EDUCATION REVIEW OFFICE
TE TARI AROTAKE MATAURANGA

Literacy and Mathematics in Years 9 and 10: Using Achievement Information to Promote Success

July 2012

Ko te Tamaiti te Pūtake o te Kaupapa

The Child – the Heart of the Matter

Published 2012

Education Evaluation Reports
ISBN 978-0-478-38922-7 (MS Word)
ISBN 978-0-478-38923-4 (PDF)
ISBN 978-0-478-38924-1 (HTML)
ISBN 978-0-478-38925-8 (pbk.)

ERO reports are published on the ERO web site – **www.ero.govt.nz** – and are available from the Education Review Office National Office, Box 2799, Wellington 6140.

We welcome your comments and suggestions on the issues raised in these reports.

Foreword

The Education Review Office (ERO) is an independent government department that reviews the performance of New Zealand's schools and early childhood services, and reports publicly on what it finds.

ERO's whakataukī demonstrates the importance we place on the educational achievement of our children and young people:

Ko te Tamaiti te Pūtake o te Kaupapa
The Child – the Heart of the Matter

In our daily work we have the privilege of going into early childhood services and schools, giving us a current picture of what is happening throughout the country. We collate and analyse this information so that it can be used to benefit the education sector and, therefore, the children in our education system. ERO's reports contribute sound information for work undertaken to support the Government's policies.

This evaluation looked at how effectively schools use literacy and mathematics achievement information to improve learning for Years 9 and 10 students. The evaluation found that improvements are needed in most secondary schools' practice with these students. It identifies the actions which school leaders, boards of trustees and teachers can take to help Years 9 and 10 students to be engaged, active and successful learners.

Successful delivery in education relies on many people and organisations across the community working together for the benefit of children and young people. We trust the information in ERO's evaluations will help them in their work.

Graham Stoop
Chief Review Officer
Education Review Office

July 2012

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OVERVIEW

Overview

Years 9 and 10 are vital years in students' schooling. It is in these years that students build on and consolidate their learning from the primary school years, and lay the foundation for their future success in the senior secondary school, and their post-secondary lives. In this report ERO evaluates how effectively schools use literacy and mathematics achievement information to improve learning for Years 9 and 10 students. Data was collected in 68 secondary schools throughout New Zealand in 2011 as part of the regular ERO reviews of these schools. Underpinning the project was ERO's interest in how assessment information for students in Years 9 and 10 was used to plan, implement and review the curriculum at key transition points, and throughout the year.

In an earlier report, ERO noted[1] that "unless teachers are knowledgeable about their students' achievements and interests, they cannot be confident their teaching is supporting students to achieve their potential". Gathering, analysing, interpreting and using assessment information to respond to students' identified next learning steps is the foundation of effective teaching. Without doing all of these things, teachers are not likely to provide programmes that meet students' needs, strengths and interests. They will not lift the achievement of all students, or accelerate the progress of students who are not doing well in school. Poorly designed programmes can have a serious impact on the engagement of students, and this in turn impacts on students' achievement and progress.

The overall findings indicate that the situation for Years 9 and 10 students is somewhat bleak. Many schools did not have well-established processes for using assessment information to help students learn. Generally, information gathered at transition points was not used well by teachers to identify what students already knew, and what teachers and students needed to work on next. Limited information was gathered throughout the year that told teachers how well students were achieving and progressing, or how effectively classroom programmes were improving students' learning. Some of our most vulnerable students – Māori and Pacific students, those from low socio-economic backgrounds, and students with special education needs – are not getting the responsive and focused education they need to be successful at school and in their later life. These are our priority learners.

Boards of trustees typically knew little about the achievement of students in Years 9 and 10, and were seldom involved in making decisions about resourcing for improving students' learning. Very few schools set improvement targets for Years 9 and 10 students. Hampering trustees' involvement was a lack of timely and useful information from school leaders. Knowing about, and planning to raise the achievement of priority learners, is critically important if these students' progress is to be accelerated.

1 ERO (2007) The Collection and Use of Assessment Information: Good Practice in Secondary Schools.

ERO found that only a small number of Years 9 and 10 students experienced the opportunity to set goals, assess their own performance, and receive feedback about their progress. Given that there is substantial evidence indicating how effective these processes are in building students' engagement and understanding of their learning, it is of concern that teachers do not more readily integrate these practices into their programmes.

If New Zealand is to achieve the Government's goal of 85 percent of students leaving school with at least National Certificate of Educational Achievement (NCEA) Level Two or equivalent qualifications, then we must think more deliberately about the education these students receive. Leaders and teachers must give greater priority to creating classroom environments in which achievement and progress is recognised and responded to so that students can achieve relevant qualifications and enjoy successful lives as literacy and mathematically competent citizens.

Collating and analysing students' achievement information, reporting relevant findings to the board of trustees, and supporting teachers to plan effectively, were aspects of school leadership practice that were typically not strong in this evaluation. As a result, in many secondary schools, Years 9 and 10 students are provided with a predetermined curriculum in literacy and mathematics that does not take account of their particular strengths and needs.

Integrated into the findings of this report are aspects of good practice. These have been included to guide schools for improving their practice.

NEXT STEPS

Leaders and teachers should give greater priority to creating the conditions under which Years 9 and 10 students can experience success at school in literacy and language, and mathematics and statistics. To achieve this ERO recommends that:

- school leaders review the extent to which teachers are making use of literacy and mathematics assessment information to plan, implement and review the curriculum, and make improvements on the basis of their findings
- boards of trustees and school leaders set, regularly monitor, and respond to, targets for learners whose literacy and mathematics achievement and progress needs to be accelerated
- teachers establish learning-focused partnerships with students that build their capacity to take increased responsibility for aspects of their literacy and mathematics learning.

ERO recommends that the Ministry of Education:

- continues to promote *The New Zealand Curriculum* vision of literacy and language teaching being the responsibility of all teachers
- clarifies for secondary schools the expectations for monitoring student achievement and progress at Years 9 and 10, and the use of students' achievement information to plan programmes that take account of their learning needs and strengths
- provides professional development and resources that support teachers to understand and meet the literacy and language, and the numeracy demands of their particular learning area
- continues to focus professional development for teachers and leaders on effectively using assessment information to plan and review the school's curriculum so that each Years 9 and 10 student makes progress and achieves success.

INTRODUCTION

Introduction

THE EVALUATION QUESTIONS

In 2011 ERO evaluated the literacy and mathematics assessment and planning practices used in schools to support students' learning at Years 9 and 10. The evaluation sought to answer the question: *How effectively do schools use literacy and mathematics achievement information to improve learning for Years 9 and 10 students?*

Understanding what students know and can do, and making use of it as the basis for classroom and school planning, is fundamental to students' learning, and to effective teaching practice. ERO's interest in Years 9 and 10 students is based on the knowledge that a strong foundation of learning is particularly important for future success in the secondary and post secondary years.

Underpinning this evaluation was an interest in exploring the approaches teachers, leaders and trustees took to knowing about and responding to students in these year levels. Accordingly, three further questions were asked:

Evaluation Question One: How effectively is student achievement information sought and used at key transition points? (Years 8 to 9, Years 9 to 10, and Years 10 to 11)

Evaluation Question Two: How effective are the processes used in (a) determining the achievement and progress students make in literacy and mathematics at Years 9 and 10, and (b) setting improvement goals and targets for these students?

Evaluation Question Three: How effectively is assessment information used to plan, implement and review actions to improve student achievement in literacy and mathematics?

THE CONTEXT FOR THE EVALUATION

This evaluation sits within a broader policy agenda[2] to improve student achievement amongst identified groups of students who have historically not experienced success at school. These include Māori and Pacific students, those from low socio-economic backgrounds, and students with special education needs.

National Certificate of Educational Achievement (NCEA) data indicates a worrying gap between the achievement of Māori and Pacific students and New Zealand European students.[3] In 2011, 77 percent of Year 11 Māori students, and 79 percent of Pacific students achieved their Level One NCEA Literacy requirements in comparison to 91 percent of New Zealand European students. A similar picture is indicated for the Level

2 Key, J. (2012) *The Prime Minister's Results for New Zealanders.* Retrieved from http://www.beehive.govt.nz/sites/all/files/The_Prime_Minister's_results_for_New_Zealanders.pdf (15 March 2012)

3 Data accessed from http://nzqa.govt.nz/assets/About-Us/publications/ on 10 May, 2012

One NCEA Numeracy requirements, with Māori and Pacific students achieving 81 percent and 84 percent respectively, compared to 93 percent for New Zealand European.[4] The heartening news is that Māori and Pacific student achievement is improving, which is a particularly encouraging picture given that more of these students are being retained in the senior secondary system.[5] Nonetheless, too many priority learners are leaving school without the necessary qualifications to enjoy economic security.

The Government goal[6] is that by 2017, 85 percent of school leavers will have attained National Certificate of Educational Achievement (NCEA) Level Two or equivalent qualifications – the level of achievement that is deemed to equip students sufficiently to participate in employment and in society in a productive and successful manner. Government policy identified key levers that will have the biggest influence on improving their achievement – stronger accountability for improving students' learning, information that is available to make appropriate decisions for and about students, and effective teaching. The levers align to some of the findings in this report.

METHODOLOGY

Sampling

Sixty-eight secondary schools, due for an education review in late Term 1 until the end of Term 3, 2011, took part in this evaluation. Information about the sample is included in Appendix 1 of this report.

Data collection

Methods for collecting the data included document analysis, observation of lessons, observations of, and participation in teacher meetings, and interviews with teachers and school leaders.

Criteria and indicators

Review officers used a set of criteria, sourced from ERO's evaluation indicators,[7] to make judgements about school effectiveness with respect to literacy and mathematics. Criteria were developed to help review officers decide if practice in relation to the evaluation questions was highly effective, partially effective, minimally effective or not effective. These are included in Appendix Two and are also referred to throughout this report.

For a school to be highly effective, all of the criteria for the question were expected to be evident. Where many, but not all of the criteria were present, the school was judged to be partially effective. Where a school was judged to be minimally effective, only a few criteria were evident in their practice. Where none of the criteria were evident, a school was judged to be not effective in relation to that particular evaluation question.

4 Data sourced from NZQA website http://www.nzqa.govt.nz/qualifications/ssq/statistics/provider-selected-report.do?reportID=2135179 on 10 May, 2012

5 Data accessed from http://nzqa.govt.nz/assets/About-Us/publications/ on 10 May, 2012

6 Key, J. (2012) *The Prime Minister's Results for New Zealanders*. Retrieved from http://www.beehive.govt.nz/sites/all/files/The_Prime_Minister's_results_for_New_Zealanders.pdf (15 March 2012)

7 ERO (2011) Evaluation Indicators for School Reviews. Wellington: Education Review Office

BACKGROUND

Background

The following section includes definitions of literacy and mathematics as they have been applied in this evaluation. These have been sourced from the Ministry of Education, research publications, and ERO's previous evaluation findings. Also included is information about some of the professional development projects linked to this evaluation.

WHAT IS LITERACY AS IT APPLIES TO ADOLESCENT LEARNING?

The International Reading Association position statement defines adolescent literacy in 21st century learning contexts as "the ability to read, write, understand and interpret, and discuss multiple texts across multiple contexts". As adolescents engage in, and apply literacy learning, they:

... read a variety of texts including, but not limited to, traditional print text and digital (multimodal) text, author words and images in fixed domains as well as multimodal settings, talk about a variety of texts with others, including teachers, peers, members of their own communities, and the larger world population, [and] interact with text in discipline-specific ways within and across all subjects inclusive of, but not limited to, electives, career and technical education, and visual and performing arts.[8]

The United States National Council for Teachers of English definition of adolescent literacy captures the reasoning skills that are inherent in literacy learning, and the complex contexts in which literacy develops and is practised:

Adolescent literacy involves social and cognitive processes. [Through literacy, students] discover ideas and make meaning. It enables functions such as analysis, synthesis, organisation and evaluation. It fosters the expression of ideas and opinions, and extends to understanding how texts are created and how meanings are conveyed by various media, brought together in productive ways.

LITERACY AND LANGUAGE IN CURRICULUM LEARNING AREAS

Adolescent literacy applies in a range of learning areas of the curriculum. As well as generalised or cross-curricular literacy, students need to understand and use effectively the language and the literacy practices required of the various learning areas that make up their secondary courses. In particular, students need to learn, and be able to practise using, subject specific or domain knowledge and language. They need to learn "the different knowledge, ways of knowing, doing, believing, and communicating that are privileged to those areas". For teachers, this is about paying "careful attention to what it means to learn" in a particular subject area,[9] and conveying to students when and why certain language or literacy practices are used (p.99).

8 International Reading Association (2012) *Adolescent Literacy: A Position Statement of the International Reading Association.* Accessed 5 June, 2012 from http://www.reading.org/Libraries/Resources/ps1079_adolescentliteracy_rev2012.pdf

9 Moje, E. (2008) Foregrounding the Disciplines in Secondary Literacy Teaching and Learning: a Call for Change. *Journal of Adolescent & Adult Literacy*, 52, 2, 96–107.

The New Zealand Curriculum states that for each learning area students need help from their teachers to learn:

- the specialist vocabulary associated with that area
- how to read and understand its texts
- how to communicate knowledge and ideas in appropriate ways
- how to listen and read critically, assessing the value of what they hear and read.

"In addition to such help, students who are new learners of English or coming into an English-medium environment for the first time need explicit and extensive teaching of English vocabulary, word forms, sentence and text structures, and language uses."[10]

The Literacy Learning Progressions: Meeting the Reading and Writing Demands of the Curriculum[11] state that by the time students enter Year 9, "the reading and writing demands are implicit in much of their everyday curriculum learning," and "the content [subject matter] that they read and write about becomes more abstract and specialised". Teachers play an important role in ensuring that students meet the reading, writing and critical thinking/cognitive demands of the curriculum at each year level and increasingly develop the awareness to successfully select from a repertoire of literacy knowledge and skills.

WHAT IS BEING NUMERATE, AND MATHEMATICAL LITERACY?

In 2001, the Numeracy Development project Working Group defined what it is to be numerate as "having the ability and inclination to use mathematics effectively in our lives – at home, at work, and in the community".

The Organisation for Economic Co-operation and Development (OECD) defines mathematical literacy as "an individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgements and to use and engage in mathematics in ways that meet the needs of the individual's life as a constructive, concerned and reflective citizen."[12] Students need to be able to draw on their "knowledge of mathematical terminology, facts and procedures, as well as skills in performing certain operations and carrying out certain methods."[13] To be mathematically literate is to have the capacity to make use of mathematical knowledge in a variety of different contexts.

According to *The New Zealand Curriculum*, through learning about mathematics and statistics students develop "effective means for investigating, interpreting, explaining, and making sense of the [social, cultural, scientific, technological, health, environmental

10 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited, p.16.

11 Ministry of Education (2010) *The Literacy Learning Progressions: Meeting the Reading and Writing Demands of the Curriculum.* Wellington: Learning Media.

12 OECD (2003) The PISA Assessment Framework, p. 24. Download on 6/6/2012 from http://www.oecd.org/dataoecd/46/14/33694881.pdf

13 OECD (2003) The PISA Assessment Framework, p. 25. Download on 6/6/2012 from http://www.oecd.org/dataoecd/46/14/33694881.pdf

and economic contexts] in which [students] live". Students "develop the ability to think creatively, critically, strategically, and logically. They learn to structure and to organise, to carry out procedures flexibly and accurately, to process and communicate information, and to enjoy intellectual challenge".[14]

NUMERACY WITHIN LEARNING AREAS

Just as students use their knowledge of literacy and language in other subject areas, they also use mathematics and statistics in a range of learning areas in order to meet the numeracy demands of *The New Zealand Curriculum*. Through their understanding of mathematics, students can access other areas of the curriculum, for example science and technology. For students to embed and extend their mathematical understanding they need opportunities, in a range of contexts, to recognise, interpret and apply mathematics.[15]

THE COLLECTION AND USE OF ACHIEVEMENT INFORMATION IN SECONDARY SCHOOLS

ERO's national evaluation report, *The Collection and Use of Assessment Information: Good Practice in Secondary Schools*,[16] concluded that good practice across all year levels included:

- a clear rationale for assessment, the development of school-wide expectations and guidelines about assessment practices, across learning programmes, and the establishment of processes to strengthen consistency and validity in assessment processes
- the development of school-wide expectations and goals for students based on aggregated and analysed achievement data
- the use of assessment information to monitor students' achievement and progress, to identify their learning needs and to plan to address these needs
- student involvement in their learning including goal setting
- school-wide collation, analysis and use of assessment information for the purposes of improving future learning/programmes, and to inform policy, planning and resourcing
- sharing with parents/whānau good quality information about children's progress and inviting their involvement in formulating next learning steps
- purposeful and meaningful consultation with parents, including Māori communities and whānau, about assessment processes and priorities.

Refer to Appendix Three for specific information about how *The New Zealand Curriculum*[17] describes good practice in terms of the three key aspects of this evaluation – transitions, knowing about achievement and progress, and planning implementing and reviewing the curriculum to meet the learning needs of students.

14 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited, p.26.

15 Hurst, C.(2007). Numeracy in Action: Students Connecting Mathematical Knowledge to a Range of Contexts. *Proceedings of the 30th annual conference of the Mathematics Education Research Group of Australasia*. J.Watson & K.Beswick (Eds).

16 ERO (2007). *The Collection and Use of Assessment Information: Good Practice in Secondary Schools*. Wellington: Education Review Office

17 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited.

THE SECONDARY LITERACY PROJECT (SLP) AND THE SECONDARY NUMERACY PROJECT (SNP)

The Secondary Literacy Project (SLP), and the Secondary Numeracy Project (SNP) aim to raise student achievement in Years 9 and 10, particularly focusing on underachieving Māori and Pacific students. These projects were introduced in 2003 and 2005 respectively. In the case of the SLP, there have been several iterations of the professional development model. The current one, which began in 2009, has an inquiry and professional knowledge-building focus.

The projects' objectives are to increase leaders' and teachers' knowledge of effective practices, and develop effective professional learning communities that promote inquiry into the effectiveness of numeracy and literacy teaching and learning, professional learning, inclusive school cultures, collaborative problem solving, and reflective practice.

Some of the schools involved in this evaluation were involved, or had a past involvement in SLP and SNP. ERO did not undertake any specific analysis of these schools beyond noting that, of the 68 schools involved in this evaluation, 10 schools have been involved in SLP and 24 schools have been involved in SNP at some point since these projects began.

FINDINGS

Findings

SEEKING AND USING ACHIEVEMENT INFORMATION AT KEY TRANSITION POINTS IN YEARS 9 AND 10

Research indicates that for the majority of students at Year 9, the transition process is a gradual adjustment to a completely different environment from their previous schooling.[18] Their transition into Year 9 generally includes having multiple teachers instead of one classroom teacher, learning new subjects, more prescribed timetables, needing to shift around the school for their classes, increased homework, and developing new relationships with friends and teachers.

The same research found that the transition from Years 9 to Year 10 was less disruptive. Year 10 students were less anxious than they were at Year 9 as a result of knowing how things happened at the school. However, they were also aware that the NCEA or other New Zealand Qualifications Authority (NZQA) qualifications were looming and that teachers expected more from them in terms of their academic work.[19] At the Years 10 to 11 transition, the focus on NZQA became more intense and more was expected of students in terms of self-management as they moved into the senior school.

All of these circumstances have the potential to impact on students' learning and success at school. It is important that leaders and teachers ensure that the curriculum which students encounter in these important years facilitates their successful and streamlined transition into, and through the secondary system.

When evaluating how effectively schools sought and used achievement information at key transition points, ERO considered whether schools' practices:

- were well understood and applied by the teachers within and beyond the school
- led to the exchange of useful information between teachers, school leaders and other relevant parties about the learning needs and strengths of all students[20]
- resulted in the identification of learners who required additional help in order to progress to their full potential, and the subsequent development of appropriate programmes to meet their learning needs
- included occasions for students and their families to discuss and plan learning pathways through the school, and career possibilities beyond the school
- focused on all student groups (ethnic, gender, students with learning needs, students with disabilities and students who are gifted and talented)
- were reviewed to improve future transition approaches.

18 Kennedy, S., & Cox, S. (2008). *The Case of Emily: A Focus on Students as they Transition from Primary to Secondary Schooling*. Report No. 2 on the Students' Transition from Primary to Secondary Schooling Study. Wellington: Research Division, Ministry of Education.

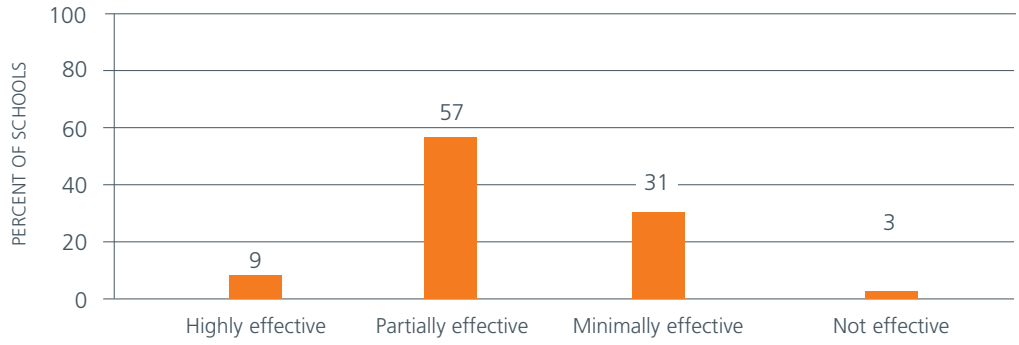
19 Kennedy, S., & Cox, S. (2008). *The Case of Emily: A Focus on Students as they Transition from Primary to Secondary Schooling*. Report No. 2 on the Students' Transition from Primary to Secondary Schooling Study. Wellington: Research Division, Ministry of Education.

20 This includes students of all ethnicity, gender, learning needs and abilities.

Only nine percent of schools were judged as having highly effectively processes in terms of gathering and using information at key transitions. In these schools the criteria described above were present. Fifty-seven percent of schools were partially effective. While there were pockets of good practice in relation to the criteria described above, missing from their practices, in particular, were opportunities for Year 9 students to discuss and plan learning pathways. There was also a lack of attention to providing Years 9 and 10 students with programmes that aligned to the assessment information gathered.

Just over one-third of schools were either minimally or not effective at using achievement information to design responsive programmes when students started secondary school. In these schools, information from contributing schools was not available to teachers, was not deemed to be trustworthy, or arrived too late for schools to make use of it. The implications of this were that secondary schools knew little about the students as they set foot in the door, and they could not prepare for them in a timely manner. Figure 1 illustrates the overall findings in relation to the effectiveness of secondary schools in seeking and using information about students at transition points.

Figure 1: The effectiveness of secondary schools in seeking and using information at transition points (Years 8–9, Years 9–10, and Years 10–11)



Gathering information about Years 9 and 10 students

ERO found that most secondary schools sought information from contributing schools as part of their process of transitioning Year 8 students into the school. A considerable amount of the information gathered from contributing schools related to students' academic achievement, although information about students' social development was also sought.

Results from standardised and norm-referenced assessment tools were favoured by both primary and secondary schools. The tools most commonly used were asTTle,[21] STAR,[22] PAT,[23] and NumPA.[24] At both year levels, teachers gathered more information about literacy than they did about mathematics, however this is likely to be a reflection of the availability of more reading and writing assessment tools, compared to mathematics assessment tools.

In all but one school, teachers gathered additional information as students entered in Year 9, or in the latter part of Year 8. In some cases, retesting happened because secondary school leaders felt that the data provided for them by contributing schools was not reliable, current, or did not cover the domains that they wished to know about. Retesting sometimes meant that several weeks passed before teachers and leaders had the information they needed. Assessments were used to confirm class placing rather than as a source of information for the teaching and learning programme. When assessment information became available, some students were reallocated to different classes. This practice is highly likely to cause disruption to students' education and relationships with their teachers and peers, and to impact negatively on students' sense of self efficacy and confidence.

Using information about Years 9 and 10 students

ERO found that students' assessment data was used for three main purposes – class placement; identifying students with additional learning needs; and planning for students' learning.

Class placement

The most frequent use of literacy and mathematics achievement information at Year 9 was to decide on class placements. In most schools information was used to allocate students to streamed or banded classes.[25] Streaming occurred on the basis of mathematics achievement, literacy achievement and, in some cases, a combination of both. In some schools the approach was to stream the top and bottom classes and create mixed ability classes for the remainder of the students. A few schools established mixed ability classes only.

The situation for Year 10 students was similar to Year 9. In a small number of schools, literacy and mathematics information gathered in Year 10 was used to place students in Year 11 courses that matched their strengths and examination results. This included identifying students who required additional support in mathematics or literacy, and assisting students to choose subjects or courses that matched their abilities and interests. Decisions about placement of students in Year 11 were generally made on the basis of students' engagement, attendance, and marks or grades in internal examinations in Year 10.

21 asTTle is an acronym for Assessment Tools for Teaching and Learning

22 STAR is an acronym for Supplementary Test of Achievement in Reading

23 PAT is an acronym for Progressive Achievement Tests

24 NumPA is an acronym for Numeracy Project Assessment

25 Students are assigned to classes on the basis of their ability.

Identifying students with additional learning needs

The second most frequent use of transition information was to identify students with additional learning needs who might benefit from additional learning support. Typically this support took the form of supplementary instruction in literacy and/or mathematics through withdrawal programmes provided by learning support teachers. In a few instances students received help from teacher aides in their regular classes. Good quality information sharing between learning support teachers and classroom teachers was evident in only a few schools.

Good practice in one school saw an intervention programme developed that made use of the information the school had collected from the contributing school and their own diagnostic testing. In another school there was a very useful process for documenting each student's progress and the support that he/she had received. This included records of students' test results, observations of individual students working in class, information about the work teacher aides had been doing with these students, and records of liaison with classroom teachers.

In one school, innovative practice supported students' literacy and mathematics learning.

During the week parent volunteers worked one-on-one with approximately 100 Year 9 students in literacy and mathematics. The goal was to improve their achievement levels. In addition, several informal student groups got together; some at peer age level, others where older students supported younger students in their learning. This was most evident in the library at lunchtimes, and before and after school. The Maths Buddy Programme included sending weekly email progress reports to parents. Formal tutorials for students were scheduled for Tuesday and Thursday mornings.
(Years 9–15 Secondary school)

In another school an Individual Education Plan (IEP)[26] was developed in collaboration with parents and teachers prior to students' entry to secondary school. An IEP established in this way meant that the transition to secondary education occurred in a more coherent manner and that the appropriate resources and educational provision were put in place before students arrived at the school.

In the most effective composite and small secondary schools a range of processes were in place for sharing information about students as they transitioned within the school. Information flowed through informal discussions about individual students, and through the more formal processes of talking about achievement information and individual students' portfolios. The small size of the school meant that teachers often taught the same students for several years and therefore knew about their particular strengths and needs.

26 Good quality IEP document the goals students and teachers are working towards and the specific support students need to achieve these goals.

Planning for students' learning

Programmes that build on what students already know help teachers to address underachievement and to accelerate the learning of all students. Where programmes are pitched at a level that promotes students' success, there are likely to be significantly fewer issues with poor engagement.

ERO found that in most secondary schools, teachers had access to student achievement information stored in the school's centralised Student Management System (SMS), but they were not using it. Some leaders expected English and mathematics teachers to use these data to plan programmes for students. However, these teachers were typically not doing this, or not doing this regularly. There was evidence that teachers working in curriculum areas other than English and mathematics were using this information even less. Instead, teachers typically implemented a pre-planned departmental curriculum that did not take account of information about what students already knew, or any learning gaps they might have.

Similarly, there was limited evidence to suggest that information gathered during the course of the year was used to adjust the programme to meet students' strengths and interests and to plan for their future learning. Only a few schools demonstrated that they used information to cater for students who were gifted and talented beyond the streaming or banding provision. It is important that all students' needs and strengths are identified early and programmes are adjusted to cater for them.

How the board of trustees used transition information

Generally boards of trustees were not involved in making decisions about resources needed for incoming Year 9 students. They did not receive material in a timely manner to allow them to do so. Typically trustees learned about the achievement and progress of Years 9 and 10 students at the end of the year when it was too late to specifically target or focus on learners that were not succeeding or were likely to leave school before gaining necessary qualifications in the future. Furthermore, the absence of information at the beginning of the year meant that trustees frequently had no reference point against which they could measure the progress these students had made during the year. It is critical that school leaders address these issues so the boards can respond promptly and appropriately to the identified needs of all students, but particularly to priority learners.

The following are examples of schools with good practice for gathering and using assessment information at transition points:

School One: Good practice in using assessment information at transition points to meet students' needs

Context: A large high decile secondary school (Years 9 to15) in a main urban area. This school had not been involved in any specific literacy or mathematics professional learning and development (PLD), but has focused over the last three years on building teachers' understanding of teaching as inquiry.[27] PLD in the mathematics department had assisted teachers to make use of asTTle information in their classroom programmes. Teachers use data to set specific goals and targets for the students whose progress needs to be accelerated.

The early collection and analysis of students' information at transition into the school means teachers can give immediate support to those not achieving at National Standards in literacy and mathematics. These learners have extra English and mathematics programmes for a maximum of two terms, after which the student's progress is reviewed. Other provision comes through English for Speakers of Other Languages (ESOL) programmes and in-class help from teacher aides. There is support and guidance for teachers from the Resource Teachers of Learning and Behaviour (RT:LB), deans and the director of teaching and learning. IEP are developed collaboratively with teachers and parents for those students who have needs that cannot be adequately met through other school interventions or programmes. These IEP are regularly reviewed so that the support given is responsive to the emerging learning needs of these students. In some cases this review happens weekly.

27 Teaching as inquiry is described on page 35, Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13.* Wellington: Learning Media Limited.

School Two: Good practice through developing shared understanding about assessment practice

Context: A small, low decile composite school (Years 1–15) in a minor urban area.

This school was involved in a major PLD programme in literacy and a considerable amount of internal PLD to work with the National Standards in reading, writing and mathematics. Most of the professional development in mathematics was internal and involved staff across all levels of the school. Teachers report that through this PLD they have developed a shared understanding about effective approaches to teaching mathematics and the achievement progression and expectations of achievement at particular year levels.

Many students in the secondary school are taught by the same specialist teacher for English and mathematics which means that teachers know students well as individuals and as learners.

Teachers have good quality information in literacy and mathematics as students transition from Years 8 to 9. This comprises information about students' achievement in relation to reading, writing and mathematics National Standards, together with teachers' observations and comprehensive student profiles. Good quality information about Numeracy stages and NumPA means teachers know how well students are achieving. Mathematics information is used particularly well in the classroom to differentiate the programme for students in Years 9 and 10.

As a result of the shared and ongoing learning teachers have made about assessment, they trust the data they receive from their colleagues. This means less retesting and faster, smoother transitions for students. Planning for individuals, small groups and whole classes is based on the effective use of assessment data. Teachers are becoming skilled at tailoring their programmes for the learning needs of individual students.

These schools have promoted seamless education for students through well-planned transition programmes. The examples also highlight the value of early access to high quality and trustworthy assessment data, and thoughtful use of information to make provision for students, especially those who need to make the most progress now, and with their future qualifications.

KNOWING ABOUT STUDENTS' ACHIEVEMENT AND PROGRESS IN LITERACY AND MATHEMATICS AT YEARS 9 AND 10

ERO found that seven percent of schools had highly effective processes for knowing about students' achievement and progress. In these schools the following criteria were present:

- the tools teachers used to measure achievement and progress were appropriate for the task
- multiple sources of data were collected and analysed to arrive at valid judgments about each student's achievement and progress in literacy and mathematics
- data was collected at many points in time so that there was longitudinal evidence of student achievement and progress
- data was collected for all groups of students (ethnic, gender, students with special education needs and students with special abilities) in literacy and mathematics
- data was disaggregated for each student group (ethnicity, gender, students with special education needs and students with special abilities) in literacy and mathematics
- data was analysed for trends in the performance of groups of students in literacy and mathematics
- external standards and/or criteria were used as tools to aid in the interpretation of mathematics and literacy data
- comparisons were made to expected learning standards throughout the year
- comparisons were made to expected learning standards over successive years
- key people knew about the findings of analysed data, and there were effective processes used to discuss these findings and plan for students' future learning.

The majority of schools (57 percent) were partially effective. In these schools there were differences in how student achievement and progress was monitored in literacy or mathematics. Some gaps were evident in the information held by schools, in particular these schools did not have information about all of the learning areas/subject areas. For example, there may not have been data available for writing.

Most schools implemented a programme of testing students at the beginning of the year, and retesting them at the end of the year. The substantial gap between when data was collected meant that leaders did not know how effectively students were progressing throughout the year, and teachers did not have current and ongoing information on which to base their teaching decisions.

Thirty-six percent of schools had minimally effective or not effective processes for determining the achievement and progress Years 9 and 10 students were making in literacy and mathematics. In these schools there were no established systems for

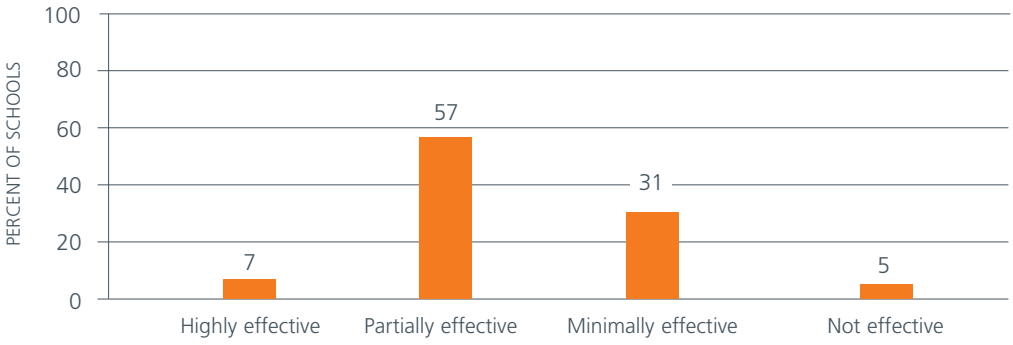
monitoring the progress and achievement of students. Information was collected for only some students, such as priority learners, but not for all students. Leaders in these schools were less likely to know how to analyse and interpret student achievement information so that it could be used by teachers and the board of trustees.

Seven schools used the Middle Years Information System (MidYIS).[28] Tests were administered at the beginning of Year 9 and again in Year 10 to measure the value that schools had added to students' learning. There was no evidence that results at Year 9 or Year 10 were used other than to arrive at a summative assessment of the progress students had made.

Where assessment information, such as subject-based tests and examinations, was gathered during the year, teachers made limited use of it to identify gaps in students' learning and to adjust the programme accordingly.[29] Given the importance of knowing whether literacy and mathematics programmes are appropriately addressing students' needs, it is imperative that schools improve their practice for monitoring the achievement and progress of students.

Figure 2 presents the findings for how well schools were implementing processes to determine the achievement and progress of students.

Figure 2: Processes to determine the achievement and progress of students in literacy and mathematics



Teachers' gave little attention to monitoring what was happening for students who required additional support to achieve or progress. Typically this task was undertaken by learning support teachers rather than students' subject teachers. ERO found limited evidence that information flowed between learning support teachers and classroom teachers. Information about students' progress and achievement, and teaching approaches that helped students make the most progress, should be known by all of the teachers who have responsibility for these students, not just the learning support teachers. Such sharing assists in developing a curriculum for students that builds on

28 For more information about MidYIS see http://www.cem.canterbury.ac.nz/about.shtml.

29 These findings mirror those described in ERO's 2012 report, *Teaching as Inquiry: Responding to Learners*. In this evaluation, only seven percent of secondary teachers used teaching as inquiry well to identify priority students, plan for their learning needs and evaluate the outcomes.

their known strengths and addresses their gaps in learning. Most importantly, through sharing information and developing a coordinated programme, students' learning can be accelerated in all of their classes. In this evaluation, there was limited evidence that this was the case.

Students who are underachieving are placed in further jeopardy when achievement information is not available, or not used to plan programmes and monitor progress. The risks are that they fail to make the progress necessary to achieve in school and do not gain the qualifications to successfully participate fully in society. Importantly, they can develop an enduring sense of inadequacy and disengagement with learning.

SETTING IMPROVEMENT GOALS AND TARGETS FOR YEARS 9 AND 10 STUDENTS IN LITERACY AND MATHEMATICS

Setting targets to raise achievement is a key lever for bringing about better outcomes for students. Target setting is critically important in addressing the underachievement of priority learners, particularly Māori and Pacific students, those from low socio-economic backgrounds, and students with special education needs. School charter targets should specify the improvement shifts which schools wish to make in the achievement of identified students.[30] The charter should also identify the support required to make these shifts happen, including the financial resources, PLD and other teaching, learning and community-based programmes the school might put in place.

Goal setting generally takes place in the classroom, and ideally applies to all students. Teachers and students use achievement information to set stretching but achievable goals related to students' individual learning needs and next steps. When students know about their progress and achievement, and are supported to identify relevant next learning steps, there are likely to be positive outcomes for their learning and engagement.[31]

ERO used the following criteria to evaluate the effectiveness of the processes schools used in setting goals and targets:

- goals and targets for groups of students align appropriately with the findings about their achievement and progress
- goals and targets appropriately address all identified student groups (ethnic, gender, students with educational learning needs, students with special abilities)
- multiple parties know about, and are involved in fostering the attainment of the goals and targets that are set for students in literacy and mathematics

30 For more information about target setting refer to http://www.minedu.govt.nz/Boards/choolPlanningAndReporting/Planning/StrengtheningTargets.aspx.

31 Hattie, J. (2009). *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

- teachers have a clear understanding of the implications of the goals and targets for programme planning and implementation
- the goals and targets are in evidence in their programmes across the curriculum
- leaders have a clear understanding of the implications of the goals and targets for curriculum management (planning, resourcing and policy development) in literacy and mathematics.

ERO found very few instances where these processes were happening. Fewer than 10 percent of schools were setting targets for raising the achievement of priority students in Years 9 and 10. Of these schools most were not doing this well. Targets were either too broad to be measured, not sufficiently founded on student achievement information, or, not concentrated on the groups of students who were most in need of focused attention.

Student goal setting was undertaken more effectively than target setting, although aspects could be improved. For example, test information was sometimes shared with students who had very few opportunities to set and self monitor their progress relative to individualised goals in literacy and mathematics. The exception was one school in which students used their portfolios to document reading and writing goals, and to reflect on their progress towards meeting these.

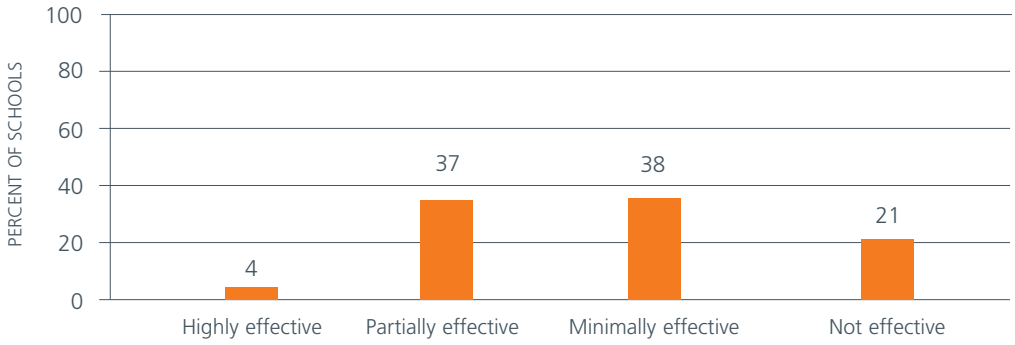
Only four percent of schools had highly effective processes for setting improvement targets *for* students, and in setting literacy and mathematics goals *with* students in Years 9 and 10. Thirty-seven percent were partially effective in doing so. In these schools goals were set with students but these were either too broad or were not monitored by either teachers or students. The very limited target setting that was happening was not in all year levels or did not involve all the teachers who taught Years 9 and 10. A further 38 percent were minimally effective in these respects. In 21 percent of schools, processes were not effective. In these schools, no target setting occurred for Years 9 and 10 students, and there were no opportunities for students to set and review their individualised goals.

Teachers and leaders would benefit from a better understanding of the current best practice research literature about how to include students in their learning.[32] When students understand what they need to focus on, they have greater insight about themselves as learners, and develop enhanced skills in managing their own learning. This aligns closely to the overall vision for New Zealand young people: that they develop as confident, connected, actively involved, and lifelong learners.

32 There is an extensive body of writing indicating the benefits of students' involvement in their learning including: Black, P., & Wiliam, D. (1998) *Inside the black box: Raising standards through classroom assessment*. London: GL Assessment; Hattie. J, & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112; and James, M., Black, P., Carmichael, P., Drummond, M., Fox, A., & MacBeath,J.,et al. (2007). *Improving learning how to learn: classrooms, schools and networks*. London: Routledge.

Figure 3 illustrates how effectively schools were setting improvement goals and targets.

Figure 3: The processes used in setting improvement goals and targets



It is critical that school leaders, together with boards of trustees, consider targets for students in Years 9 and 10 so that their achievement is lifted and their progress is accelerated. For many schools the issue is how to set and review targets that will really make a difference for Years 9 and 10 students.

Below is an example of a school with highly effective processes for knowing about students' achievement and progress.

School Three: Good practice in building teachers' capacities to respond to learners

Context: A very large, medium decile secondary school (Years 9-15) in a main urban area. Teachers from across all school subject areas/faculties were involved in a two-year Secondary Literacy Project (SLP). After the school's involvement in SLP, the focus on literacy was kept alive with ongoing support from an external advisor. Considerable attention was paid to developing whole school approaches to literacy teaching. This led to a cohesive curriculum and promoted consistent teaching practice. Literacy leaders are part of a wider educational literacy community that meet regularly to share practice. Information from these meetings is shared later through staff and faculty meetings.

Two years ago the school participated in the Secondary Numeracy Project that resulted in considerable improvements in teaching and assessment practices. Best practice is now embedded in mathematics teachers' practices. Teachers are well supported by school leaders who continue to build their knowledge through local and national PLD programmes.

Leaders established a process whereby teachers buddy each other to build their professional knowledge. Induction processes help new staff to implement the mathematics programme well. The mathematics faculty designed an assessment approach that supports teachers to make use of assessment information in their planning. Teachers have been helped to understand how mathematics learning can be incorporated into subject areas other than mathematics.

Practice: The school has high expectations for student achievement and progress. Teachers focus on preparing students to be successful in their Year 11 achievement requirements. Subject-based goals are developed for each student in every year group. They are recorded in individual student profile books that document the progress and achievement students have made in pre and post tests.

Regular faculty discussions occur about the achievement and progress of groups and individual students. Student achievement data is analysed to determine trends and patterns within the year. This information is provided to the board of trustees who uses it to review the effectiveness of initiatives they are funding.

Assessment, teaching and learning processes in School Three contribute well to students' learning. Through monitoring and documenting students' progress and achievement, teachers are well placed to respond in a timely manner to learning needs as they arise. Involving students in the process of evaluating their own achievement and progress contributes to their sense of connectedness to their learning.

33 Schools can find out more about teaching as inquiry by reading:

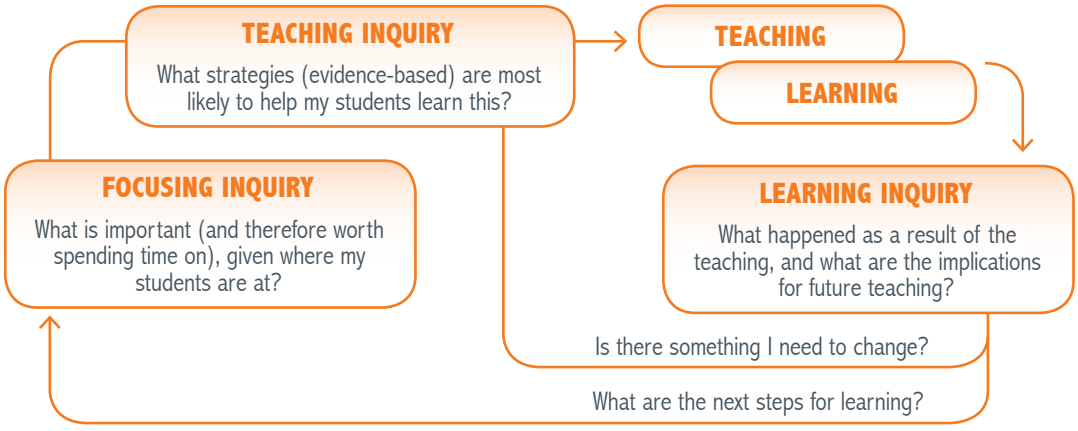
Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited, and ERO's evaluation reports, *Directions for Learning: The New Zealand Curriculum Principles and Teaching as Inquiry*, which was published in May 2010, and *Teaching as Inquiry: Responding to Learners*, published in 2012.

PLANNING, IMPLEMENTING AND REVIEWING THE CURRICULUM FOR STUDENTS IN YEARS 9 AND 10

Planning, implementing and reviewing the literacy and mathematics curriculum involves teachers and leaders in the practice of teaching as inquiry.[33] Where inquiry is practised well there is a clear process by which teachers gather assessment information, make decisions about how to meet the needs of students (including priority learners), implement programmes or initiatives to address their needs, and review the impact of these programmes or initiatives on outcomes for them. The process is about being responsive to what information tells teachers about their students.

The information from school curriculum review and classroom evaluation helps to feed into future teaching and learning. In curriculum review, school leaders gather information about students' achievement, and use this to plan interventions that meet the needs of priority learners, for example, to set targets for these students, and to change the emphases of the curriculum so it links to students' interests and prior learning. Figure 4 illustrates the process.

Figure 4: The teaching as inquiry cycle



Source: Ministry of Education, (2007). The New Zealand Curriculum for English-medium teaching and learning in years 1–13. Wellington: Learning Media Limited

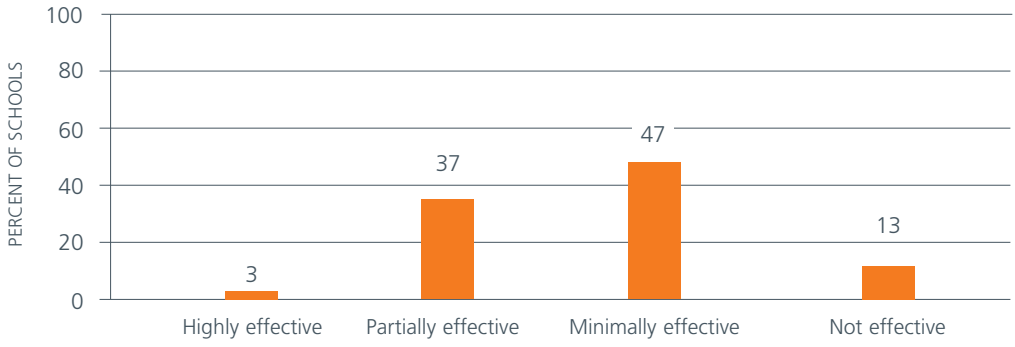
Most schools were noticeably better at focusing inquiry (identifying which students need help) and teaching inquiry (what strategies would be used with these students), than they were at learning inquiry (evaluating what happened in terms of outcomes for the target students).

Overall, most schools did not engage in an effective inquiry into teaching approach. Where it was happening it was most evident as curriculum review carried out by school leaders, rather than practised by individual teachers in classrooms as they looked into their practice.

Only three percent of schools were highly effective at planning, implementing and reviewing the curriculum for students in Years 9 and 10. Thirty-seven percent of schools were partially effective in this respect. Some teachers were planning for individuals and groups of students. However, there was limited evidence that teachers were evaluating how well programmes were meeting students' learning needs or strengths. Some heads of departments were monitoring the progress of students in Years 9 and 10, although they were not always carrying out robust analysis of the student information collected.

A concerning 60 percent of schools were minimally effective or not effective at using assessment information to plan, implement and review the curriculum to improve students' learning in Years 9 and 10 students. Issues identified included ineffective processes for using data to plan programmes in the classroom or to plan school initiatives for target students; and school review that was not based on the use of good quality evidence. Figure 5 shows the findings.

Figure 5: Schools' effectiveness in planning, implementing and reviewing the curriculum



Schools must improve their practice in relation to planning, implementing and reviewing the curriculum for Years 9 and 10. Together, these three activities represent important stages in a responsive and interconnected process by which teachers deliberately plan to improve students' learning. Carried out as discrete activities they cannot yield the rich and relevant learning students need.

34 Such findings align with *The School Leadership and Student Outcomes: Identifying What Works and Why Best Evidence Synthesis (BES)*. This BES iteration identified six dimensions of practice that are linked to good student outcomes. These include: establishing goals and expectations; resourcing strategically; planning, coordinating, and evaluating teaching and the curriculum; promoting and participating in teacher learning and development; and ensuring an orderly and supportive environment.

Leaders' involvement in planning, implementation and review of literacy and mathematics programmes

In a small number of schools leadership practices supported the teaching of literacy and mathematics. These practices included:

- organising and/or facilitating PLD that had a major focus on students' learning in mathematics and literacy
- ensuring that the knowledge gained through PLD was sustained through opportunities for ongoing discussion and up-skilling new staff
- conveying to teachers the importance of having high teaching and learning expectations
- making available resources that could be used to promote literacy and mathematics
- managing school organisation well so that learning could happen (such as establishing effective timetables and planning strategically how to use staffing).[34]

Four leadership roles were not carried out well in some secondary schools:

- the collation and analysis of students' achievement information at Years 9 and 10
- setting improvement targets for Years 9 and 10 students
- reporting information to the board of trustees
- supporting teachers to plan effectively, and monitoring that this was happening.

Some leaders were not collating and analysing student achievement information, or were not doing this well. They were also not strategically addressing the issue of raising student achievement in Years 9 and 10 by establishing targets for these students based on analysed data.

Some leaders were also not reporting information about student achievement to the board of trustees. The board needs the information to make decisions about how to support initiatives to help raise students' achievement. They also need it to monitor the effectiveness of teaching and learning for this group. It is important that Years 9 and 10 students' achievement features regularly on the board's agenda as one of the steps towards strategically addressing the needs of these students.

There was also the sense that some leaders were providing little ongoing support and encouragement for effective classroom planning for students' learning, or monitoring of whether teachers were making use of student achievement information as the basis of the planning, implementation and review. This hands-off approach does not convey to teachers the importance of deliberate and responsive teaching for students in these very important years of schooling.

Teachers' involvement in planning, implementation and review of literacy and mathematics programmes

ERO found that in the small number of schools where planning, implementation and review practice was well developed, teachers were drawing on some of the following processes and practices. They were:

- using assessment information well to plan programmes that were pitched at the students' learning levels (in class and through extension and remedial programmes)
- making use of interesting and relevant content and activities to engage students in their learning
- linking new knowledge to students' prior learning
- providing opportunities for students to undertake activities individually and in groups, and to offer, and receive, peer support
- extending students' thinking through challenging curriculum tasks
- providing students with feedback about their performance, and including them in setting relevant learning goals
- assisting students to self assess by providing them with rubrics and success criteria
- including them in the reporting process through parent, student and teacher conferencing.

Illustrative of some of these points was the work being done at one school to engage Māori students in literacy learning.

The English department runs a voluntary Māori literacy class after school one day a week. This is the initiative of a teacher who is passionate about improving Māori achievement. The rationale is to heighten students' awareness of, and interest in, language and literature. The texts used have Māori themes, or are written by Māori authors, poets or dramatists. Although the numbers attending are not large at this stage, students who attend find it very helpful in building their confidence and their ability to gain the required literacy credits in Year 11.

Overall though, ERO found that the process of planning, implementing and reviewing programmes, in relation to Years 9 and 10 students, was not happening well in secondary schools, particularly at the classroom level.[35]

ERO found there were greater opportunities to plan and implement individualised literacy and mathematics learning programmes in smaller schools where teachers knew students well and had contact with them each day. Literacy and mathematics learning was more likely to be integrated into other learning areas such as science and social

35 This finding aligns with ERO's 2012 report *Teaching as Inquiry: Responding to Learners*. Almost half of the secondary teachers involved in the evaluation were using teaching as inquiry minimally or not at all.

sciences because teachers had more frequent opportunities to work together. Students had opportunities to use their literacy and mathematics skills and knowledge in other contexts and to access the whole curriculum using their literacy and mathematical knowledge and skills. Overall, mathematics learning was not integrated as well across the curriculum as literacy.

Parents' involvement in their children's literacy and mathematics learning

In about half of the schools, parents had useful opportunities to learn about their children's achievement and progress. Good practice in relation to parents' involvement was seen where schools:

- provided many opportunities for parents to know about their child's achievement and progress (for example through several reporting "events" in a year)
- included in reporting processes information about students' achievement, progress and next learning steps
- encouraged parents to contribute to the school's curriculum, and to support the school's values and mission
- discussed with respective communities the achievement of Māori and Pacific students, and gathered community members' feedback about the steps that could be taken to improve learning for these students
- included parents in helping to eliminate barriers to students' learning (such as enlisting their support for better school attendance)
- kept parents informed about the progress of their children with special learning needs
- invited the contribution of parents to the development of programmes for students with learning needs.

Disappointingly, parents at approximately one-third of schools did not receive reports that acknowledged their children's strengths, and/or did not indicate how they could help their children at home with their learning.

Boards of trustees involvement in literacy and mathematics curriculum review

In about one-third of schools, boards of trustees played a role in promoting literacy and mathematics teaching and learning for Years 9 and 10 students. Their activities included allocating resources such as employing specialist teachers and teacher aides to work in the area of literacy and mathematics, and funding for PLD for teachers.

Some of these boards, in consultation with senior staff members, had used achievement information for strategic planning, including setting and reviewing targets for students and identifying appropriate PLD opportunities. In a very small number of schools, trustees further interrogated the information provided to them so that they could more effectively identify where resources needed to be allocated.

For about two-thirds of boards, there was not a particularly sharp focus on improving the achievement of Years 9 and 10 students. In most cases they were hampered by insufficient and/or irregular information about students' achievement and progress in Years 9 and 10. Overall, school leaders did not provide trustees with useful student achievement information to undertake their important governance role. Useful and timely information is necessary so that trustees can make appropriate decisions about support for priority students.

The following are examples of schools in which literacy and mathematics programmes for Years 9 and 10 students were planned, implemented and reviewed well.

School Four: Good practice in planning at all levels for improved outcomes for students

Context: A small, high decile secondary school (Years 7–15) in a main urban area. The English department and the two intermediate (Years 7 and 8) department teachers were involved in ongoing literacy PLD. A literacy leader was appointed to improve the practice of integrating literacy in every learning area in *The New Zealand Curriculum*. Teachers are in the early stages of sharing with each other useful literacy teaching strategies. As a result, some Years 9 and 10 teachers in subject areas other than English are successfully integrating literacy into their teaching. The high levels of literacy achievement in NCEA indicate that the teaching and learning strategies teachers are using across all levels of the school are effective. PLD in mathematics has been undertaken by the mathematics department and the intermediate department teachers.

Practice: Teachers use their very good knowledge of each student and information about students' achievement and interests to decide on teaching content. Learning activities are relevant, authentic and interesting. Teachers also use this information to decide on approaches to teaching that will motivate and challenge students in literacy and mathematics. Teachers link new knowledge with students' prior learning.

Students' achievement and progress in literacy and mathematics is closely monitored. Appropriate support is provided for students who are not achieving well, or for those who need extension. Teachers collaboratively discuss students' progress and assessments regularly and reflect on and share practices that are likely to provide the best possible outcomes for students. Students who have entered the school 'at risk' with their learning, go on to achieve very good outcomes in NCEA.

Leaders have high expectations for learning and achievement that are regularly shared with students, teachers and parents. Teachers have high expectations of students as learners and achievers. Regular discussions with students about their work and collaborative development of their next learning steps are an ongoing part of teacher practice. Students are active and keen participants in their learning. They feel confident to respectfully and keenly question their teachers to ensure they understand what they are learning.

Parents and whānau receive clear, detailed and timely reports of their child's progress and achievement in literacy and mathematics. These are based on national curriculum levels. Parents have formal and informal opportunities to regularly discuss with teachers and senior leaders the engagement, learning, progress and achievement of their children. Senior leaders and teachers are very responsive to parent and whānau feedback.

Strategic planning and self review is based on well presented and carefully considered student data and other information. Trustees are highly interested in student achievement. The information they receive about Years 9 and 10 students' progress and achievement in literacy and mathematics helps them to identify students' needs, and to compare progress over time that focuses their decisions about planning and resourcing.

The annual plan has actions related to literacy and mathematics priorities. It includes strategies for leaders and teachers, and describes who is responsible for achieving the goals and the timeframes in which these should be met. The strategic plan, the annual plan, and programme implementation are strongly aligned. Recent curriculum review has enabled leaders to reflect on how they can sustain and continue to improve high student achievement in literacy and mathematics.

School Five: Good practice using achievement information to engage students in learning

Context: A medium size, low decile, urban school. The head of the English department is the co-coordinator of literacy learning. Whole school literacy professional development was undertaken as part of a schooling improvement initiative.

Leaders have focused on building teachers' capacities to talk about students' learning and their own teaching. At the beginning of 2011 the literacy coordinator presented to the whole staff a report on the analysed asTTle writing data. He explained the meaning of the assessment data for teachers' practice. Attendance at a course on effective reading strategies benefitted teachers at the school.

Practice: Student achievement data is used to plan teaching topics in mathematics and English. Planning and evaluation templates, that were trialled and modified before being introduced, are now widely used by teachers as tools for teaching and learning. They are still in the early stages of implementation, and leaders are keen to know how useful these templates are in supporting rigorous planning and evaluation process. Leaders want the information which teachers collect through evaluation to be well used in school self-review processes, as well as in adapting classroom programmes.

Students are encouraged to be involved in planning for their learning. They identify their own strengths and weaknesses, set goals for improvement and discuss their next steps with teachers.

Good work has been achieved in including parents in a learning-focused partnership. Māori, Samoan, Cook Island and Tokelauan parent groups meet to discuss students' learning. The school runs information evenings for each group, and also has awards evenings to celebrate students' successes and achievements. Written information relating to school events and initiatives is translated into relevant languages.

The examples above describe how teachers and leaders have paid close attention to providing students with a curriculum that meets their needs and engages them as competent learners. Innovation amongst the staff, and a focus on planning strategically, is aimed at improving outcomes for students. Such practices are likely to yield positive outcomes for students.

Conclusion

This report identifies the actions which school leaders, boards of trustees and teachers can take to help Years 9 and 10 students to be engaged, active and successful learners. Overall, this report notes that there are improvements needed in most secondary schools' practice in three broad areas: using achievement information well; planning to improve outcomes for priority students; and building learning partnerships with students.

Secondary leaders and teachers urgently need to improve their practice in using literacy and mathematics assessment information for planning, implementing and reviewing the curriculum for all Years 9 and 10 students. Firstly, leaders should develop a coherent and timely system for gathering and sharing high quality relevant achievement information as students transition to secondary school, and as they progress through secondary school. Secondly, teachers, with the support of leaders, should analyse and use the data collected about Years 9 and 10 students' strengths and next learning steps to intentionally develop programmes that foster their achievement and progress. Finally, leaders must make sure that boards of trustees have good quality information about Years 9 and 10 students so they can prudently allocate resources for those that need additional support. Trustees need to know how well the resources they have allocated have impacted on the achievement and progress of these students.

It is particularly critical that those students who are not currently achieving as well as they should be – Māori and Pacific students, students with special education needs, and those from low socio economic backgrounds – experience an education that lays the foundations for their future economic success, and their wellbeing as citizens of Aotearoa New Zealand. Teachers and leaders need to know that while these priority learners are at school they are achieving well and are progressing at an appropriate rate. Secondary schools need to lift their performance in monitoring the achievement and progress of Years 9 and 10 students and in evaluating the impact that programmes and initiatives have had on their learning.

Addressing the needs of priority learners is a fundamental step in tackling the current disparity that exists in our education system, yet most secondary schools do not implement coherent processes for doing this. It would be useful for the Ministry of Education to clarify for secondary schools its expectations for monitoring student achievement and progress at Years 9 and 10, and the use of students' achievement information to plan programmes that take account of their learning needs and strengths.

In many schools there is a need to create more opportunities for Years 9 and 10 students to take responsibility for aspects of their literacy and mathematics learning. Students should be involved in planning to improve their achievement and progress. The vision of students becoming confident, connected, actively involved, and lifelong learners cannot be achieved without purposeful opportunities for this to happen.

Literacy and language and mathematics and statistics PLD is currently available to teachers in some secondary schools. It would be wise for secondary leaders to evaluate the extent to which the focus of PLD should also be on building pedagogical practices that can be applied across a range of learning areas, subjects, and disciplines. This includes building teachers' and leaders' capacities to engage in high quality inquiry practice, interpret and use assessment information to plan for, and with students, and promote literacy and mathematics across the curriculum.

Next steps

Leaders and teachers should give greater priority to creating the conditions under which Years 9 and 10 students can experience success at school in literacy and mathematics. To achieve this ERO recommends that:

- school leaders review the extent to which teachers are making use of literacy and mathematics assessment information to plan, implement and review the curriculum, and make improvements on the basis of their findings
- boards of trustees and school leaders set, regularly monitor, and respond to, targets for learners whose literacy and mathematics achievement and progress needs to be accelerated
- teachers establish learning-focused partnerships with students that build their capacity to take increased responsibility for aspects of their literacy and mathematics learning.

ERO recommends that the Ministry of Education:

- continues to promote *The New Zealand Curriculum* vision of literacy and language teaching being the responsibility of all teachers
- clarifies for secondary schools the expectations for monitoring student achievement and progress at Years 9 and 10, and the use of students' achievement information to plan programmes that take account of their learning needs and strengths
- provides professional development and resources that support teachers to understand and meet the literacy and language, and the numeracy demands of their particular learning area
- continues to focus professional development for teachers and leaders on effectively using assessment information to plan and review the school's curriculum to support individual Years 9 and 10 student's to make progress and achieve success.

APPENDIX 1

Appendix 1: The demographics of the sample

Table 1: Schools by decile

Decile	Number	Percentage of sample	National percentage
Low decile (1–3)	17	25.0	32
Middle decile (4–7)	31	45.6	39
High decile (8–10)	20	29.4	29
Total	68	100	100

Table 2: Schools by size

School roll size	Number	Percentage of sample	National percentage
Very small	2	2.9	11
Small	17	25.0	26
Medium	32	47.1	36
Large	14	20.6	19
Very large	3	4.4	8
Total	68	100	100

Table 3: Schools by locality

School locality	Number	Percentage of sample	National percentage
Main urban	38	55.9	53
Secondary urban	5	7.4	6
Minor urban	19	27.9	12
Rural	6	8.8	29
Total	68	100	100

Table 4: Schools by type

School type	Number	Percentage of sample	National percentage
Composite (Yr 1-10)	1	1.5	1
Composite (Yr 1-15)	13	19.1	30
Secondary (Yr 7-15)	16	23.5	21
Secondary (Yr 9-15)	38	55.9	48
Total	**68**	**100**	**100**

Appendix 2: Criteria for judgments of effectiveness

Evaluation Question	Criteria for making the judgment "highly effective"
Evaluation Question One How effectively is student achievement information **sought and used at key transition points** (Years 8–9, Years 10–11)?	There are well developed and well understood systems established for exchanging/sharing information about students as they transition at key points. These systems apply within and beyond the school. The systems for gathering information and responding to students' learning needs are appropriately inclusive of multiple parties (students, teachers, school leaders, parents, whānau, external agencies, Special Education Needs Coordinator (SENCO). Decisions about: (a) the placement of students (b) subjects students take (c) programmes to address student's learning needs appropriately address all student groups (ethnic, gender, students with educational learning needs, children with special abilities). Leaders regularly review (a) the processes they use in gathering and analysing data, and (b) the appropriateness of the responses they make for transitioning students.
Evaluation Question Two (a) How effective are the processes used in **determining the achievement and progress** students make in literacy and mathematics at Years 9 and 10?	**Gathering achievement information** The tools teachers use are appropriate for gathering useful data about student achievement **and** progress in literacy **and** mathematics. Multiple sources of data are collected and analysed to arrive at valid judgements about each student's achievement and progress in literacy and mathematics. Data is collected at multiple points in time so that there is longitudinal evidence of student achievement and progress.

Evaluation Question	Criteria for making the judgment "highly effective"
Evaluation Question Two (a) continued How effective are the processes used in **determining the achievement and progress** students make in literacy and mathematics at Years 9 and 10?	Data is collected for all groups of students (ethnic, gender, students with special education needs and students with special abilities) in literacy **and** mathematics. **Analysing and interpreting achievement information** Data is disaggregated for each student group (ethnicity, gender, students with special education needs and students with special abilities) in literacy **and** mathematics. Data is analysed for trends in the performance of groups of students in literacy and mathematics. External standards and/or criteria are used as tools to aid in the interpretation of mathematics and literacy data. Comparison is made to expected learning standards throughout the year. Comparison is made to expected learning standards over successive years. Multiple people know about the findings through such processes as collaborative data teams and professional learning communities. Inquiry is embedded in the culture of the school.
Evaluation Question Two (b) How effective are the processes used in **setting improvement goals and targets** for these students?	Goals and targets for groups of students align appropriately with the findings about their achievement and progress. Goals and targets appropriately address all identified student groups (ethnic, gender, students with educational learning needs, students with special abilities). Multiple parties know about, and are involved in fostering the attainment of the goals and targets that are set for students in literacy and mathematics.

Evaluation Question	Criteria for making the judgment "highly effective"
Evaluation Question Two (b) continued How effective are the processes used in **setting improvement goals and targets** for these students?	Teachers have a clear understanding of the implications of the goals and targets for programme planning and implementation. The goals and targets are in evidence in their programmes across the curriculum. Leaders have a clear understanding of the implications of the goals and targets for curriculum management (planning, resourcing and policy development) in literacy and mathematics.
Evaluation Question Three How effectively is assessment information **used to plan and implement and review actions** to improve student achievement in literacy and mathematics at Years 9 and 10?	**Teachers** Teachers, in all subject areas, use literacy and mathematics assessment data to plan for groups of students, and individual students. (Literacy across the curriculum (LAC) and mathematics across the curriculum (MAC)) Teachers in all subject areas cater for the diversity of achievement in their classes. Teachers regularly review whether the literacy and mathematics programmes they provide in their classrooms are meeting students' needs. **Students** Students know about their achievement and progress relative to expected levels/standards, and help to plan future learning that specifically addresses their learning strengths and next steps. **Leaders, teachers and trustees** Leaders provide time and guidance to teachers that support them to make appropriate provision for students in their classes. The programmes/initiatives leaders and teachers make are sustainable over time. Programmes are appropriately resourced (through materials and personnel) and the rationale for these is clearly articulated and understood.

Evaluation Question	Criteria for making the judgment "highly effective"
Evaluation Question Three continued How effectively is assessment information **used to plan and implement and review actions** to improve student achievement in literacy and mathematics at Years 9 and 10?	Leaders implement well-coordinated systems in which teaching is clearly linked to strategic planning and expectations for professional practice. The responses/initiatives leaders and teachers make are supported by board of trustee resourcing and ongoing interest. School leaders undertake robust review of initiatives (the review is focused on gathering evidence of outcomes for students). The review process is inclusive of the perspectives of multiple parties (students, teachers, leaders, teacher aides, SENCO, parents/whānau and trustees) and the results are shared with them. The review findings result in improvement to programme provisions for students in literacy and mathematics.

APPENDIX 3

Appendix 3: The New Zealand Curriculum

The New Zealand Curriculum for English-medium teaching and learning in years 1–13[36] (*The NZC*) is the guiding document for schools and teachers in Aotearoa New Zealand. It is a "statement of what we deem important in education", and a framework for teaching and learning that ensures "all young New Zealanders are equipped with the knowledge, competencies, and values they will need to be successful citizens in the twenty-first century".[37]

THE NEW ZEALAND CURRICULUM: TRANSITIONS AND PATHWAYS

The NZC outlines the importance of schools designing and implementing the curriculum "so that students find transitions positive and have a clear sense of continuity and direction".[38] Practices that contribute to this include:

- using information well to plan teaching and learning programmes that meet students' identified needs
- evaluating these programmes in terms of outcomes for students
- providing learning experiences that are relevant to students
- ensuring that there are effective systems for sharing information amongst key personnel about the progress and achievement of students
- tracking the progress of individual students, identifying learning priorities and planning to achieve these over time
- designing and evaluating course structures so that students experience a variety of learning approaches
- ensuring that students have access to a range of subject areas and that their learning builds progressively over their time at school
- linking students' curriculum to career pathways.

By the time students leave secondary school they should be well underway with developing the Key Competencies (thinking; using language, symbols, and texts; managing self; relating to others; participating and contributing) that will equip them to "live, learn, work and contribute as active members of their communities".[39] In order to promote successful transitions through school, and pathways into employment or further learning, teachers should foster the Key Competencies at all year levels in a student's education.

36 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited.

37 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited. p.4

38 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited. p.41

39 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited. p.12

THE NEW ZEALAND CURRICULUM: STUDENT ACHIEVEMENT, PROGRESS, AND SETTING GOALS AND TARGETS

Processes for knowing about achievement and progress

Teachers are expected to gather information in a timely and focused manner so they are able to know how well students are achieving and progressing. In order for teachers to know how well students are achieving and progressing they, guided by school leaders, need to:

- undertake a planned programme of assessment that includes gathering, analysing, interpreting and using student data
- using a range of assessment sources, draw together valid and reliable evidence of students' achievement and progress
- regularly monitor students' learning so that teachers can know how well they are achieving and progressing, and use this information to adjust the programme to meet their identified learning needs and strengths.

Setting improvement goals and targets

Improvement goals and targets help schools to focus on what is important in terms of lifting students' achievement. These goals and targets are recorded in the school's charter. They should be developed to ensure that the school is making continuous improvement in learning and teaching. Assessment information, and other information gathered through school self review, is used to establish goals and targets.

Through goals and target setting processes, schools identify and document:

- which students are the priority group(s) (using current and historical school achievement and progress data)
- the achievement outcomes that are desired (using, as a reference point, expected achievement levels and/or information about normed achievement levels)
- what planning and practice needs to happen to bring about these outcomes (at a school level and a classroom level)
- who needs to be involved in achieving the outcomes
- the human and material resources that will be allocated to students and teachers
- the points in time when the goals and targets will be reviewed (preferably at multiple intermediary points and at an end point)
- who will need to know about the outcomes of this review and the expectations with respect to how the information will be used.

THE NEW ZEALAND CURRICULUM: USING ASSESSMENT INFORMATION TO PLAN, IMPLEMENT AND REVIEW ACTIONS TO IMPROVE STUDENTS' ACHIEVEMENT

Planning

Teachers should plan programmes in literacy and mathematics that clearly state what it is that they want students to learn and how they will achieve this. Planning should:

- address students' identified needs, strengths and interests
- help students to build on, and make links to, existing learning
- provide high quality learning experiences and opportunities for all students to be engage as learners
- focus on providing all students with chances to enjoy success and challenge them as learners
- foster the principles, values, Key Competencies and learning areas described in *The NZC*.

Implementing

The NZC describes seven teaching approaches that have extensive evidence of effectiveness in terms of their positive impact on students' learning.[40] These are:

- creating a supportive (caring, inclusive, non-discriminatory, and cohesive) learning environment
- encouraging students to critically reflect on their learning
- making it clear to students what they are learning, why they are learning it and how they will be using new learning
- facilitating students' learning from, and with other people, including learning from their teachers, peers, parents and the wider community
- students having opportunities to connect and integrate new learning with what they already know
- students having sufficient opportunity to learn, including multiple chances to re-engage with ideas previously encountered
- teachers inquiring, in a systematic and rigorous manner, into the impact of their teaching on outcomes for students.

Each of these approaches applies to teaching and learning in literacy and mathematics. Where these approaches are used, teachers will be contributing well to the vision of supporting students to become "confident, connected, actively involved, and lifelong learners".[41]

40 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited. p.34-35.

41 Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1–13*. Wellington: Learning Media Limited. p.8.

Reviewing learning and teaching

Effective teachers will routinely use teaching as inquiry to know about the impact of their practice on students' learning. "Teaching as inquiry is a cyclical process that goes on moment by moment (as teaching takes place), day by day, and over the longer term." As teachers engage in inquiry they are guided by three important questions:

- What is important (and therefore worth spending time on), given where my students are at?
- What evidence-based strategies are most likely to help my students learn this?
- What happened as a result of the teaching, and what are the implications for future teaching?

An important feature of inquiry is a teacher's disposition and skill at using assessment information to improve students' learning and their own teaching. Effective assessment practice:

- involves making use of well analysed data for the purpose of teaching and learning
- is substantially focused on clarifying for students what they know and can do, and what they still need to learn.
- equips students with knowledge about the outcomes required and the criteria for success, coupled with specific feedback from teachers in relation to performance towards achieving the outcomes
- provides students with opportunities for self direction such as reflection on their learning, goal setting, and self and peer assessment
- informs students about how and why they are being assessed.

School leaders should use collated and analysed achievement information to know about the impact that programmes are having on students' learning. Information can be used to make decisions about changes to programmes or initiatives, practices in the classroom, and polices that relate to literacy and mathematics.

The board of trustees should have timely access to good quality literacy and mathematics information that helps them to make decisions about how to resource appropriately literacy and mathematics programmes and initiatives. Through well managed curriculum review processes, trustees should also be kept well informed about the overall performance of students, and of groups of priority students whose progress and achievement is of particular interest. This means that trustees will need to know how well students are achieving and progressing relative to their year level within the school, and to students nationally. On the basis of this information, leaders and boards of trustees will be able to set appropriate targets for students whose achievement needs to be accelerated.

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