such as Rich Task assessment and moderation. We will investigate whether the system has the capacity to support the New Basics by looking at issues that were raised during the schools' journeys: support or assistance requested but not provided, support or assistance needed but not accessed, and support or assistance unidentified at source.

We will also need to ask about the preparedness or capacity of the system to adapt to or cope with the New Basics. In this light, it is not only the New Basics trial and the participating schools that are legitimate areas for observation. EQ's processes, practices, procedures and culture are also under the microscope, together with the prevailing attitudes within Queensland society about curriculum, teaching, assessment and standards.

Most of the analyses and data sources that will contribute to answering this question have already been covered. In conducting these analyses we will look at both what has to be done to extend implementation and how this is perceived.

5.3.1 Analyses

Cost analysis of trial and extension options

The question of cost is intimately linked to the nature and extent of the proposed extension. Cost will in part be determined by considering what the trial cost, both directly through analysis of the disbursement of the New Basics Project budget and indirectly through an analysis of opportunity costs – of things forgone – and of what really defines a New Basics school.

The cost analysis of the trial will need to consider the costing for the New Basics trial outlined in the originating documentation. This included the establishment of a unit with a director supported by an eclectic constellation of professional and administrative personnel, including consultants. The original cost analysis also included meetings of a board of studies and annual evaluations by an independent panel. It was envisioned that the critical friends would support district directors in servicing trial schools. The cost analysis in the research report will describe and account for changes to the original concept, and how this will affect extension options.

The cost analysis will consider the question of effectiveness as outlined earlier, which is essentially whether the benefits outweigh the costs: is the New Basics something worth paying this much for? If effectiveness is established, the next question is about efficiency, which involves a consideration of the extension options, their relative costs and their relative benefits.

The cost of extension options will have to take into consideration system-wide activities; for example, the extension of Productive Pedagogies training to all schools, and that the New Basics schools would not require funding for KLA syllabus implementation. This foretokens a cost saving in the former and an opportunity cost in the latter due to the forgoing of materials and implementation costs. In addition, the answer to the question – Is the New Basics likely to be accepted? – may lead to other activities being undertaken in a mooted extension in order to achieve acceptance.

A consideration of costs will also look at the potential for cost-recovery from materials developed that meet other EQ needs, or have a commercial value beyond EQ, and of the synergies that may result from, for instance, the relationship of New Basics research and development activities to EQ's assessment and reporting agenda in general.

6 THE RESEARCH APPROACH

The goal of the New Basics Research Program is to provide useful, robust and publicly defensible answers to the Minister for Education. This section outlines both the methodological principles and considerations that underpin the research design, and the utilisation of schools in the research program as the two features that will enable this goal to be achieved.

These features help ensure the academic integrity of the research program. The treatment of the research questions, and the way they are being answered, has already shown that the program is capable of giving unpalatable answers, which is another indicator of academic integrity.

6.1 Methodological principles and considerations

The design of the activities in the New Basics Research Program was guided by the following principles and considerations.

- Research methods should be robust.
- Ecological validity should be considered.
- Findings should be based on multiple types and sources of data.
- The program design should be dynamic, iterative and responsive.
- Research endeavours should represent internationally recognised good practice.

Each of these is now discussed in more detail.

Robust methods

We use the term *robust* in the same sense that it is used in 'robust estimators' in statistics; that is, that the estimators are not subject to the influence of small numbers of discrepant data points. Robust also means that the results are not subject to the influence of a particular analytical framework. For our methods to be robust, we must remain alert to the leverage that individual elements can exert.

Ecological validity

Ecological validity is about the question: Is what we are observing what is or would be seen elsewhere? One sense of ecological validity concerns the representativeness of the trial; another is about perceptions and understandings (e.g. Schmuckler, 2001).

Representativeness relates to the extent to which the trial can be generalised or transferred to a broader context. It can become an issue, for example, where there is a high level of support, participants have been carefully chosen, and participants are aware that they are special and part of something of moment. Effects will be seen that would not be seen elsewhere, not because the effects were spurious, but because the conditions will not be replicated.

Perceptions and understandings (see above) refer to objectivity and subjectivity, whether what people perceive to be indicators or causes truly are such. It can become an issue, for example, when analysing information about barriers and facilitators. This requires an

understanding of deep, unreported relationships as well as shallow, reported ones, and an acknowledgment of the possible mismatch between stated reasons and unstated motivations.

Ecological validity is dealt with in part by taking a representative – though preferably random – sample of schools and being aware of, and explicit about, the biases inherent in any behavioural situation where the act of measurement or observation might affect the observed behaviour.

Any attempts at generalisation from the trial to the system must take into account the effects of being selected to be in the trial, the level of support actually offered and that can possibly be offered, and other factors that, in ways not always apparent, might affect the broader implementation of New Basics.

Multiple sources

Our commitment to the principle of multiple sources recognises the complexity of the questions we are asking and the well-established scientific principle of replication. Using multiple sources is another way of ensuring that our methods are robust.

Our research questions are complex and no single source or approach is likely to provide the complete answer. Rather, the answer will be a synthesis from several sources – it might arise from the integration of several data sources or from several research projects within the research program.

An illustration of the necessity for replication is the cold fusion result reported by Fleischmann and Pons in 1989. Because these results have not been reliably replicated, they lack credibility in the scientific community and in the broader community.

The use of multiple sources strengthens our approach in another way. Replication is the cornerstone of sound scientific research, a way of removing the unthought of or unmeasured biases that may influence research results. Replication can mean achieving similar results (or results that are different but explicable within the research framework) in different places or at different times or with different people. Replication can also mean that different researchers achieve similar results.

Quantitative data can include performance by students within classes, within schools, and within districts. Multi-level modelling can partition variance in student performance into these different sources in order to infer the relative effects.

Quantitative data can be used to develop and test models about the influence of factors in schooling on student outcomes.

With a rigorous experimental design we can make strong inferences about what will happen in the population from relatively small samples.

Multiple methods

Our data sources are both quantitative and qualitative.

Quantitative data are, broadly speaking, numerical measures or counts of things such as student achievement or the incidence of student behaviour. Quantitative analysis is often grounded in statistical inference; that is, making statements about the probability of something in the population based on its occurrence in a sample. Quantitative analysis also allows sophisticated modelling of the causes and nature of variation.

Quantitative data are being gathered from as many sources as possible, including what might be called system data, because they are data collected or available within the EQ system; performance data from the WCTs and, eventually, from Rich Tasks; and data from the QSRLS.

A key concern of the New Basics Research Program is tracking student performance over time, with reference to baseline data.

Baseline data refers to data extant when the New Basics Project began, including data collected independently of the project.

As an element of the New Basics Research Program, the key issues with baseline data are:

- identifying what data are available about trial and non-trial schools, and about their students and their achievements
- whether those data are available at a time and in a form that is useful for answering questions in the research program
- critiquing the data with a view to developing strategies to resolve any deficiencies as far as the research program is concerned.

Additionally, quantitative data will be sought as the trial plays out, and when they are necessary to answer the research questions.

Qualitative data are non-numeric, often gathered through interviews, observations, questionnaires, focus groups or the like. Qualitative analysis looks for themes or patterns in the data.

Two examples of the uses of qualitative data.

A principal, in talking about the organisation structure of the school, comments on how things had to change when a particular staff member who had been training all the other teachers in New Basics had, unfortunately, left the school.

This comment reveals that a process was in place in this school for professional development of all teachers in the school, and that the principal put a high priority on both this and teacher involvement in New Basics implementation.

A routine phone call to a teacher in a trial school reveals that, whereas teachers in that school who were involved early in the implementation were made familiar with New Basics via the published literature, a number of recent arrivals in the school had slipped through an information gap.

This information might help account for why other research shows that the levels of teacher engagement with New Basics in that school are unusually disparate, and also point to what intervention might be useful.

There are many sources of qualitative data within the New Basics Project. Qualitative data sources will offer valuable insights into the opinions and perceptions of a wide range of stakeholders such as teachers, parents, employers, and other members of the community who have been involved in the implementation of the New Basics at school level.

Direct sources of qualitative data are interviews, questionnaires and focus groups conducted specifically for the purpose of answering one or other of the research questions.

Another available data source is the critical friends network. From the beginning of the trial, there was the expectation that critical friends would contribute to the research in ways above and beyond that formalised in their role description and that they, therefore, might become data sources. Since each is an adviser chosen by (at least) one particular trial school to, among other things, monitor, critique and assist the school in implementing the New Basics, critical friends are well positioned to present illuminating case studies that synthesise their observations, experiences and thoughts.

Dynamic, iterative, responsive

The New Basics Research Program has to be dynamic and able to change because it is not possible to foresee all significant questions in advance, owing to the fact the project has a developmental aspect as described earlier. Questions will arise as paths are pursued and then found wanting, and as unpredicted incidents and moments occur. The developmental paths are an internal matter; that is, they are a function of the work produced within NBU and within schools. Many of the unpredicted incidents are externally imposed. For example, they might be a function of the political landscape. Either way, it is not possible to know what questions will arise, but it is possible to anticipate questions along the way.

Again, because the New Basics Project is developmental, the New Basics Research Program is iterative, asking the same question several times, at different levels or in response to changes.

Finally, the program is responsive, not only to the changes along the way but also to the needs of the participants in the trial and to the needs of the trial's broader audience.

International good practice

It has already been stated that the New Basics trial is a far-reaching exploration of things of consequence, of ways in which equity, futures, and new technology issues may be dealt with in education. The conduct of the trial and the results that it yields will be closely followed within the international community of educational researchers.

In our endeavours, we must achieve the standard of internationally recognised good practice. There are two reasons for this: one, because important decisions about the future of education in this State will be based on how we answer the research questions; two, because the New Basics trial stands on a world stage.

The immediate audience for the results of the trial is the community that owns it. Beyond that are educators and policy makers elsewhere who will benefit from our experiences, whether positive or negative, and who can be assured of the credibility of the findings because of the quality of our methods and approaches.

6.2 Using schools in the research

The trial schools

The trial schools are listed in Appendix 2.

The trial schools, together with their communities, are the arena in which the New Basics trial is played out, and thus the empirical base for most of the New Basics Research Program.

A wide cross-section of schools was included in the trial. As already stated, the trial proper began in 2000 with the Phase I schools and it is from those 38 schools that most of the foundational research results will emanate.

Urban schools are within 75 km of a centre with 10 000 or more residents.

Rural schools are more than 75 km from a centre with 10 000 or more residents.

Remote schools are those that satisfy EQ's criteria for travel time and distance and have a level 7 transfer rating for teachers.

In Phase I, these are the Cairns Consortium, Charters Towers Alliance, Suncoast Cyberschools – a political solution to a funding issue.

There are schools classified by EQ as urban (e.g. Kelvin Grove State College and Eagleby SS); rural (e.g. Mackay Central SS); and remote (e.g. Aurukun SS and Hopevale SS).

While the aim was to have a representative sample, the sample is not random and so does not have the characteristics that allow probabilistic inferences to be made about the population.

The role of clusters

The trial involves not just individual schools but also clusters of schools.

Probabilistic inferences cannot be drawn because of these deliberate clusters – in addition to the 'naturally' occurring clusters that arise from the geographic organisation of EQ into districts – so that the implementation can be viewed at two levels: the school and the cluster. One benefit of clusters is that we can see how schools that have close relationships – in many cases pre-existing ones – interact with and support each other in a process of reform. But the clusters do not mean that we can treat these schools, for research purposes, as multiple versions of the same thing, since in other, less apparent respects, such as the level of teacher support in a school for implementing New Basics, the schools can still be very different.

Information to be gained

The schools will provide two very different classes of information about the nature of students' experiences of the New Basics.

One class of information is the data necessary for conclusions to be drawn about the effects of the various factors on the implementation of the New Basics. This will typically be at the student level and concern student outcomes.

The other class of information will be about the background and context to the students' experiences of the New Basics, summarised in the term *school profile*. This type of information can be classified according to the variables in the research base.

The school profile includes geographical location, school size and complexity, and the school community's socioeconomic level. As well, the profile includes information on the nature of the school population, especially target groups (e.g. Indigenous, NESB or ESL students), which links to the Equity Premise. (To this end, it should be noted that the Phase I schools include special schools, schools with a high proportion of ATSI students and a school of distance education).

Non-English-speaking background

English as a second language

A principled selection and pedagogical provision of important, common learnings should address the economic and cultural aspirations of the most at-risk and culturally diverse communities (see page 4).

Special schools provide highly specialised and individual programs to meet the diverse educational needs of students with intellectual and physical disabilities, and employ a range of staff including teachers, speech therapists, occupational therapists, physiotherapists and nurses.

Aboriginal and Torres Strait Islander

These are not the only variables that might be thought, *a priori*, to be important when it comes to investigating how, and how successfully, the New Basics was delivered in schools. For instance, it could be argued that style of school leadership and academic background of teachers would affect the implementation of the New Basics. These sorts of factors cannot be established definitively, especially before the event, in the same way as can, say, school location. There might be some critical attributes of schools, associated with degrees of improvement of student outcomes via the New Basics, that cannot be predicted and can only emerge later from the research. So that the effects of such factors could be researched, the selection of trial schools needed to incorporate schools that were likely to be diverse when it came to these other sorts of factors that are also part of their overall profile.

Comparison schools

Although EQ has a method for determining 'like' schools, it may not always be appropriate to use that method of classification when comparing schools as part of this project.

Knowledge of sample school profiles allows the research program to select comparison schools that are matched in some respects to the trial schools in order to investigate the counter-factual: what would have happened had the New Basics not been implemented? These schools have similar profiles, which means they are similar in many ways, not just one. The task of matching pairs of schools that are similar becomes part of a research task.

Inferring the counter-factual from comparison schools has some problems. One is the presumption that the comparison schools are unaffected by the trial. Another is that the act of observing will affect the behaviour that is being observed; what we see in schools, whether trial or comparison, may to some extent be an artefact of the research program. These are issues that we should keep in mind as features of research in the real world, but that are not necessarily, or usually, threats to the validity of our process.

The principal's role

The critical role of the trial schools in the research program is reflected in the requirement that principals of schools who volunteered for the trial commit to supporting the research program. This includes giving researchers easy access to the school, its staff and its databases. The trial school communities are expected to support the research by sharing their experiences, observations and views as they develop an understanding of the significance of the trial for their schools and for Queensland state education, and knowing that the research provides them with a great opportunity to influence the future directions these take.

The school's commitment

For all trial schools, participation in the New Basics trial means being quarantined from the rest of the system and receiving considerable funding in terms of school grants for the Teacher Relief Scheme, professional development, critical friends, and access to sophisticated learning and development programs.

Trial schools are not required to complete some curriculum, assessment and pedagogy tasks associated with curriculum approaches other than those associated with the implementation of the New Basics Framework, except for participation in the primary literacy and numeracy testing program. This allows school communities to focus on the development and implementation of classroom approaches consistent with the framework.

Participation also means a commitment to the following: doing all the Rich Tasks for the relevant three-year span(s); participating in the research program; reporting in 2003; incorporating a transdisciplinary approach to teaching and learning; composing three-year curriculum plans planned backwards from the Rich Tasks; and attending moderation meetings or equivalent.

Moderation is a set of processes designed to achieve comparability of grades assigned to student work, across judges (teachers) and across sites (schools or regions). Comparability, in turn, means that standards are applied consistently across the State so that student performances of equivalent standard are recognised as such. Moderation involves contextualised teacher judgments and a system of verification of school decision making. Moderated assessment enhances teacher and community confidence in the reliability of reported results.

The approach to implementing the New Basics Framework in schools is not mandated, beyond the commitments outlined above. Schools develop unit plans and curriculum plans to suit their circumstances; schools decide when and how to complete Rich Tasks in accord with the task specifications; and schools decide how to teach and timetable and so on.

The choice of whom to employ as a critical friend and how to use that person was left to individual schools and clusters, in part to emphasise school ownership and in part to allow a variety of models to develop.

A feature of putting the New Basics into practice is the freedom of action by schools to develop their own path on the journey that is the New Basics trial. The key reason, apart from the desire to empower schools and encourage teachers, is that the New Basics is based on an assumption that successful reform requires substantive commitment to change, evidenced by teachers and school administrators being active participants. This shared ownership model leads to a dialogic implementation relationship – rather than

a centrally driven command relationship. The research should provide us with answers to the question about the effectiveness of this 'steering from a distance' model (Lingard, Knight & Porter, 1995).

One view of a trial such as this – the experimental view – would hold that we should attempt to control as much as possible in order to determine the outcomes of that which we allow to vary. This view, while admirable and the basis for sound science, does not allow for the very richness and sense of inquiry, exploration and problem solving that is immanent in the New Basics. Also, the view does not take into account the nature of schools and schooling – it is a naïve educational innovator who believes that a plan will not be transformed in surprising ways, that schools will do what they are asked without question, or that she or he knows the 'best' way to implement the grand scheme. Rather, the wise innovator accepts that schools will interpret and adapt, with, it is hoped, the best interests of student learning at heart.

7 RESEARCH MANAGEMENT

7.1 Framework Research Advisory Group

The Framework Research Advisory Group first met on 23 March 2000 because it was always an aim of the NBU that the key elements of the research program would be designed well before the first student cohort experienced the New Basics. Although 2000 was the first year of the New Basics Project, it was a year before students were exposed to the new framework for curriculum, pedagogy and assessment.

The aim of establishing the Framework Research Advisory Group (FRAG) is to ensure that an independent expert group guides the research program. The importance of such a group as a guide to the goal of achieving international best practice was appreciated early in the conception of the New Basics Project, and its existence is fundamental to the trial.

FRAG comprises renowned educational researchers drawn from academic institutions, and independent of EQ, plus the director and research staff of the NBU in its various manifestations.

Reconstruction of curriculum, pedagogy and assessment needs to be explicitly guided by documented analysis and rigorous discussion of current school practices.

The primary function of FRAG is to steer the research conducted by the NBU of the ANBB, with full regard to the foundational Research Premise. This group meets regularly and considers all aspects of the research program.

Owing to the independence of the external members of FRAG, the educational community has every reason to be confident that the New Basics Research Program and its findings reflect the intent of this Research Premise.

As well as the broad conceptual role of guiding the overall design of the research program, FRAG also acts in a technical advisory capacity on topics such as:

- methodology and instruments for various individual research projects
- underlying trends in research data
- appropriate follow-up actions from analyses
- decisions about whether to and when to communicate certain research results to schools to best help them in their quest for improved student outcomes and teacher practice.

As well as providing this technical advice, FRAG also acts as a sounding board for the branch's director when formulating policy and deciding the most cost-efficient way to conduct research within a limited research budget.

FRAG is also one of the forums in which the 'rigorous discussion of current school practices', as demanded by the Research Premise, takes place. The records of FRAG meetings themselves become a source of information in the research process, and FRAG becomes a research topic itself.

7.2 Research team

The New Basics Research Program requires many skills and talents. Some are available within the NBU; some are not. The principle underlying who conducts the research is that appropriate expertise should be used wherever it can be found, and whenever the situation demands it.

The research team within the NBU is a small group of people with skills and experience in education, educational research, and educational measurement. This team, whose membership changes from time to time, is responsible for managing and reporting on the research program. Sometimes external contractors are engaged to carry out aspects of the research program.

7.3 Research results

At the end of the trial proper (i.e. at the end of four years for Phase 1 schools), the results of the research will be made publicly available in a definitive report that is both comprehensive and integrated.

As the trial progresses, and in keeping with the principle that the New Basics Project is truly a trial, the Director, Assessment & New

Basics, provides interim findings on an ongoing basis to the Minister for Education and the Director-General.

It might be the case that, along the way, some of these preliminary results are also reported to schools in order to help schools in their quest for improved student outcomes and enhanced teacher practice, to share the rationale for certain decisions taken that affect how New Basics implementation is to unfold in schools, and to provide feedback on student or school performance on, say, WCTs or Productive Pedagogies coding.

7.4 Links to other EQ projects

The New Basics Project is essentially about reform: reform of curriculum, pedagogy and assessment, and of the support given by schools, communities and the system. This is emphasised by the fact that the New Basics Research Program has its own integrity and is conducted independently, even independent of other arms of EQ research. Nevertheless, the research data and results have the potential to link to current projects and future initiatives involving EQ.

7.5 Snapshot of the research

Like the QSRLS, the New Basics Research Program focuses collectively on four areas:

- students
- teachers
- schools
- communities.

These four focus areas draw on the four domains advanced by the University of Wisconsin's Center on Organization and Restructuring of Schools (CORS) in its reform project, which looked at how changes in school organisational capacity enabled changes in authentic pedagogy and improvement in student outcomes (Newmann & Wehlage, 1993; Newmann & Associates, 1996).

These four focus areas, with slightly different names, are used to develop headings for a summing up of the New Basics Research Program. Each of the planned research activities can be assigned to one or more of these four areas:

- curriculum, assessment, outcomes
- pedagogy
- organisation
- community.

The New Basics Research Program contains additional elements to reflect the fact that the four focus areas are in relationship with an educational system.

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APPENDIX 1: External evaluation

EQ has appointed an educational researcher with experience in dealing with curriculum design and complex organisational change to conduct an independent evaluation of the New Basics.

The three central questions the evaluator will ask are listed below.

- What are the strengths and weaknesses of the New Basics in improving students' learning outcomes and teacher practice?
- How viable is the New Basics for extending its implementation past the trial and beyond the trial schools, and should such extension be system-wide or restricted?
- What are the areas of the New Basics and its implementation that require further research by means of supplementary research projects?

Much of what the external evaluator determines will be based on what he finds out first-hand by visiting trial schools. He will cover rural, remote and urban locations. In making his determinations, he will also draw on various other sources.

The evaluator was also invited to review and comment on the New Basics Research Program while investigating the three central questions. In the process, the evaluator will be in a position to observe the extent to which the New Basics has been transmogrified in trial schools, and to provide a critical review and commentary of the research program that complements the advice given by FRAG. Most importantly, he will provide advice on the extent to which the critical interpretations of the data made by others managing the research projects align with his interpretations.

Two interim evaluation reports (in 2002 and in 2003) will be presented, and these will allow his early findings to be taken into account as the research program develops, and as EQ considers its strategies for the future in more detail. The final evaluation report is due by the end of April 2004, soon after conclusion of Phase 1 of the trial.

The evidence upon which the evaluation is based will be examined during 2002 and 2003, using Phase 1 schools (see Appendix 2: Trial schools). Only these schools contain student cohorts who will have experienced a full three-year span of the New Basics Framework by the end of 2003, and who will have undertaken the suite of Rich Tasks for their particular three-year spans.

The evaluation will concentrate on how these schools and cohorts have been touched by the implementation of the New Basics.

Documents and data

- papers relating to policy-making decisions of EQ's Strategic Management Team (SMT), (formerly the Executive Management Team)
- published documents of EQ
- published documents of ANB Branch
- ministerial and Director-General briefings
- budget papers (e.g. budget bids for project)
- media releases and coverage
- research findings and documents of ANB Branch and FRAG
- reports from occasional research projects apart from the official research program
- all datasets and associated analyses.

Personnel

- principals, teachers, students of trial schools
- critical friends
- executive directors schools (formerly district directors)
- parents of students in trial schools and other members of the school community
- staff of EQ, especially ANB Branch and SMT
- members of FRAG.

APPENDIX 2: Trial schools

Phase 1

Individual schools

Aurukun State School
Buranda State School
Eagleby State School
Goondiwindi State High School
Helensvale State High School
Hopevale State School
Inglewood P-10 State School
Kelvin Grove State College
Kenmore State High School
Mackay State High School
Mackay Central State School
Maryborough Special School
Mountain Creek State High School
Mt Gravatt West Special School
Thabeban State School
The Willows State School
Thursday Island State School

Clusters of schools

Cairns Consortium
- Cairns West State School
- Edge Hill State School
- Parramatta State School
- Woree State School

Charters Towers Alliance
- Charters Towers School of Distance Education
- Charters Towers State High School
- Charters Towers Central State School
- Millchester State School
- Richmond Hill State School

Suncoast Cyberschools
- Burnside State High School
- Burnside State School
- Chevallum State School
- Eudlo State School
- Glenview State School
- Mapleton State School
- Mooloolah State School
- Montville State School
- Nambour State High School
- Nambour Special School
- Palmwoods State School
- Woombye State School

Phase II

Individual schools

Belmont State School
Boonah State High School
Dalby State School
Eatons Hill State School
Gladstone State High School
Healy State School
Taabinga State School
Varsity College
Woree State High School

Multi-campus college

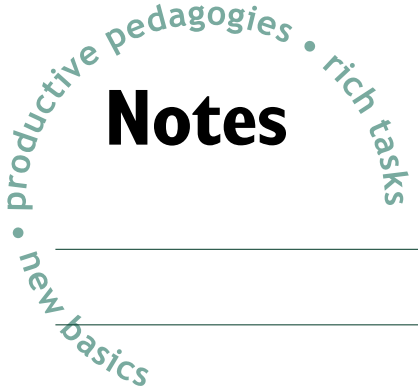
Western Cape College

Clusters of schools

Biloela Cluster
- Biloela State School
- Goovigen State School
- Jambin State School
- Thangool State School
- Mount Murchison State School
- Prospect Creek State School

Calamvale–Algester Alliance
- Algester State School
- Calamvale Community College

Western Downs Rural School Alliance
- Brigalow State School
- Condamine State School
- Dulacca State School



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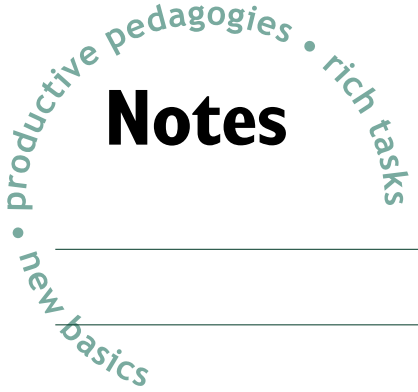

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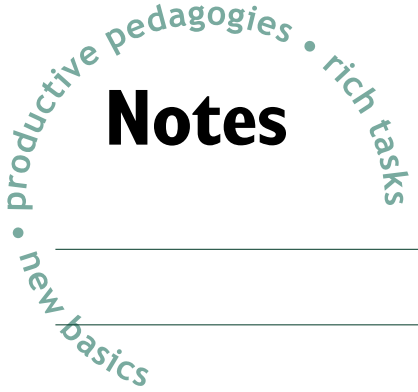

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