

YEAR 7

## Teaching and Learning in Middle Schooling: A Review of the Literature



A summary of the review document prepared for the  
Ministry of Education by: **Stephen Dinham & Ken Rowe**  
of the Australian Council for Educational Research

ISBN: 978-0-478-13964-8

Web Copy ISBN: 978-0-478-13965-5

RMR-913

© Ministry of Education, New Zealand — 2008

Research reports are available on the Ministry of Education's website Education Counts:

[www.educationcounts.govt.nz/publications](http://www.educationcounts.govt.nz/publications).

Opinions expressed in this report are those of the authors and do not necessarily coincide with those of the Ministry of Education.

**New Zealand Government**

# Teaching and Learning in Middle Schooling: A Review of the Literature

*A Summary of the review document  
prepared for the Ministry of Education  
by Stephen Dinham and Ken Rowe of the  
Australian Council for Educational Research*

## **Preliminary Note**

This paper is a summary of a review of literature carried out in 2007 for the Ministry of Education by Dinham and Rowe of the Australian Council for Educational Research.<sup>1</sup>

Their review, together with the summary presented here, are components of a Ministry research programme focused on teaching and learning in the middle schooling years. Other projects within the programme include: a *Study of Students' Transition from Primary to Secondary Schooling*; an investigation of the skills, knowledge and values that may be required by teachers to most effectively meet the needs of Years 7 to 10 students; and an in-depth analysis of 'student engagement' during the middle schooling years.<sup>2</sup>

The reviewers scrutinised a range of recent literature on middle schooling for the purposes of the review, including pertinent research that they have been involved in.

The review document provides a valuable 'way in' to increasing understanding about the thinking behind or rationale for the concept of 'middle schooling', and what has been learned about factors involved in effective teaching and learning practice for 'middle years' students. It also highlights issues and concerns for consideration, and suggests ideas, as well as cautions, regarding 'next steps' for research, policy, and practice in middle schooling.

The reviewers point out however that certain ideas or conclusions reached on the basis of the reviewed literature represent their own particular views and that these do not necessarily coincide with those of the Ministry of Education.

## **The Content of this Paper**

This paper includes:

- a brief background to and rationale for commissioning a review of the middle schooling literature, plus explanatory notes about this summary report (refer Endnote 1 on p. 29);
- an outline of the context for and philosophy of the 'middle schooling' movement, including definitions of key concepts (pp. 6–9);
- a note about the history of middle schooling in New Zealand and like countries (pp. 9–11);
- identification of key concerns of middle schooling (pp. 11–17);
- reference to middle schooling initiatives, and the question of whether 'middle schooling makes a difference' (pp. 17–21);
- identification of difficulties that can arise when implementing middle schooling initiatives, and comments on current status and future directions for reform (pp. 21–22); and
- key requirements for successful middle schooling initiatives (pp. 23–25).

The paper concludes with a recap of key points raised throughout the review document (pp. 26–28).

## **A Definition**

In the present context, students in the middle schooling years are defined as students in Years 7 to 10 (in a range of school types within) the New Zealand education system and who are, generally speaking, aged between 10 and 15 years.

## Background

The literature review on teaching and learning for students in the middle schooling years summarised in this paper was undertaken in 2007. It was commissioned by the New Zealand Ministry of Education following identification of the following issues:

- limited quality data on middle schooling outcomes in New Zealand;
- the need to develop an evidence base to inform decisions and policy development in relation to middle schooling;
- the need to ensure that decisions are informed by the best evidence about effective curriculum and pedagogical approaches in the middle years of schooling; and
- the need for a coherent, coordinated approach to establishing and generating an evidence base related to middle schooling, including options for wider research on early adolescent education in the middle years.

## Rationale for Investigation

The Ministry's rationale for commissioning the review was set out as follows:

- New Zealand needs a well educated population to ensure its economic, democratic and social wellbeing.  
  
Government has a responsibility to develop a school network for the twenty-first century which ensures that the schooling system delivers high quality outcomes for all students.
- Research evidence clearly shows that what teachers know and do is one of the most important influences on what students learn. Effective teaching is identified as a key system lever for high quality outcomes for students in their middle years of schooling.

- While evidence indicates that the structure of a school does not, *per se*, greatly influence student outcomes, new or changed arrangements can act as a catalyst for changing thinking and teaching practice.
- The Ministry is interested in encouraging age-appropriate pedagogies rather than promoting a particular schooling model, because there is strong acceptance that the performance of individual teachers outweighs the effects of other variables such as school size and school structure.

## The Literature Review

The key purpose of the review, as stipulated by the Ministry of Education, was to provide:

*'...a critical examination and analysis of the literature, to assess what we know about the impact of teaching and learning during the middle school years (Years 7 to 10) on student engagement, achievement and attitudes to learning...'*

As reviewers, Dinham and Rowe aimed to:

- identify social and behavioural characteristics of students in this age group in terms of their learning needs;
- identify pedagogies, with particular reference to age appropriate pedagogies, that have an influence on student engagement, achievement and attitudes to learning during Years 7 to 10;
- indicate the effect of curriculum development and implementation on student engagement, achievement and attitudes to learning during Years 7 to 10;
- identify aspects of teacher professional development that have positive influences on student engagement, achievement and attitudes to learning in Years 7 to 10; and

- identify the impact of different school structures (eg, Year 7 to 13 secondary, composite, restricted composite) and settings (eg, single sex, coeducational, rural, urban) on student engagement, achievement and attitudes to learning during Years 7 to 10.

## Limitations/Scope of the Review

The reviewers noted that while there is a great deal of published material on *middle schooling*, much of it involves ‘opinion and advocacy’. By contrast, they found there is a ‘... paucity of quantitative studies employing strong evidence-based RCT [randomised control trial] methods that have investigated the relative effects of various forms of *middle/non-middle schooling* ...’. Their review therefore focused on ‘critically reviewing **trends** and **themes** in the predominantly non-quantitative published literature’, supplemented where possible with findings from relevant, quantitative studies and evidence-based reports and reviews’. Dinham and Rowe emphasise that a particular challenge is that while *middle schooling* is relatively under-researched, there are strong views on the subject, both for and against, and that it is necessary to ensure that available literature is carefully examined and critiqued.

A further challenge to be kept in mind is that ‘the wide range of types and approaches to *middle schooling* can make evidence-based comparisons and data collection of middle school performance difficult’.

## Background and Context for the ‘Middle Schooling’ Movement

The rationale for reform initiatives focused on middle schooling since the 1980s has arisen in response to concerns about less than optimal learning progress among emerging adolescents, and more particularly, their attitudes, behaviours and engagement in schooling.

A major aspect and concern of *middle schooling* approaches and philosophies is that of ‘engagement’. Disengagement from learning and school by some students in the early secondary years is a well recognised phenomenon in New Zealand and like countries. Often, ‘switching off’ is accompanied by behavioural problems which can further undermine educational attainment and later educational participation and achievement.

## Key Questions Regarding Middle Schooling

In Dinham and Rowe’s view ‘A key question, then, is that of how schools and systems are responding to the perceived development needs of students in Years 7 to 10, and whether *middle schooling* approaches advantage or disadvantage students moving on to senior secondary education, over and above what they might have achieved in ‘regular’ primary and secondary schooling. In other words, a central concern is the question of what difference *middle schooling* makes to student achievement and engagement, and whether differences can be explained, measured and evaluated with validity and reliability.

Other important questions are ‘what do students and their parents want from schooling in the middle years?’, and ‘are these perceived needs best catered for using middle schooling approaches?’

## Defining the ‘Middle Years of Schooling’

The middle years have been variously defined, sometimes using age ranges, sometimes school ‘years’ or grades. Broadly speaking, the ‘middle years’ refers to young people aged from 10 to 15 years. More importantly, the middle years ‘bridge’ encompasses the period from pre-pubescence to adolescence and sexual maturity, and from upper-primary (Years 7–8) to junior-secondary education (Years 9–10) — traditionally two quite distinct forms of schooling in terms of curriculum delivery, structure and approach. In the New Zealand context, middle schooling also incorporates separate intermediate schools (Years 7–8).

The middle years are also taken to be the period when young people begin to think more deeply about the world around them and to take a more independent approach to learning and thinking.<sup>3</sup>

Despite the range of definitions, there does seem to be broad agreement<sup>4</sup> that:

‘Middle school’ refers to a separate organisational unit (a school or sub-school) for young adolescents’; and that

‘middle schooling’ refers to a particular philosophy or set of principles about teaching, learning and curriculum for young adolescents.’

## What are Middle Schools?

Middle schools can be a structural arrangement and/or a pedagogic approach/philosophy to accommodate students in the middle schooling years. A middle school can be both a building and a philosophy.

There are a wide range of middle school models and structures, including separate middle schools

(Years 7 to 10), New Zealand intermediate schools (Years 7 and 8), separate middle school units within existing primary or secondary schools, and traditional primary and secondary schools which adopt middle school philosophies and practices.

Within the range of types of middle schools and middle schooling, there are many further variations: for example, single sex, coeducational, academically streamed vs. unstreamed or somewhere in between, and schools that organise learning around traditional subject areas, while others follow thematic or integrated approaches in some or all areas of the curriculum. Also, there are some middle schooling schools or approaches that use specialist teachers, whereas others use generalist teachers, and still others that use both.

## Development of the Middle School/ing Concept

The literature indicates that: ‘the middle school is generally taken to have developed in the USA in the early part of the 20<sup>th</sup> century. To some degree, their development paralleled, reflected and reinforced the social construction of adolescence in the western world: whereas previously puberty had marked the change from childhood to adulthood, and from schooling (preparation for adulthood) to work and adult responsibility, the 20<sup>th</sup> century saw the extension of adolescence and schooling and the delay of work and life responsibilities, at a time when sexual maturity was occurring at younger ages. Adolescence became more of a ‘stage’ than an event.’<sup>5</sup>

‘Prior to the first middle schools, junior high schools, comprising grades 7–9, had been established in response to continuing concerns over primary to secondary transition and post-compulsory retention/high school completion.’

‘However, by the late 1960s the prevailing view was that the junior secondary school was in urgent need of reform.<sup>6</sup> The response was a middle school model and movement, which grew rapidly. Rather than re-configured junior high schools, the increasingly common American Grade 6–8 middle schools were characterised by ‘new’ specialised approaches to teacher training and pedagogy, including integrated curriculum.’

But concerns over adequately meeting the developmental needs of students continued. An influential project in the late 1980s, *Turning Points*<sup>7</sup>, referred to ‘a mismatch between student needs and school structures/curriculum, high levels of student alienation, significant absenteeism and poor quality teaching.

*Turning Points* identified a number of ‘key qualities for middle schooling’, which have subsequently been widely adopted. These were:

- a focus on student developmental needs;
- high academic expectation;
- life connection;
- interdisciplinary teaching;
- flexible scheduling; and
- student advisory periods.

### The Philosophy of ‘Middle Schooling’

Fundamental principles underpinning middle schooling philosophies are said to be that students in the middle years require:

- a different kind of school environment and curriculum;
- teaching which better accommodates their educational, personal and social needs and development; and
- assistance in the transition between traditional primary school and secondary education, and from childhood to adulthood.

Chadbourne (2003)<sup>8</sup>, for example, in seeking to clarify the philosophy of middle schooling, and to distinguish it from other forms of schooling, proposed that:

“While the philosophy of *middle schooling* in itself is not distinctive, its application to young adolescents is. That is, although *middle schooling* principles and practices may be common and central to all progressive education programs, their application can and should be context-specific. ...”; and

“... middle school teacher education programs are developing characteristics that distinguish them from the other programs. In broad terms these characteristics include: more focus on early adolescence, more focus on crossing the primary/secondary school divide, more focus on working within a small middle school learning community structure, and more focus on making generic principles middle-years-specific.”

Dinham and Rowe also identify the importance of a curriculum that is responsive to the needs of the students, stating that:

‘Implicit in most conceptions of middle schooling is the belief that a different form of school organisation and pedagogic approach will facilitate enhanced student achievement over and above that which could be achieved in traditional upper primary/lower secondary education.’

They refer too to ‘key elements’ of effective middle schools associated with curricula responsive to the developmental needs of early adolescents, identified by Dowson et al (2005)<sup>9</sup>:

- *Relevance* – personal meaning derived from middle-school curricula which engages students with the ‘real world’;

- *Responsibility* – appropriate self-control over learning, accountability and responsibility;
- *Belonging* – a sense of acceptance and affirmation within a supportive and safe learning environment;
- *Awareness* – both self and social awareness, through appropriate curricula and learning;
- *Engagement* – defined here as meeting students’ developmental needs through tasks which are motivating, challenging and invite affiliation;
- *Competence* – developing personal expertise and competencies, knowledge and skills;
- *Ethics* – facilitating ethical awareness and developing personal values; and
- *Pedagogy* – active rather than passive learning.

### Why Interest in the Middle Years? Are the Middle Years Special?

Since the mid-1960s, there has been a much greater focus on effective schools, both primary and secondary, and on school change and improvement. However, while the primary and upper secondary years have received the bulk of attention from researchers and policy makers, the middle years have until recently been described as ‘forgotten’, and a ‘black hole’. The middle years have been problematised as a critical period when young people experience substantial physical and emotional change which prepares them for adulthood. During this time, some students disengage or are alienated from learning, and growth in academic attainment can plateau or even fall. There are concerns over literacy and numeracy achievement as well as concerns over failure to engage with, and continue studies in, subjects such as mathematics and science in the senior secondary years and beyond.

These are also the years where attitudinal, behavioural and social problems can escalate, and absenteeism, suspension and expulsion from school are most common, especially for boys. As well, it is a period when matters such as body image and sexual orientation can become critical issues for some.

There is an important principle underpinning *middle schooling* that these phenomena are attributable to, at least in part, and can be ameliorated by, different organisational, curriculum, assessment and pedagogical approaches.

## Middle Schooling in New Zealand and in Similar Countries

As indicated earlier, the ‘middle school/middle schooling’ structure and concept developed in the USA in the early part of the 20<sup>th</sup> century.

### USA

Overall, the research evidence on middle schooling in the USA, where around 20 million 10 to 15 year-old American students are enrolled,<sup>10</sup> is mixed. There have been concerns that societal and demographic pressures, rather than evidence of their effectiveness, has led to the development of separate schools for young teens.<sup>11</sup>

### UK

There has been a diversity of approaches to middle schools in the UK. As well, a marked decline in the number of middle schools since the early 1980s has occurred, and this decline is ongoing. Factors such as the introduction of National Curriculum and National Assessment, concerns over educational standards in middle schools, and financial concerns over maintaining a third tier of educational provision have all influenced this decline.<sup>12</sup>

## Australia

By contrast, Dinham and Rowe report that, in Australia, there has been an increasing focus on middle schooling over the past 20 years, albeit mainly in the non-government sector. But they caution that there is so far not a great deal of firm evidence on the effects of middle schools and middle schooling approaches on personal, social and academic achievement outcomes and that middle schooling in Australia is "... something of an unfinished project".<sup>13</sup>

However reference is made in the review to two quite recent Australian middle schooling studies — the *Middle Years Research and Development Project*<sup>14</sup> and *Beyond the Middle*<sup>15</sup> — which have identified important factors for bringing about positive advances for students. These factors include the following. That:

- schools and their communities recognise that there is a need for change;
- school leaders and teachers believe that they have a responsibility for sustaining motivation and improving skills of teachers and students respectively;
- whole-school commitment is secured;
- there is a focus on the teaching–learning practices in the classroom;
- approaches to assessing and reporting social and academic student outcomes are integrated and aligned;
- school-based innovations in middle years pedagogy and assessment focus on student outcomes;
- the curriculum is made less crowded to enable depth of understanding;
- primary and secondary schools collaborate through clusters to build curriculum consistency and facilitate student transition;

- professional learning teams are established to support teachers to plan, implement and evaluate school change;
- reforms are supported by targeted increases in resources;
- data-informed, evidence-based, evaluative approaches to instructional effectiveness and school improvement are adopted;
- there is cooperation, consistency and partnership between primary and secondary teachers/schools;
- there is use of a whole-school design model and a set of strategic intentions as a conceptual guide;
- there is investment in teacher professional development; and
- there is ongoing professional development of leaders to enhance staff and student learning.

## New Zealand

Dinham and Rowe observe that despite debate and discussion that has taken place over many years, with 'strong views both in favour of and against the concept', 'middle school education has been relatively slow to develop in New Zealand'. They note however that New Zealand 'is unusual in having Intermediate Schools [first established in the early 1920s] catering for Years 7 and 8'.

Ward (2000)<sup>16</sup> explained:

"In New Zealand ... Intermediate Schools ... feature homeroom teaching, characteristic of primary schools, with some additional specialist teaching. In this way they offer the pupils the continuity of the familiar integrated curriculum delivery model, while introducing specialist teaching which is more characteristic of secondary schools."

The reviewers refer to Nolan and Brown (2002)<sup>17</sup> who ‘make the point that although many elementary and intermediate teachers in New Zealand appear to be opposed to the four-year-model of middle schools (Years 7–10), they are increasingly adopting the philosophy and approaches of *middle schooling*’.

They also offer for consideration the following statement from Nolan and Brown:

“[While] the elementary and secondary schools which predominate in New Zealand have changed and developed in both general and specific ways over the years ... the general form of education they provide has remained essentially the same. The elementary schools remain expressive and nurturing, focussed on the development of generic attitudes, knowledge and skills. In some important respects ... New Zealand elementary schools are renowned internationally, but they are nonetheless not places well suited for emerging adolescents. The secondary schools have persisted with a largely discipline-based, compartmentalised, and academic curriculum and, in the main, their teachers employ a didactic form of pedagogy. The intermediates are generally thought to be different from the elementary and secondary schools. It remains moot ... as to whether they cater to the needs of the children who attend them any better than do the other types of New Zealand schools which emerging adolescents attend.”

## **Identifying Key Concerns of Middle Schooling**

Frequently raised concerns regarding students in the middle years of schooling include the following.

### **The Primary to Secondary Transition**

A key concern underpinning middle schooling has been the primary to secondary transition. However, it is emphasised that ‘while some students will find the transition somewhat difficult, other students will relish the changes associated with a larger school, a greater number of teachers, older students, a larger peer group, and the variety and challenge of the secondary school.’

The reviewers also note that ‘paradoxically, while some students fear that secondary school work will be difficult for them, there appears to be a significant issue with expectations and standards in the early secondary years that are too low for some students. Boredom and disengagement can result from a lack of challenge, and can lead in turn to behavioural problems.’

### **Literacy and Numeracy in the Middle Years**

The early secondary years mark the point where some students who were already underachieving in literacy (and numeracy) in the primary years fall further behind their peers. Because so much of schooling is literacy based (including mathematics), those students inadequately equipped with literacy skills can stall and even decline in the early to mid-secondary years. However there are literacy programmes and approaches which have been found to be effective in the middle years.<sup>18</sup> Teachers’ professional learning to master these approaches is strongly advocated.

Like literacy, numeracy can also be problematic in the early secondary years where, again, some students plateau or even decline in achievement. Once more, the quality of teaching and teachers' professional learning have been found to be vital factors in facilitating student achievement in numeracy.<sup>19</sup>

### The Issue of Student Engagement

One of the most frequently stated concerns with schooling in the middle years is the decline in engagement and even disconnection with schooling that can occur for some students, and its resultant effects.

As with other educational terminology, looseness of definition can be problematic. Student engagement is sometimes conflated with 'time on task' and lesson participation, although, alternatively, 'engagement' is often taken to be a wider outcome of schooling to do with school life, and not just something occurring in individual lessons.

The Longitudinal Surveys of Australian Youth (LSAY) project incorporated a study of student engagement<sup>20</sup>. Its findings included:

- that levels of engagement were higher where students believed that their school had a good climate, that is, that their school had high quality teachers, effective discipline, high levels of student learning and a positive school spirit;
- that overall level of student engagement in the school was a strong predictor of [individual student] engagement and that high engagement at the school level moderated the negative effects of socio-economic status and indigenous status, indicating that the school environment has an important influence on student engagement.

Overall, the LSAY project found that the school a student attends does matter when it comes to engagement. This is partly a result of resources and advantage — wealthier schools can offer a greater amount and variety of extracurricular activities — but the efforts made by schools and the emphasis that is placed on extracurricular activity is also important. Strong participation in such activities more closely connects students to the school and "...[is seen to result in] 'flow-on' effects to more academic parts of the curriculum".

### Higher-order Thinking

A concern with traditional schooling during the middle years is that of insufficiently high intellectual demands being placed on students, and the 'dumbing down' of the curriculum. Higher-order thinking is therefore seen as an important outcome of effective middle years schooling.

However, research results on the efficacy of teaching higher-order thinking skills in middle schooling contexts so far appear only tentative. Some studies report improved motivation, engagement and achievement, although Dinham and Rowe found that the effects of higher-order thinking skills approaches 'tend to be conflated with other learner-centred approaches'.<sup>21</sup>

### Pedagogy for the Middle Years

An often stated feature of *middle schooling* is the utilisation of pedagogies that are believed to be more suited to the developmental needs and interests of adolescents. Dinham and Rowe state that 'These are commonly taken to be strategies such as 'cooperative learning', greater student involvement in negotiating the curriculum, concentration on materials and skills relevant to middle school-age students and their lives, 'discovery learning', and 'team teaching'.'

They refer to an observation made by the Northern Territory Council of Government School Organisations (2005, p.26)<sup>22</sup> in its review of middle schooling:

“Teachers are seen as the key factor in successful middle schools. Classroom pedagogy must respond to the diverse needs and abilities of middle year students. To respond effectively, pedagogy must be flexible, reflecting creative uses of time, space and other resources as well as group and individual needs. It must also be learner-centred with an emphasis on self-directed and co-constructed learning. Flexible classrooms provide every learner with tasks that are engaging and that develop understanding and skills.”

A common finding in the published literature, however, is that teachers frequently feel under-prepared and ill-equipped to adopt and utilise these approaches and strategies.

The literature review records that: ‘There is also concern about a general lack of middle school-specific teacher training, with the result that teachers are attempting to adopt their ‘regular’ training and teaching styles, either primary or secondary, to middle school settings. A further tension in preparing middle years teachers is achieving the ‘right balance’ between generalist teaching knowledge, which can work against depth, and subject specialisation, which can work against breadth of curriculum knowledge, pedagogy and understanding. The literature<sup>23</sup> also recommends that middle years teachers have pedagogic knowledge and skills in literacy and numeracy, as well as ICT.’

An evaluation of three middle schools in Australia found that:

“...students [often] held a negative perception of the teaching and learning environment provided in the schools.”

As a result, the evaluators, Rafiq and Woolnough (2005)<sup>24</sup>, recommended the need for specific pre-service and in-service training for middle years teachers, with such training underpinned by an understanding of adolescents’ needs. But they also noted that teachers’ enthusiasm for the concept was an issue and that interdisciplinary teaching needed to go further.

As well, Dinham and Rowe highlighted a further issue: that of the extent to which ‘middle schooling’ should be responsible for addressing certain social and behavioural issues. They stated: ‘Overall, what comes through in Rafiq and Woolnough’s evaluation report is a sense that the expectations for middle schools to solve a raft of problems associated with adolescence (bullying and violence, drugs and smoking are mentioned), in addition to facilitating student learning, is unreasonable.’

### *Discovery learning or ‘constructivism’*

Another key debate around middle schooling pedagogy is that of ‘discovery learning’. Discovery learning is sometimes labelled cognitive constructivism, or social constructivism, and is seen by some as “a preferred instructional method” in education, especially during the middle years. Mayer (2004)<sup>25</sup> is quoted:

“As constructivism has become the dominant view of how students learn, it may seem obvious to equate active learning with active methods of instruction. Thus, educators who wish to use constructivist methods of instruction are often encouraged to focus on discovery learning – in which students are free to work in a learning environment with little or no guidance.”

Mayer concluded from a review of the research literature that...

“...the formula *constructivism = hands-on activity* is a formula for educational disaster. Activity may help promote meaningful learning, but instead of behavioural activity *per se* (eg, hands-on activity, discussion, and free exploration), the kind of activity that really promotes meaningful learning is cognitive activity (eg, selecting, organising, and integrating knowledge). Instead of depending solely on learning by doing or learning by discussion, the most genuine approach to constructivist learning is learning by thinking ... guidance, structure, and focused goals should not be ignored. This is the consistent and clear lesson of decade after decade of research on the effects of discovery methods.’

According to Dinham and Rowe, Mayer makes a vital additional point regarding constructivist-based discovery learning:

“The larger message ... is that psychology has something useful to contribute to the ongoing debate about education reform ... particularly given overwhelming findings from the large body of evidence-based psychological research for the primacy and utility of *direct/explicit* instruction. ... Whereas *constructivism* is an established, legitimate theory of *learning and knowing*, ... it is **not** a theory of teaching.”

They consider that this has particular relevance for effective pedagogy during the middle years, especially given the strong advocacy in middle schooling teaching for ‘hands-on’, ‘action-oriented’, constructivist learning activities.

In highlighting that *constructivism* should not be regarded as an operational *theory of teaching*, Wilson (2005, pp.2–3)<sup>26</sup>, (a former CEO of the Australian Curriculum Corporation), suggested that:

“... Australian and New Zealand operational views of constructivism confuse a theory of knowing with a theory of teaching. We confuse the need for the child to construct her own knowledge with a form of pedagogy which sees it as the child’s responsibility to achieve that. We focus on the action of the student in the construction of knowledge rather than the action of the teacher in engaging with the child’s current misconceptions and structuring experiences to challenge those misconceptions. ... The constructivist theory of knowing has been used to justify a non-interventionist theory of pedagogy, whereas it is a fair interpretation to argue that constructivism requires vigorous interventionist teaching: how, after all, is a student with misconceptions supposed to challenge them unaided? How does she even know they are misconceptions?”

We need, instead, a view of teaching which emphasises that the role of the teacher is to intervene vigorously and systematically; that is done on the basis of excellent knowledge of a domain and of student conceptions and misconceptions in that domain, assembled from high quality formative assessments; and that the purpose of the intervention is to ensure that the child’s construction of knowledge leads her to a more correct understanding of the domain.”

Wilson’s assertions are said to highlight concerns about the many, pre-service teacher education

programmes, including some in Australia and New Zealand, that are 'based on *constructivist* views of both learning *and* teaching'.

### The Importance of a Language of Pedagogy for the Middle Years

A number of studies have highlighted the need for teachers engaged in middle schooling initiatives to have a language or model of pedagogy on which to base discussions, planning, teacher learning, student assessment and evaluation. The reviewers refer to middle schooling research<sup>27</sup> which found that:

“...It was clear that there wasn't a shared language for talking about pedagogy between and among the teachers and researchers, and that those terms that were used did not necessarily mean the same thing to all participants.”

In contrast, they cite evidence from an evaluation<sup>28</sup> in which participating schools were required to use the recently introduced NSW Model of Pedagogy in planning, conducting and evaluating the *Quality Teaching Action Learning* (QTAL) projects with which they were involved. 'It was found that teachers, university advisors, system officials and the evaluation team members were all able to reflect on and communicate about pedagogy and pedagogic change using the framework and terminology provided by the NSW model. It was also apparent that many very experienced teachers had been revitalised by both the model and the QTAL projects, and were now engaging in deep discussion about teaching and learning, something which they admitted was largely absent previously.'

### Authentic, Valid Assessment

Dinham and Rowe state that there are two broad aspects of trends in assessment for the middle

years. The first is the attempt to devise more effective and richer assessment tasks 'in-house'. The second is the increased use of externally devised standardised tests (state/provincial, national, international) and the reporting of student and school results in various forms, such as more easily understood student and school reports, and through formulating and publicising school 'league tables'.

In this context, they note that 'the interactive online *Assessment Tools for Teaching and Learning* (*asTTle*) is arguably the most sophisticated and advanced assessment monitoring tool available. *asTTle* is an educational resource for assessing literacy and numeracy developed for the New Zealand Ministry of Education by the University of Auckland under the leadership of Professor John Hattie. *asTTle* provides teachers, students, and parents with information about a student's level of achievement, relative to the curriculum achievement outcomes.'<sup>29</sup>

An important feature of *asTTle* is that teachers can use the provided item bank to create an 'in house' test designed for their own students' learning needs. Once the tests are scored, the *asTTle* tool generates interactive graphic reports that allow teachers to analyse student achievement against curriculum levels, curriculum objectives and population norms.

The review document reports that 'highly effective schools have been found<sup>30</sup> to increasingly use internal and external assessment techniques such as *asTTle*, using the derived achievement progress data for diagnostic purposes'.

Unlike what is available via *asTTle*, some<sup>31</sup> have expressed concerns about traditional assessment methods in schools: that they lack 'authenticity' in terms of validity, and do not allow for

‘assessment for learning’ or the monitoring of student achievement progress and/or ‘growth’.

The implicit assumption with ‘authentic assessment’ is that such tasks are more likely to connect with students’ life experiences. Such ‘relevance’ is considered important in motivating and engaging students. Another point worth noting is that most frameworks and models of pedagogy integrate assessment and, as asserted by Wyatt-Smith et al (2005, p.272)<sup>32</sup>, “effective pedagogy requires effective assessment... .”

The Assessment Reform Group (1999, pp.4–5)<sup>33</sup> listed key ingredients for improving learning through assessment, that is:

- the provision of effective feedback to students;
- the active involvement of students in their own learning;
- adjusting teaching to take account of the results of assessment;
- a recognition of the profound influence assessment has on the motivation and self-esteem of pupils, both of which have crucial influences on learning; and
- the need for students to be able to assess themselves and understand how to improve.

But, at the same time, the Assessment Reform Group identified several ‘inhibiting factors’ of, or cautions about, use of assessment, including:

- “a tendency for teachers to assess quantity of work and presentation rather than the quality of learning;
- greater attention given to marking and grading ... rather than to providing advice for improvement;
- a strong emphasis on comparing pupils with each other which demoralises the less successful learners;

- that teachers’ feedback to pupils often serves social and managerial purposes rather than helping them to learn more effectively;
- teachers not knowing enough about their pupils’ learning needs.”

It is pointed out in the review document that ‘with increasingly greater emphasis on assessment, reporting and accountability, occurring within a context of greater attention being placed on teacher and school performance, as well as litigation for educational malpractice, a key issue lies with the skills, knowledge and tools teachers and schools need to devise authentic, valid and reliable assessment tasks that aid and record learning progress’.

### **Involving Students in the Curriculum and School**

A frequently advocated feature of middle schooling is that of student involvement in classroom curriculum planning: research suggests that ‘when students have a ‘voice’ in and ownership of aspects of the curriculum and the teaching/learning process, their learning is more effective and rewarding’.<sup>34</sup>

Many studies have highlighted the importance of positive relationships with students. Positive relationships are a product of particular approaches to teaching and learning, but they are also the foundation or resource for further improvement in student, teacher and school performance. The ÆSOP study of Years 7 to 10 schools in New South Wales<sup>35</sup>, for example, noted that features of 38 highly performing schools in terms of educational outcomes included a *primary focus on students, learning and teaching*:

“Within the school there was concern for students as people, and teaching and learning were the prime considerations

of the school. There were, commonly, cross-school approaches to pedagogy, assessment, reporting and tracking of student achievement, with a particular focus on the primary to secondary transition. There was an emphasis on data-informed decision making ... and on having clear guidelines and effective communication to ensure that everyone understood procedures and where he or she stood. However, when needed, compassion and flexibility were evident.”

Also:

“Student welfare was found to be central ... and seen as every staff member’s responsibility. The purpose of student support and welfare was not about ‘warm fuzzies’ or boosting self-concept but of ‘getting students into learning’. Support from school leaders for student welfare programs and procedures was essential and students clearly understood that student support and welfare was something done *for* and not *to* them.”

### Generalist Teachers, Curriculum Integration and Interdisciplinarity

Generalist teachers are frequently a feature of middle schools and middle schooling approaches.

A related approach is that of curriculum integration in the middle years rather than traditional discrete subjects. Research indicates that while there can be some slight gains in areas such as student behaviour, attendance and motivation through interdisciplinary approaches, there are also logistical and planning difficulties for teachers.

But the reviewers state that the research on the efficacy of one teaching approach over another

in middle schooling, including in New Zealand intermediate schools, is equivocal.

## Middle Schooling Initiatives Targeted at Specific Problems and/or Groups

### Addressing Behavioural and Social Problems

‘It is generally acknowledged that behavioural and social problems in schooling are most prevalent during the middle years.<sup>36</sup> Teachers in the middle years typically experience challenges around managing the behaviour of their students, maintaining effective and productive classroom environments, and ensuring students’ engagement in learning and their achievement progress – especially in literacy. This also raises issues related to the vital link between education and health.’

Literacy, and general, under-achievement can seriously compromise the quality of a student’s future, and has high social and economic costs in terms of both health and crime.<sup>37</sup>

While behavioural issues in the classroom are likely to be a result of complex, interrelated factors, some research shows that increasing literacy achievement “...significantly **decreased** ... inattentive behaviors in the classroom”.<sup>38</sup>

‘The implications of such findings underscore the importance of ensuring that students are provided with the opportunity to develop literacy skills as early as possible, and highlight the crucial role that teachers have in maximizing effective teaching strategies to meet the cognitive, affective and behavioural needs of all students, as well as providing normative classroom environment conditions that are conducive to learning.’

Despite findings such as these, however, the reviewers consider that ‘in recent times there has been greater concern and emphasis in the middle schooling literature on behaviour management, and [that] beginning teachers in some jurisdictions are required to have completed approved classroom management subjects. To some extent, the strategies of behaviour management have been seen as separate skills to be mastered, rather than an integral part of, and outcome of good teaching’.

‘There are, however, some teachers who, because of their mastery of teaching,<sup>39</sup> rarely experience discipline problems.’ Dinham and Rowe state that ‘Highly effective teachers are able to structure teaching and learning in a way that challenges, interests and engages students, and effective schools as a whole, tend to have clear, fair, responsive and effective student welfare and discipline policies and practices. In such classrooms and schools, behavioural problems are minimised and dealt with in a timely and effective fashion.’

They identified key principles from the literature<sup>40</sup> for managing student behaviour in the middle years, including:

- that approaches to managing middle years student behaviour should be developmentally responsive;
- that practices associated with managing student behaviour must be within a context of promoting and ensuring a safe, supportive and caring environment;
- that there is a need for an inclusive approach, which caters for the different potentials, needs and resources of all middle years students;
- that managing behaviour must be based on a student-centred philosophy that places the

student at the centre of the learning process and focuses on the whole student (personal, social and academic); and

- that it is vital to recognise that positive relationships with middle years students is fundamental to maximising appropriate behaviour and achieving learning outcomes.

The ÆSOP study referred to earlier (on p.16) demonstrated that student welfare is both every teacher’s responsibility and a whole-school project. Drawing from the study’s findings, Dinham and Rowe state: ‘What teachers do within their classrooms needs to be congruent and consistent with school-wide systems. Student behaviour/ management policies, programs and strategies, while employed by every teacher, can’t be left to individual teachers to design and implement. A consistent approach is required, which all teachers and students understand, adhere to and support.’

### *Education for sexuality in the middle years*

Another aspect of adolescence and *middle schooling* is ‘sexuality and sexual health education’. Once again (refer earlier comments on p.13), say Dinham and Rowe, ‘this is an example of the high store placed in teachers of the middle years to address and deal with society’s issues and problems’. For example, they refer to a recent New Zealand Education Review Office report, *The Teaching of Sexuality Education in Years 7 to 13*, (2007) which, according to its foreword, arose over concerns:

“... to reduce the number of young people with sexually transmitted infections, reduce the rate of unplanned teenage pregnancies and improve teenagers’ abilities to avoid and deal effectively with coercive and other abusive behaviour.”

As with other aspects of middle years education, key concerns lie with providing teachers with the skills, knowledge and resources to teach effectively in this area, including the vital provision of instructional leadership.

### **Diverse Students; Indigenous Students**

In considering middle schooling initiatives targeted at specific groups of students such as indigenous and those from poorer socio-economic backgrounds, it is stressed in the literature review that success is chiefly determined by the quality of teaching. High expectations, cultural sensitivity and awareness, and targeted professional learning, as opposed, in Dinham and Rowe's view, to 'middle schooling approaches' *per se*, have all been found to enhance the educational achievement of hitherto underperforming students.

### **Responses to the Issues and Perceived Problems: Does 'Middle Schooling' Make a Difference?**

'Responses to the issues of middle schooling have ranged from the adoption of single strategies or interventions to the less common and more challenging totally integrated approaches. While data on student achievement and phenomena such as suspension and absenteeism are fairly readily available, linking these outcomes to matters such as curriculum, pedagogy, assessment and school organisation is more difficult.'<sup>41</sup>

According to the reviewers, one of the issues with attempting to measure the outcome of any intervention is that it is difficult to distinguish the effect of that initiative from the many activities that schools will be undertaking in the middle years at any given time.

'A further problem occurs where more than one school is implementing an initiative, often from a centrally determined (systemic) and supported program.'<sup>42</sup> In this case, there is frequently a range in program 'take up' and thus effect. Some schools will be "early adopters" and will enthusiastically take up and support an initiative, while other schools may only do the minimum in supporting and driving the intended change. Thus, in measuring or evaluating the overall outcome of any initiative, there is likely to be a wide range of both adoption and impact.'<sup>43</sup>

### **The Importance of Teacher Professional Learning**

The reviewers note that 'teacher professional development is vital in the success of any initiative or intervention. Teachers need time, space and external assistance if a strategy is to have a realistic chance of success. Reluctance of teachers (and schools) to change, poor preparation for and 'selling' of the change, together with imposition of extra responsibilities, can all put a brake on the success of new programs and approaches.'<sup>44</sup>

'What many empirical studies have demonstrated is that *change management* can be as important as the nature of the change itself. There can also be problems with mandated versus voluntary and self-directed change, the latter often having a greater deal of commitment, empowerment and resultant effectiveness.'

### **Leadership and Teachers' Professional Learning**

Another key factor in creating an environment where teachers can teach and their students can learn is that of educational leadership. Effective educational leaders place students and their development at the centre of the school and support the professional learning of staff.

They create a climate of high expectations, professional behaviour and accountability to set in place an upward cycle of improvement.

### Intervention Responses

Many responses to the perceived challenges and problems of the middle years have involved merging or compromising the features of primary and secondary schooling, often in a largely secondary setting. In summary, interventions include any combination of the following approaches:

- designated junior secondary schools (eg, Albany Junior High School, Auckland, established in 2005); establishing separate senior secondary schools/colleges;
- physically separating junior secondary classes from senior students and teachers, and from primary classes in some cases;
- use of home rooms to reduce disruption and to establish a richer learning environment, especially in literacy;
- generalist teachers, team teaching and integrated curricula/inter-disciplinarity;
- flexible learning spaces and a more open attitude, breaking down the isolation of the individual classroom;
- more holistic view of teaching and learning; meta-cognition;
- collaboratively designing and assessing/moderating common assessment tasks; 'outcomes based' learning, 'authentic assessment';
- data informed decision making; explicit achievement standards and targets;
- fewer, but longer, lessons to enable greater depth of treatment and reduce disruption;
- increased level of pastoral care from a team of teachers who are more available and who 'follow' students as they progress through the school;
- consistent follow-up and early intervention in problems through procedures and teacher communication and cooperation;
- efforts to increase student engagement through such means as 'student centred learning' and focussing more on perceived needs and interests of students;
- more frequent, better informed feedback to students and parents;
- sharing student performance and other data with feeder primary schools – knowing students better as people and learners; more effectively understanding and meeting their needs;
- explicit, high behavioural standards.

From their analysis of the research on middle schooling, the reviewers consider that there is little firm research evidence on the effect of various initiatives on student outcomes, especially student achievement. However, on the basis of the studies<sup>45</sup> they found that provide some more robust insights about the impact of middle schooling initiatives, they record that:

- teachers in these studies believed that the introduction of middle schooling practices improved student engagement and attitudes to learning; there was also evidence of gradual change in teaching practices;
- interdisciplinary team teaching was seen as a promising practice that had a positive effect on the achievement and engagement of middle years students;
- students and teachers believed that project-based learning is beneficial and effective;

- a considerable number of studies demonstrated that co-operative learning methods produced higher achievement than competitive and individualistic learning;
  - the effect of flexible scheduling on student motivation and achievement appeared to be inconclusive;
  - keeping groups of students together for two or more years with the same teachers seemed to be a promising practice to improve teacher-student relationships and student attitudes to school;
  - student advisory programmes appear to be a promising, although yet unproven, practice to promote a positive school climate;
  - more research is needed to determine how middle schooling practices might best be implemented in different circumstances.
- a reluctance to change on the part of teachers, eg, from typical subject approaches to integrated approaches;
  - insufficient funding to bring about change, especially funding for teacher release and professional engagement and learning;
  - a situation where those involved find they have an increased workload associated with change;
  - expectations of change are not met and targets fall short; and
  - timetabling and/or staffing difficulties, and time constraints generally.<sup>46</sup>

Although research has confirmed that many of the approaches listed above are desirable and can be effective in the overall context of quality teaching, each needs to be considered in the broader context of the school and the teaching and learning environment. The reviewers point out that ‘none of these interventions is likely to be effective if introduced in isolation’.

## **Difficulties Associated with Middle Schooling Initiatives**

In their review, Dinham and Rowe assert that two key factors in the success of any school change or initiative are leadership and teachers’ professional learning. They note that these elements need to be combined with accepted principles for organisational and educational change, in order to avoid obstacles to progress or unintended, negative consequences, such as:

It is further emphasised that ‘one of the major dysfunctional consequences of prevailing middle schooling reform initiatives is the tendency by school leaders and teachers to focus unduly on the ‘developmental needs’ and ‘problems’ of adolescent students – often at the expense of students’ teaching and learning needs for achievement progress and ‘growth’. The reviewers consider, therefore, that in this context, it is helpful to note what students themselves nominate as key characteristics of ‘good teaching’, and ‘effective teachers’ in particular. They cite evidence<sup>47</sup> that indicates that students (and especially adolescents) want their teachers to:

- know and understand their subject(s);
- treat each student as an individual;
- make learning the core of what happens in the classroom; and
- manage distractions that disrupt and prevent learning.

In a range of studies<sup>48</sup>, students were found to consistently report 'good teachers' as those who:

- "Care about me and encourage me";
- "Know what they are teaching and help me to learn";
- "Are enthusiastic about what they teach and want me share in their enjoyment of learning"; and
- "Are *fair*".

### Comments on Current Status and Suggestions about Future Directions for Reform

#### *Current status*

With the following statements, Pendergast (2005)<sup>49</sup> provides a useful summary of the current status of middle schooling.

- "...middle schooling is a slippery concept. There is no single definition [or] ... formula for middle schooling."
- "Middle schooling is consistently constructed as being about rethinking education that meets the needs of young people in a changing world."
- "There appear to be some commonly agreed middle schooling practices, but these are not exclusive to middle schooling."
- "Middle schooling reform does not exist in isolation [from previous and subsequent phases of schooling], making it difficult to implement, explore and determine outcomes and efficacy."

- "While middle schooling has achieved debutante status in terms of acceptance as a reform platform, policies, positions, their implementation and evaluation are very much in their infancy; so many educators are working on anecdotal evidence, gut feeling and good faith."

#### *Future directions*

Also according to Pendergast, this time in relation to 'where to from here' ...

- "Middle schooling is not about implementing a three-tiered school structure. It is about a unique philosophy, with concomitant changes in pedagogy, curriculum and assessment. These changes are not about repackaging, but about a new way of doing."
- "Middle schooling means change for teachers."
- "Middle schooling is complex, site-specific and requires sustained, systemic reform."
- "Middle schooling is here to stay – there is widespread evidence that middle schooling [has] a legitimate place in our education system. Regardless of this however, champions of middle schooling are required at all junctures: in schools, in systems, and especially in universities, where academic, research-based evidence is required."

Pendergast further stated that "Middle schooling will [positively] affect later phase learning if it achieves its goals."

## Perceived Requirements for Successful Middle Schooling Initiatives

### Key Requirements

Based on the published literature reviewed on successful middle schooling and educational change, the following aspects of middle schooling — and, the reviewers argue, any form of effective schooling, — have been advocated.

These are set out under the broad categories or themes of ‘teacher knowledge and skills’, ‘student knowledge and skills’, ‘catering for parental needs and rights’, and ‘what schools with middle years students may need to do more of’.

### Teachers need greater knowledge/skills/capacity in:

- pedagogy, teaching strategies and quality teaching frameworks;
- curriculum development and connecting what is taught with the wider world;
- student learning in other areas of the curriculum;
- assessment (monitoring, evaluation, diagnosis from evidence);
- measuring and tracking student performance; gathering, using and interpreting data;
- planning, implementation and evaluation;
- cultural sensitivity and accommodation;
- meeting needs of individual students and students at risk;
- pastoral care, communication, feedback;
- improving teacher–student relations;
- focusing on students as learners and people;
- identifying and meeting their own learning needs, including a willingness to learn;

- collaboration with peers, flexibility and risk taking;
- structured, critical reflection; and
- professional learning/development targeted to middle schooling to achieve the above.

### Students need greater knowledge/skills/capacities in:

- literacy, which is fundamental to learning and achievement;
- numeracy;
- thinking and problem-solving skills;
- engagement with learning, participation, attendance, retention;
- achievement and confidence in learning;
- reflection, self-awareness; and
- taking responsibility for their own learning, including self-direction and discipline and time management;

### Parents need greater:

- feedback and accessibility to staff and school;
- information on student achievement and development and clearer, more regular reporting;
- information and understanding about school programmes and levels of performance;
- demonstration to, and by, them of the value of education.
- opportunity for input, although many may not want this.

### Schools also often need to ensure that they:

- have a greater focus on transitions, including liaison and productive linkages with feeder primary schools and upper secondary

schools and teachers, based upon mutual understanding and respect;

- build on known strengths and existing programmes;
- free up staff by allowing them time for planning, professional learning, evaluation, etc, and allocating funding and other resources for these purposes;
- distribute leadership under project leaders;
- set up project teams and working parties, especially for discrete projects;
- have clear communication, including sharing progress and ‘successes’;
- establish formal means of planning, coordination, learning, data gathering and evaluation for more diverse, ambitious approaches;
- improve horizontal (across years) and vertical (between years) communication and understanding;
- target new key staff where necessary;
- pay attention to staffing the middle years, which may mean a need to prioritise over upper secondary years to enable ‘best staff’ for the middle years;
- demonstrate support from leadership at the ‘top’;
- give recognition to the role that ICT has to play both for administration and learning;
- understand that cross-faculty cooperation is important;
- understand that a consistently applied student welfare and discipline system underpins academic achievement;
- recognise that peer observation of teaching using some form of quality teaching

framework for feedback can be highly effective, despite fears about this from some staff, who see it as judgemental rather than developmental;

- understand that getting started and maintaining momentum are both difficult and necessary; and
- accept that a strong research and evidence base is necessary for change.

For another perspective on the points listed above, but also reiterating many of the ingredients said to be important for middle schooling identified in this paper, the National Middle School Association of the USA<sup>50</sup> identified the following range of characteristics and/or precursors of successful middle schooling:

- educators who value working with this age group and are prepared to do so;
- courageous, collaborative leadership;
- a shared vision that guides decisions;
- an inviting, supportive, and safe environment;
- high expectations for every member of the learning community;
- students and teachers engaged in active learning;
- an adult advocate for every student;
- school-initiated family and community partnerships;
- curriculum that is relevant, challenging, integrative, and exploratory;
- multiple learning and teaching approaches that respond to student diversity;
- assessment and evaluation programmes that promote quality learning;

- organisational structures that support meaningful relationships and learning;
- school-wide efforts and policies that foster health, wellness, and safety;
- multifaceted guidance and support services.

## Concluding Remarks

The reviewers reiterate that while many intended functions and features of *middle schooling* can be identified, ‘many of which have prima facie appeal and have been confirmed as efficacious through general research into effective schooling and quality teaching’, there is ‘a persistent question arising from the literature’ to do with ‘the uniqueness and “special case” of the middle years’.

They state: ‘While it is undoubtedly the case that adolescence is a critical, turbulent time in the lives of young people, many of the concerns raised about schooling in the middle years have equally valid application to other stages of educational provision, as do proposed solutions and approaches to these challenges and problems’.

### What Matters Most ?

From their review of the literature, Dinham and Rowe consider that ‘what matters most’ is: ‘Certainly not student compositional characteristics such as *learning difficulties*, *educational disadvantage*, *disruptive student behaviours*, nor school *structural* arrangements ... but *quality teaching* and *learning* provision, supported by *teaching standards* and ongoing teacher professional learning. ... Since teachers are the most valuable resource available to schools, an investment in teacher professionalism is vital by ensuring that they are equipped with a repertoire of pedagogical skills that are demonstrably effective in meeting

the developmental and learning needs of ALL students for whom they have responsibility. ... The key to such *educational effectiveness* at all levels of schooling (and especially during the early and middle years) involves an operational understanding of the fundamental importance of evidence-based teaching practices for the provision of quality teaching and learning standards’, and ultimately enhanced student learning.

Overall, the findings from larger, more rigorous reviews and research projects involving middle schooling are inconclusive: ‘This has not been helped by the fact that many schools, systems and countries have not implemented consistent approaches to middle schooling or to the collection, analysis and interpretation of data.’

‘Major barriers to reform of schooling in the middle years centre on the preoccupation with structural arrangements and conditions of teachers’ work such as class sizes, teachers’ salaries, and school organizational arrangements as ways of driving educational improvement.’

‘A second barrier lies with the widespread tendency to stigmatise and categorise students of certain backgrounds. Various forms of biological and social determinism condemn many students to an education characterised by low expectations and self-fulfilling prophecies for lack of success.’

The reviewers conclude that ‘the one area where the research evidence is unequivocal’ is that of ‘the critical importance of the quality of classroom teaching’.

Teacher quality, and teachers’ professional learning supported by educational leadership are key to enhancing achievement for all students: ‘Teachers can and do make a substantial difference — underscoring the fundamental

importance of evidence-based teaching practices for the provision of quality teaching and learning standards.’

## Recapping Some of the Main Points within the Review

- Calls for and adoption of middle schooling approaches since the mid-1980s have been driven by concerns over the developmental and learning needs of adolescents.
- With regard to ‘problematizing’ students in the middle years, it is important to note that over-generalising about young people in their middle years of schooling, (or in any phase of schooling) is unwise. ‘While some young people during their middle years of schooling may experience powerlessness, social estrangement, and meaninglessness, many will not. While some may find the transition from primary to high school difficult, many will be ready for and will relish this change. Whereas some may benefit from an extended period of primary-like education, others will not.’
- But the concerns about middle years students have resulted in a diversity of structural responses to schooling in the middle years.
- Good quality research evidence for the effects on learning outcomes from these responses is often either lacking or inconclusive.
- Research on middle schooling and middle schools is problematic because of the different definitions of the middle years and different approaches to the **structure** of middle schools.
- Other difficulties associated with measuring the efficacy of middle schools and middle schooling is that frequently a whole range of structures and approaches are implemented

in an ad hoc fashion. Multiple, overlapping initiatives complicate any attempt at obtaining evidence of effectiveness.

- From the broader ‘teaching and learning literature’, confirming one of the premises included in the rationale for this review (p.5), there is strong evidence that the quality of teaching which students receive at all levels and stages of schooling is of major importance in influencing achievement outcomes for students from all socio-economic and social-cultural backgrounds.
- While productive and positive student-teacher relationships are identified as an important characteristic of highly performing schools catering for middle years students, it needs to be acknowledged that good teachers and school leaders at all levels of schooling find ways to enhance student welfare and involvement in the learning process.
- It may therefore be debateable whether at least some aspects of the philosophy and enactment of *middle schooling* is any different from ‘good’ teaching and effective schooling generally.

However, as well as these cautions regarding the implementation and investigation of middle schooling, the literature also indicates that there is growing awareness and understanding of where and how to focus efforts to address identified issues and concerns. For example:

- A key message in the more recent middle schooling literature overall is that more than simply being a *structural or organisational response* to the perceived issues surrounding adolescence, middle schooling should be considered an *educational and pedagogic response*.

- There is general agreement in the recent literature that middle schooling is not about implementing a three-tiered school structure but is more about rethinking schools and teaching to better meet the needs of young people in a changing world.
- It is recognised that building or designating a middle school does not guarantee that accepted *middle schooling* practices, and therefore desired outcomes, will be achieved.
- The literature is clear in advocating middle schooling approaches focusing on quality teaching and enhanced learning rather than on structural arrangements. While many of the individual middle schooling initiatives in existence are likely to be desirable and valid, each of these needs to be incorporated and implemented as part of an overall school approach to educational change, quality teaching and improvement in educational outcomes.
- Use of models and frameworks of pedagogy (eg, enhancing common understanding through a shared language) have been found to be effective in improving the quality of teaching in schools. Such models and frameworks provide teachers with the means to reflect on, evaluate and plan their professional learning and practice.
- An important area where teachers in the middle years need professional development is that of 'authentic' assessment for learning. Evidence from many studies clearly indicates that initiatives designed to enhance effectiveness in the way assessment is used in the classroom to promote learning can raise students' achievement progress.
- Overall, professional learning and leadership appear key factors in transforming teaching in the middle years.
- There is a strong requirement for much more 'research-based evidence' in middle schooling. For any system/country, including New Zealand, the need for findings from strong evidence-based research to inform both policy and practice in educational provision is imperative.
- Many middle schooling initiatives have been implemented more on the basis of 'faith' or 'hope' than hard evidence for their efficacy.
- Evidence that middle schooling initiatives can sometimes result in unintended outcomes or unexpected negative consequences — such as, reluctance to change on the part of involved parties, insufficient funding, lack of time for teacher release and professional learning, increased workloads, and other difficulties associated with existing school organisation, highlight the importance of putting in place careful steps for 'managing change', and building the body of research evidence.
- Concerns about middle schooling often centre on a lack of agreement as to what middle schooling and middle schools encompass. But, overall, the quality of teaching that students encounter will be the major in-school influence on their educational achievement.

- Finally, it was also emphasised that it is important to understand that:
  - there is a need to commission research into patterns of school leadership for the middle years that sustain improved student outcomes;
  - fundamental change is not likely to be achieved quickly or easily; and
  - there is a need to support and research distinctive middle years teacher education programmes and career pathways.

## Endnotes

- <sup>1</sup> The purpose of this shortened version of Professor Stephen Dinham's and Dr Ken Rowe's (2007) review of literature on teaching and learning in middle schooling is to provide ready access to the wealth of information presented in the considerably more detailed version presented by the reviewers.

Most of the time the reviewers' original wording has been retained in this summarised version, except where it has been necessary to 'bridge' certain paragraphs or sections following omission of some material. (Most material omitted for present purposes was that which served to illustrate various points in more depth.)

And in order to keep this summary as 'clean' as possible, some of the citations (names of researchers, projects, passages from particular reports) incorporated into the main text of Dinham and Rowe's report have been removed while others have been replaced with numbers to refer the reader to relevant details given in the endnotes listed below.

For full referencing details for the body of literature reviewed, refer to Dinham and Rowe's report, *Teaching and Learning in Middle Schooling: a review of the literature — a report to the New Zealand Ministry of Education*, (100p.). This may be downloaded from the Education Counts website at [www.educationcounts.govt.nz](http://www.educationcounts.govt.nz).

Professor Dinham, Research Director, *Teaching, Learning and Leadership Program*, may be contacted at the Australian Council for Educational Research (ACER), 19 Prospect Hill Road (Private Bag 55), Camberwell, VIC 3124, Australia. His email address is: [dinham@acer.edu.au](mailto:dinham@acer.edu.au). and Dr Ken Rowe, recently retired from the position of Research Director, *Learning Processes Research Program* at ACER, is now Director, Rowe Research and Consulting Services, Mont Albert, Victoria 3124, Australia — [www.rowereseach.com.au](http://www.rowereseach.com.au); or email [krowe@bigpond.net.au](mailto:krowe@bigpond.net.au).

- <sup>2</sup> Reports on *A Study of Students' Transition from Primary to Secondary Schooling* have recently been released. For further information go to [www.educationcounts.govt.nz/themes/research/transition\\_primary\\_secondary](http://www.educationcounts.govt.nz/themes/research/transition_primary_secondary).

Another project currently underway is looking at whether teachers of Years 7 to 10 students require specialised knowledge, skills and values in order to teach these students in ways that best suit their needs. The study is being undertaken by Lisa Ng of the Ministry's Research and Evaluation Unit and Nicky Durling, of the Learning and Teaching Policy and Evaluation team. Queries may be made via email address: [research.info@minedu.govt.nz](mailto:research.info@minedu.govt.nz).

The Ministry has also recently commissioned further research to help define and better understand 'student engagement' during the middle schooling years.

- <sup>3</sup> Northern Territory Council of Government School Organisations (2005). *A Review of Middle Schooling Concepts and Approaches*. Darwin: NT COGSO.
- <sup>4</sup> According to: Chadbourne (2003, 3). Middle schooling and academic rigour. *International Journal of Learning*, 10.

- <sup>5</sup> See: Jung, H.J. (2007). *Learning to be an individual – Emotion and person in an American Junior High School*. New York: Peter Lang.
- <sup>6</sup> Prosser, B. (2006). *Reinvigorating the Middle Years: A review of middle schooling*. Paper presented at the Australian Association for Research in Education annual conference, Adelaide, November 27-30 2006.
- <sup>7</sup> Dinham and Rowe state: ‘In 1989, The Carnegie Corporation of New York issued “Turning Points: Preparing American Youth for the 21st Century,” a landmark report which recognized the need to strengthen the academic core of middle schools and establish caring, supportive environments which value adolescents. The findings of the Turning Points report, along with ten years of research and practice data from middle schools around the country, led to the creation of the National Turning Points Network.’ Available at: [www.turningpts.org/history.htm](http://www.turningpts.org/history.htm).’
- <sup>8</sup> Chadbourne (2003). Ibid – refer endnote 4 above.
- <sup>9</sup> Dowson, M., Ross, M., Donovan, C., Richards, G., & Johnson, K. (2005). *The current state of middle schooling: A review of the literature*. Paper presented to Australian Association for Research in Education annual conference, Parramatta, NSW, 27 November - 1 December, 2005.
- <sup>10</sup> National Middle School Association – NMSA (2003a). *This we Believe: Successful schools for young adolescents*. Westerville, OH: Author. And, National Middle School Association – NMSA (2003b). *Research and resources in support of ‘This we Believe’*. Westerville, OH: Author.
- <sup>11</sup> Augustine, C., Juvonen, J., Le, V-N., Kaganoff, T., & Constant, L. (2004). *Problems and Promise of the American Middle School*. Rand Corporation. Available for download at: [www.rand.org/pubs/research\\_briefs/RB8025/index1.html](http://www.rand.org/pubs/research_briefs/RB8025/index1.html).
- <sup>12</sup> Refer: UK Middle Schools. (undated). *UK Middle Schools*. Available at: [www.tafkam.pwp.blueyonder.co.uk/msuk/index.html](http://www.tafkam.pwp.blueyonder.co.uk/msuk/index.html)
- <sup>13</sup> Luke, A.; Elkins, J., Weir, K., Land, R. et al. (2003). *Beyond the middle: A report about literacy and numeracy development of target group students in the middle years of schooling* (Volume 1). Canberra: Commonwealth Department of Education, Science and Training.
- <sup>14</sup> Refer: Hill, P.W., Jane, G., Mackay, A., & Russell, V.J. (2002). *Middle Years Research and Development (MYRAD) Project*. A report to the Learning & Teaching Innovation Division, Department of Education & Training, Victoria. Melbourne, VIC: Centre for Applied Educational Research, The University of Melbourne.
- <sup>15</sup> Refer Luke, Elkins, et al (2003). Ibid – endnote 13 above.
- <sup>16</sup> Ward, R. (2000). Transition from middle to secondary school: a New Zealand Study’, *International Journal of Educational Research*, 33, 365-374.
- <sup>17</sup> Nolan, C., & Brown, M. (2002). The Fight for Middle School Education in New Zealand. *Middle School Journal*, 33(4), 34-44.

- <sup>18</sup> For example: Maclean, R. (2005, pp.104–112). Literacies and multiliteracies. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin. And, Meiers, M. (2007). Writing to learn, NSWIT Research Digest, 2007(1). Available at: [www.nswteachers.nsw.edu.au](http://www.nswteachers.nsw.edu.au).
- <sup>19</sup> For example: Dole, S. (2005, pp.123–132). Numeracy. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin. And, Pegg, J., Lynch, T., & Panizzon, D. (2007). *Exceptional Outcomes in Mathematics Education*. Teneriffe, Qld: Post Pressed.
- <sup>20</sup> Refer: Fullarton, S. (2002). Student engagement with school: Individual and school-level influences. *Longitudinal Surveys of Australian Youth*, No. 27. Camberwell, VIC: Australian Council for Educational Research.
- <sup>21</sup> See: Hilton, A. & Hilton, G. (2005, p.209). Higher-order thinking. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin.
- <sup>22</sup> Ibid – refer endnote 3 for details.
- <sup>23</sup> For example: Hill, P.W., & Russell, V.J. (1999). *Systematic, whole-school reform of the middle years of schooling*. University of Melbourne: Centre for Applied Educational Research.
- <sup>24</sup> Rafiq, M-i-L., & Woolnough, J. (2005). Middle Schooling. *An exploration of practice in the light of theory*. Paper presented at the Australian Association for Research in Education annual conference, Parramatta, NSW, 27 November- 1 December, 2005.
- <sup>25</sup> Mayer, R. (2004). *Should there be a three-strikes rule against pure Discovery Learning?* *American Psychologist*, 59(1) 14-19.
- <sup>26</sup> Wilson, B. (2005). *Unlocking potential*. Paper presented at the 2005 Australian and New Zealand School of Government (AZSOG) conference, The University of Sydney, 29 September 2005.
- <sup>27</sup> Sellar, S., & Cormack, P. (2006). *(Re)conceptualising Middle Years Pedagogy*. Paper presented to Australian Association for Research in Education annual conference, Adelaide, SA, November 27-30.
- <sup>28</sup> Refer: Aubusson, P., Brady, L., & Dinham, S.K. (2005). *Action Learning: What Works?* A research report prepared for the New South Wales Department of Education and Training. Sydney, NSW: University of Technology Sydney.
- <sup>29</sup> Refer: [www.tki.org.nz/r/asttle](http://www.tki.org.nz/r/asttle)
- <sup>30</sup> For example: Dinham, S., Buckland, C., Callingham, R., & Mays, H. (2008). Factors responsible for the superior performance of male students in Years 3 and 5 standardised testing at one Australian Primary School. *Curriculum and Teaching*, 23 (1), (in press).
- <sup>31</sup> See the ACT Department of Education and Training website, for example: [www.det.act.gov.au/publicat/sei\\_qt\\_authentic.htm](http://www.det.act.gov.au/publicat/sei_qt_authentic.htm).

- <sup>32</sup> Wyatt-Smith, C.; Cumming, J., & Elkins, J. (2005). Redesigning assessment. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin.
- <sup>33</sup> Assessment Reform Group. (1999). *Assessment for Learning Beyond the Black Box*. Available at: <http://arg.educ.cam.ac.uk/publications.html>
- <sup>34</sup> For example: Hunter, L. & Park, N. (2005, p.164). Negotiating curriculum. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin.
- <sup>35</sup> See: Dinham, S.K. (2007c). How schools get moving and keep improving: Leadership for teacher learning, student success and school renewal. *Australian Journal of Education*, 51(3), 263-275.
- <sup>36</sup> For recent evidence of these problems, see: Bernard, M.E., Stephanou, A., & Urbach, D. (2007). *ASG Report on Student Social, Emotional Health and Wellbeing*. A report of a research project commissioned by the Australian Scholarships Group (ASG). Camberwell, VIC: Australian Council for Educational Research.
- <sup>37</sup> For example, see: DeWatt, D., Berkman, N.D, Sheridan, S., Lohr, K.N., & Pignone, M.P. (2004). Literacy and health outcomes: A systematic review of the literature. *Journal of General Internal Medicine*, 19(12), 1228-1239. And, Lyon, G.R. (2003). Reading disabilities: Why do some children have difficulty learning to read? What can be done about it? *Perspectives*, 29(2). Available from the International Dyslexia Association's website at: [www.interdys.org](http://www.interdys.org). Also, Oberklaid, F. (2004). The new morbidity in education: The paediatrician's role. *Journal of Paediatrics and Child Health*, 40, 250-251.
- <sup>38</sup> Rowe, K.J., & Rowe, K.S. (1999). Investigating the relationship between students' attentive-inattentive behaviors in the classroom and their literacy progress. *International Journal of Educational Research*, 31(1-2), 1-138 (Whole Issue).
- <sup>39</sup> See, for example: Ayres, P., Dinham, S.K., & Sawyer, W. (2004). Effective teaching in the context of a Grade 12 high stakes external examination in New South Wales, Australia. *British Educational Research Journal*, 30(1), 141-165.
- <sup>40</sup> Refer: de Jong, T. (2005). Managing behaviour. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin.
- <sup>41</sup> For example: NT COGSO (2005, p.5). Ibid – refer endnote 3.
- <sup>42</sup> Elsworth, G., Kleinhenz, E., & Beavis, A. (2004). *Evaluation of the Middle Years Reform Program*. Melbourne, VIC: RMIT University, and Australian Council for Educational Research.
- <sup>43</sup> Aubusson, Brady and Dinham (2005). Ibid – see endnote 28.
- <sup>44</sup> Aubusson, P., Steele, F., Dinham, S.K. & Brady, L. (2007). Action learning in teacher learning community formation: informative or transformative? *Teacher Development*, 11(2), 133-148.
- <sup>45</sup> For example, NT CGSO. Ibid – refer endnote 3.
- <sup>46</sup> Elsworth et al (2004, p.74). Ibid – see endnote 42.

<sup>47</sup> For example: Ramsey, G. (2000, p.12). *Quality matters – revitalising teaching: Critical times, critical choices*. Report of the Review of Teacher Education. Sydney, NSW: Department of Education and Training [ISBN 073107 8842].

<sup>48</sup> For example: Slade, M. (2002). *Listening to the boys: Issues and problems influencing school achievement and retention*. Series: Flinders University Institute of International Education Research Collection, Number 5. Adelaide, SA: Shannon Research Press.

The reviewers also included the following note in their report: 'From extensive interview data, Slade (2002, pp.175-177) provides a list of 68 characteristics and practices of "good teachers" reported by students. The chapter in which this list is provided (Chapter 10) is compelling reading that in our view should be compulsory for teacher education courses.'

<sup>49</sup> Pendergast, D. (2005). The emergence of middle schooling. In D. Pendergast and N. Bahr (Eds.), *Teaching Middle Years Rethinking Curriculum, Pedagogy and Assessment*. Cross Nest, NSW: Allen & Unwin.

<sup>50</sup> See their website: National Middle School Association (2000). *How might middle school students be involved in classroom curriculum planning?* Available for download in PDF format at: [www.nmsa.org/Publications/WebExclusive/Planning/tabid/652/Default.aspx](http://www.nmsa.org/Publications/WebExclusive/Planning/tabid/652/Default.aspx).





YEAR 7

New Zealand Government

YEAR 10