

**Fantasy, Fashion and Fact:
Middle Schools, Middle Schooling and Student
Achievement**

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Fantasy, Fashion and Fact: Middle Schools, Middle Schooling and Student Achievement¹

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Abstract

This paper provides a critical review of the literature that has attempted to identify ‘best practice’ in middle schooling. Key elements of the paper may be summarised as follows:

- Following description of the aims for the review in Section 1, the paper provides an outline of the approach used in the review and its limitations (Section 2). It is noted that in contrast to the voluminous and predominately qualitative nature of the literature on *middle schooling*, there is a paucity of quantitative studies employing strong evidence-based methods that have investigated the relative effects of various forms of *middle/non-middle schooling*.
- Drawing on the available literature, Section 3 provides a background and context of the *middle schooling* movement; defines what is meant by *middle years schooling* and *middle schools*; and examines the *middle school* concept, including its development and philosophical underpinnings.
- Section 4 provides an outline and a critique of the literature on the adoption of middle schooling in four ‘like’ nations: Australia, New Zealand, United Kingdom, and United States of America. Despite the large volume of published work from Australia, the UK, and especially from the USA, strong evidence-based research *middle schooling* is less than adequate in policy terms, and represents something of a ‘black hole’.
- Sections 5 and 6 of the paper review the literature related to the key ‘concerns’ of *middle schooling*, and responses to the issues and perceived ‘problems’ of *middle schooling*. Particular emphasis is given to the need for a specified ‘pedagogy’ and a ‘language for pedagogy’ in the middle years – both of which require less emphasis on the social, developmental needs and interests of adolescents, and more on quality teaching and learning provision. This is followed in Section 7 by a review of perceived requirements for ‘successful’ middle school initiatives.
- Concluding remarks are provided in Section 8. It is noted that despite the large and burgeoning literature claiming positive effects of approaches to *middle schooling* that focus on the cognitive, developmental, social and emotional needs of adolescents, evidence to substantiate the claims remain elusive. Rather, it is suggested that emphasis is best directed at building evidence-based pedagogical capacity in school’s most valuable resources – teachers. Further, it is argued that whereas prevailing adherence to the moribund philosophies of *biological* and *social determinism* are foremost among several ‘barriers’ to reform, they are not justified by findings from evidence-based research.
- So what matters most in the middle years? – the imperative of *quality teaching* and *learning* provision, supported by *teaching standards* and ongoing teacher professional learning focused on evidence-based teaching practices that are demonstrably effective in maximising students’ engagement, learning outcomes and achievement progress.

¹ This paper is drawn from a more extensive review of the literature commissioned by the New Zealand Ministry of Education in 2007, viz: Dinham, S. & Rowe, K. (2007). *Teaching and Learning in Middle Schooling A review of the literature - A Report to the New Zealand Ministry of Education*. Camberwell: ACER. The permission of the New Zealand Ministry of Education to publish this extract from the review is gratefully acknowledged.

1. AIMS OF THE REVIEW OF MIDDLE SCHOOLING

This critical literature review aims to provide a base of evidence for guiding good practice in the development of education for Years 7 to 10 students (12-16 years) in schools.² It is important to stress that *middle schooling* is an international concern and there is now a substantial literature on the subject from which to draw.³

However, as the contents of this review indicate, ‘hard evidence’ for the efficacy of middle schools and *middle schooling* is conspicuous by its absence. Indeed, *middle schooling* is a relatively neglected area for research in comparison with the primary/elementary and senior secondary/high school years of education. This is despite rapid growth in the adoption of various forms of *middle schooling* since the 1980s, to the extent that advocacy for *middle schooling* has at times pre-empted or ignored evidence for its efficacy. Thus, research into the effects of *middle schooling* practices and approaches has not kept pace with the enthusiasm for, and expansion of, this form of educational provision.

2. METHOD

Overview

A *critical* review extends beyond synthesis and description to consider the quality, breadth and validity of the research literature – both internal (methods, results and conclusions) and external (ecological validity and generalisability of results).

Regretfully, and perhaps for justifiable ethical, logistic and methodological reasons (see Rowe, Hill and Holmes-Smith, 1995), there is a paucity of quantitative studies employing strong evidence-based Randomised Controlled Trial (RCT) methods that have investigated the relative effects of various forms of *middle/non-middle schooling* – constituting a major limitation of the present review. Given this constraint and the vast quantity of published literature in the area (see footnote 3), the approach adopted here is a *critical* review of **trends** and **themes** in the predominantly non-quantitative published literature. In so doing, the authors have selected indicative themes and trends from the more ‘scholarly’ sources, in addition to those available from commissioned government reports. Much of the review involves direct quotations and citations from this literature, supported by citations from our own quantitative and qualitative work in this and related areas over many years.

Thus, the present review mainly utilized a combination of analyses of existing reviews of the literature on *middle schooling*, coupled with an examination and analysis of discrete research reports from a variety of individuals and organisations into matters relevant to *middle schooling*. A balance was struck between including literature from various *middle schooling* associations and bodies, and literature which could be considered less ‘for’ *middle schooling*.

Together with what could be considered ‘specific’ *middle schooling* literature, this review also considered more general literature, e.g., students’ literacy and numeracy achievements and related pedagogy – particularly that which rested on sound methodological bases.

With such a large literature to consider, the reviewers framed the selection of literature to achieve the following:

² In the case of the present review, the middle school years were defined (by the commissioning body) as Years 7-10, which encompasses the ages of 12 to 16 years.

³ An internet search of ‘middle schooling’ yielded more than 459,000 listings. Further, a search of the term ‘middle school’ using *Google Scholar*, and limited to ‘scholarly’ publications since 1990, retrieved more than 83,300 articles, not including a burgeoning number of post-graduate dissertations (e.g., Crouch, 2006). Even allowing for overlaps and multiple counting, this is a vast quantity of literature.

1. A concentration on literature from Australia, the UK, New Zealand and the USA;
2. synthesis of existing large-scale, recent reviews (from 1990) from various educational and governmental bodies, and
3. analysis of individual research reports, with preference given to larger, more rigorous and relevant studies.

3. BACKGROUND AND CONTEXT OF THE ‘MIDDLE SCHOOLING’ MOVEMENT

Since the mid-1980s, *middle schooling* and the establishment of ‘middle schools’ have been considered key educational reform initiatives in many English-speaking countries.⁴ In fact, the published literature on *middle schooling* is voluminous, and includes papers, articles, government-commissioned studies/reports, books, and curriculum documents that are numbered in their hundreds of thousands. Moreover, professional associations devoted to the advocacy of middle years schooling are well known (e.g., the New Zealand *Association of Intermediate and Middle Schooling*, www.nzaims.co.nz; the UK *National Middle Schools Forum*, www.middleschools.org.uk; the USA *National Middle School Association*, www.nmsa.org; and the Australian *Middle Years of Schooling Association, Inc.* www.mysa.org.au – to cite just a few). A brief comment on the rationale for *middle schooling* is helpful here.

The rationale for reform initiatives focused on *middle schooling* 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.⁵ Although numerous attempts have been made to identify curriculum and pedagogical strategies that maximise student engagement, motivation and learning during the middle years, it has noted that whereas the term ‘...middle schooling refers more to a particular type of pedagogy and curriculum than to a particular type of school structure ... setting up middle schools does not guarantee that middle schooling will take place’ (Chadbourne, 2001: 3).

This is an important distinction. Indeed, Chadbourne (2003) examines the validity of the oft-cited criticism that separate middle schools for young adolescents undermines academic rigour by citing evidence that such is the case, if and only if school administrators and educators focus on structure at the expense of function (see: Lawton, 1999; Loader, 2007). Rowe (2004a,b, 2007a-c) argues that such emphases constitute a major barrier to reform and a key reason why so many ‘improvement initiatives’ in education fail to live up to initial expectations. Hill (1995, 1998, 2003) observes that most reforms in education are directed at the preconditions for learning rather than at influencing teaching and learning *per se*. For example, many schools see the ‘middle years’ problem’ of schooling, or the ‘education of boys’, as structural ones, leading to the establishment of middle schools, P-12 colleges, special transition programs, and single-sex classes/schools (e.g., Rowe, 1988). However, the bulk of research-based evidence indicates that such structural interventions are little more than *preconditions* for teaching, and their effects on learning *per se* are, at best, small to negligible (see Hattie, 2007).

⁴ It should be noted that there are wide variations within and between these countries in both student ages and Grades/Years of schooling that fall within the *middle years* domain. In several countries, the term *middle years of schooling* can refer to a range of Grades/Years from 5-9 (e.g., Australia, UK, USA), whereas *middle schools* in New Zealand encompass Years 7-10 and includes what is known as *Intermediate Schools* (Years 7 & 8). For the purposes of this review, *middle schooling* encompasses mainly Years 7-10, comprising ages 12-16.

⁵ For example, see: Bahr and Pendergast (2007); Luke, Elkins et al. (2003), Newhouse-Maiden, Bahr and Pendergast (2005); Yecke (2005) and publications by the US National Middle School Association (1995, 2000, 2003a,b).

A key reason for such small effects of ‘structural’ interventions is that they are based on the assumption that schools and their administrative arrangements for teaching and learning are advantageous for the stakeholders they serve (i.e., teachers, students and parents). The fact that this is mostly not the case requires emphasis – reflecting a failure to understand operationally the fundamental distinction between structure (e.g., middle and single-sex schooling; class size, etc.) and *function* (i.e., quality teaching and learning provision). Schools and their ‘structural’ arrangements are only as effective as those responsible for making them work (school leaders and teachers) – in cooperation with those for whom they are charged and obligated to provide a professional service (students and parents) – regardless of students’ ages and stages of schooling, and their socio-cultural and socio-economic background characteristics (see: Loader, 2007; Zbar, Marshall & Power, 2007).

By contrast, effective improvement initiatives such as strategic teacher professional learning that are grounded in findings from evidence-based research are concerned not just with establishing preconditions, but with making teaching and learning more effective. Rather, they typify attempts to make strong connections between knowledge about school and teacher effectiveness, and the design of effective improvement programs and initiatives aimed at the enhancement of student achievement progress – especially in literacy and the related skills of verbal processing and written communication – of particular relevance to boys and students from so-called ‘disadvantaged’ socio-economic and socio-cultural backgrounds (see Dinham, 2008).

Background and Context

As already indicated, the middle school movement has arisen in the context of prevailing concerns with the academic, personal, behavioural and social problems experienced by some students and groups during the middle years (see Bahr & Pendergast, 2007; Yecke, 2005). Such concerns have resulted in great store being placed on *middle schooling* to perform the function of a panacea for perceived adolescent ‘problems’, despite the paucity of findings from strong evidence-based research to justify its widespread adoption as a legitimate educational strategy.

For most students, the primary to secondary schooling transition means changing schools, and changing peers, teachers and school structures, on at least one occasion. A common concern is that levels of achievement and engagement with learning in the primary years can be undermined by such transitions. Rather than a smooth, linear change, the primary-secondary transition has been depicted as an abrupt disjuncture between two distinctive forms of schooling.

Different secondary school structures; expectations on the part of secondary schools and teachers that are too low, inconsistent, unclear or too high; failure of teachers and schools to respond to adolescent needs in the early years of secondary schooling through not utilising effective teaching practices and appropriate, coherent curricula; and a general lack of individual attention – have all been cited as problematic features of transitions from primary to secondary and the early secondary years of schooling. As a result of such issues and the related concerns, middle schools, a third-tier of education bridging traditional primary and secondary schooling, have been advocated for more than a century.

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. Often, ‘switching off’ is accompanied by behavioural problems which can further undermine educational attainment and later educational participation and achievement. It should be noted, however, that many students negotiate the middle years, and the primary to secondary school transition, with minimal anxiety and disruption.

A key question, then, is that of how schools and systems are responding to the perceived developmental needs of students in Years 7 to 10, and whether *middle schooling* approaches

advantage or disadvantage students moving onto senior secondary education, over and above what they might have achieved in ‘regular’ primary and secondary schooling. In other words, a central concern of this review 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. Another question rarely asked is ‘what do students and their parents want from schooling in the middle years’, and whether these perceived needs are best catered for using *middle schooling* approaches.

The issue of age-appropriate pedagogical approaches is an important one, as it is what teachers know, do and value that have been shown by many studies to be more significant in influencing student achievement than structural arrangements such as particular year groupings, length of lessons, single-sex schools, generalist teachers, and so forth (Alton-Lee & Rowe, 2007; Hattie, 2003, 2007; Ingvarson & Rowe, 2007; Mulford, 2006; Rowe, 2003, 2007a).

Student achievement is not, as some would believe, simply determined by heredity, family and social-cultural background. The quality of teaching and learning provision, including evidence-based instructional leadership, does make a significant difference (Alton-Lee, 2002, 2003; Alton-Lee & Rowe, 2007; Dinham, 2005, 2007a, 2008; Hattie, 2003, 2005, 2007; OECD, 2005), and student performance is subject to variation and change through the schooling years. In a recent report to the New Zealand Ministry of Education, Wylie and Hodgen (2007: 23) note:

... individuals do respond to changing experiences, opportunities and relationships, and build on what they achieve. ...

Differences in competency levels at age 16, and patterns over time, also point to differences in experiences and opportunities. ...

Our study indicates that where students become disengaged in learning, they tend to do so before age 12, with the lack of engagement escalating in adolescence and at secondary level.

The above-mentioned report also stresses the importance of both early mastery of literacy and numeracy, and engaging students with learning as soon as possible. This raises the interesting question of whether *middle schooling* might be a more appropriate and effective response to the developmental and learning needs of adolescents, or whether it is in fact, an attempt to remediate disengagement and low achievement already evident in some students during and particularly towards the end of their primary schooling.

With alternative approaches to middle years’ education being introduced in a variety of nations in attempts to improve educational outcomes for students, it is essential that these decisions are informed by the best evidence about effective organisational, curriculum, assessment and pedagogical approaches.⁶ This is particularly important because while *middle schooling* arrangements are expanding in Australia and New Zealand, they are being significantly wound back in the United Kingdom and under pressure in the USA – the two ‘heart lands’ of *middle schooling*.

Defining the *Middle Years* of Schooling

The middle years have been variously defined, sometimes using age ranges, and sometimes school ‘years’ or grades (Chadbourne, 2003). Broadly speaking, the middle years refers to young people aged from 10 to 15 years (Prosser, 2006). More importantly, the middle years ‘bridge’ encompasses the period from pre-pubescence to adolescence and sexual maturity, and from upper-primary to junior-secondary education – traditionally two quite distinct forms of schooling in terms of curriculum delivery, structure and approach.

⁶ An important example of work in this area for teacher educators derives from the NZ MoE’s recent *Best Evidence Synthesis Iteration* document entitled ‘Effective Pedagogy in Mathematics/Pāngarau’ (Anthony & Walshaw, 2007). A further Australian example for practising classroom teachers is provided by Hoad, Munro et al. (2007); as well as by Rowe, Stephanou and Hoad (2007).

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 (Northern Territory Council of Government School Organisations (NT COGSO), 2005: 1). Chadbourne (2003: 3) has attempted to clarify the matter of terminology as follows:

At a broad level there seems to be agreement on the meaning of the terms middle years, middle school and middle schooling. For example, as frequently used in the literature, the term:

- ‘middle years’ refers to the years of early adolescence;
- ‘middle school’ refers to a separate organisational unit (a school or sub-school) for young adolescents; and
- ‘middle schooling’ refers to a particular philosophy or set of principles about teaching, learning and curriculum for young adolescents.

What are *Middle Schools*?

The establishment of middle schools has arisen in response to the perceived needs of students of the middle years, and can be a structural arrangement and/or a pedagogic approach/philosophy to accommodate students in that age range. However, in practice, Pendergast (2005: 5) notes:

... generally speaking, middle years work has tended to focus on the convergence and transformation of curriculum, pedagogy and assessment, and to a lesser degree on organisational elements to meet the needs of young adolescents. It is not about rearranging traditional structures, but it is a new concept altogether.

In reality, there are a wide range of middle school models and structures, including: separate middle schools encompassing anything from around year 5 to year 10; middle school units within a larger K/1- year 12/13 framework; middle school units within existing primary schools; middle school units within a larger secondary school, and traditional primary/secondary schools which adopt middle school philosophies and practices (NT COGSO, 2005: 12-13; citing Luke et al., 2003).

Within the range of types of middle schools and *middle schooling* outlined above, there are further variations. Some middle schools are single sex, others co-educational. Some students and classes are academically streamed, some partially streamed, and others un-streamed/mixed ability. Some middle schools have separate classes for certain groups such as Indigenous or non-English-speaking background students. Some have single sex streams or classes within a co-educational framework (termed ‘twinning’, or ‘parallel’ classes). Some schools organise learning into stages, some ages, and others capability. Some organise learning around traditional subject areas, whilst others utilise thematic and integrated approaches (in some or all areas of the curriculum). Some utilise specialist teachers, some generalists, and others both. Some middle schools contain specialist units for students with various forms of learning, intellectual and physical disability. Internationally, nationally, provincially and systemically, the permutations in middle school organisation are almost endless.

It is important to recognise that building or designating a middle school does not guarantee that accepted *middle schooling* practices, and therefore desired outcomes, will take place (ACT DET, 2005: 40). Further, it is possible that a ‘regular’ secondary (or primary) school is more advanced in implementing *middle schooling* approaches than a designated middle school.

A consistent theme of this review 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. The NT COGSO report into *middle schooling* concluded (2005: 14):

There is no conclusive evidence that any grade configuration is better than any other ... There is no definitive research evidence available that says one particular grade or year configuration for a school is preferable to another ... [although] Frequent transition between narrowly configured schools can lower student achievement.

Grady (2007) goes further to state that:

... findings from research on school effectiveness suggest that what distinguishes the higher- from the lower-performing schools is less about grade configuration and more about the fundamental conditions of learning, such as teacher quality, academic program rigor and coherence, principal leadership, instructional strategies, quality of community partnerships, effective use of data, and a culture of respect among adults, students, and parents.

Development of the *Middle School* Concept

The middle school is generally taken to have developed in the USA in the early part of the 20th century. To some degree, the development of the concept paralleled, reflected and reinforced the social construction of adolescence in the USA and elsewhere in the western world. Whereas previously puberty marked the change from childhood to adulthood, and from schooling (preparation for adulthood) to work and adult responsibility, the 20th 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 (see Ariès, 1973). As a consequence, adolescence, the transition from child to adult, was extended over a longer period and became more of a 'stage' rather than an event (see Jung, 2007).

Prior to the first middle schools, American schooling was typically organised into two blocks of eight years of elementary school and four years of secondary school. In 1899, American schooling was restructured into two, six-year blocks. Continuing concerns over the primary to secondary transition and post-compulsory retention/high school completion saw the first junior high schools established from 1909. Junior high schools comprised grades 7-9 and were separated from elementary schools and senior high secondary schools, the latter being geared more towards college entry.

However, as Prosser has noted (2006), by the late 1960s, the prevailing view was that the junior secondary school was in urgent need of reform. The response was a middle school model and movement which grew quickly to encompass tens of thousands of Grade 6-8 middle schools, with revamped Grades 9-12 schools 'on top', and elementary schools which now ended at Grade 5 instead of Grade 6.

Rather than simply being perceived and configured as 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 curricula. However, there were still concerns over adequately meeting the developmental needs of students, and as Prosser notes (2006: 4):

This resulted in a flurry of research papers culminating in the publication of the influential *Turning Points* paper in the late 1980s⁷ ... This project identified a mismatch between student needs and school structures/curriculum, high levels of student alienation, significant absenteeism and poor quality teaching.

... At the core of *Turning Points* was the promotion of small and connected community schools, a strong academic focus, the pursuit of success for all students, expert middle school teacher training, and the promotion of health and fitness amongst students ... *Turning Points* also listed a number of key qualities for middle schooling, which have subsequently been widely adopted ...:

- A focus on student developmental needs;
- High academic expectation;

⁷ '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: <http://www.turningpts.org/history.htm>.

- Life connection;
- Interdisciplinary teaching;
- Flexible scheduling; and
- Student advisory periods.

Nevertheless, the later *middle schooling* movement of the USA has not been without its critics, and one of the most persistent and contentious issues has been whether *middle schooling* actually delivers enhanced student achievement and engagement, or is merely a fashion, doctrine or convenience. Yecke, for example, in a report entitled *Mayhem in the Middle – How middle schools have failed America*, has stated that:

Middle schoolism is based on pseudo-scientific theories and downplays academic achievement ... The essential problem with middle schoolism is not grade configuration but educational ideology. However a school is structured, in the era of standards and accountability, it must focus first and foremost on students' acquisition of essential academic skills and knowledge (2005: ii, iv).

Some supporters respond to the criticisms of middle schools with the defence that the concept has never been implemented in its pure, intended form. More recently, the *No Child Left Behind* (NCLB) legislation in the USA,⁸ and greater use of standardised testing for accountability purposes, has led some to question whether the whole concept of *middle schooling* is being undermined and distorted through a reversion to testing. This has resulted in widespread 'teaching to the test', amounting to a longstanding proclivity in USA schools of 'the tail of testing wagging the curriculum dog' (Taylor, 1994).

Others, however, feel that middle schools have under-performed in comparison with regular 'junior highs' and that this underperformance is now being starkly revealed by standardised testing (see Yecke, 2005).

The Philosophy of Middle Schooling

Many of the statements written about *middle schooling*, like philosophic statements generally, focus on what '*should* be the case rather than what *is* the case, on ends rather than means, and on purposes rather than operations' (Chadbourne & Pendergast, 2005: 22).

The statements from advocates for *middle schooling* tend to be aspirational, passionate and 'blue sky', bordering at times on rhetoric and doctrine. The US National Middle School Association (NMSA) has noted (2003a:35-36):

The importance of middle level education can never be over-estimated. Lives are at stake. ... Middle level schools are in a particularly critical position because of the opportunity they have to influence, for better or worse, not only the students themselves but society at large. The future for our society hangs in the balance.

Carrington et al. (2002: x) have provided a generalised philosophy of and for *middle schooling*:

The underlying philosophy of reform in the middle years of schooling revolves around the provision of a seamless transition from primary schooling (which is traditionally student-centred) to secondary schooling (which is traditionally subject or discipline-centred) leading to more effective student learning, positive experiences in adolescence, and a desire and capacity for lifelong learning.

Fundamental principles underpinning *middle schooling* philosophies are 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

⁸ See: Center on Education Policy (2003); LaTrice-Hill (2002); US Department of Education (2002).

- assistance in the transition between traditional primary school and secondary education, and from childhood to adulthood.

It is believed that middle school age students will benefit from being in a situation without younger primary and older secondary students, both of which are generally at differing levels of development.

Importantly, 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:

... major reports generally identified student alienation and disengagement from school as significant factors contributing to under-achievement in the middle years. ...A general conclusion from these studies was that improvements in the education of young adolescents could be made by challenging existing structural arrangements separating primary and secondary schools and identifying a middle phase of schooling with a clear purpose centred around developmental tasks (NT COGSO, 2005: 15).

Nonetheless, many have questioned whether the philosophy and enactment of *middle schooling* is any different from that of 'good' teaching and effective schooling generally. Chadbourne (2003: np) has commented:

... middle schools are designed to cater specifically for students in the middle years of schooling; that is, students in the middle of the developmental continuum from childhood to adulthood. They are also meant to be based on the philosophy of middle schooling. In practice, however, considerable variation exists across middle schools and it is questionable whether the philosophy of middle schooling applies solely to middle schools. These discrepancies need to be resolved to persuade sceptics that the rationale for middle schools and middle schooling is not flawed by lack of clear definition.

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 (e.g., Masters, Meiers & Rowe, 2003; Rowe, 2006b, 2007d; Rowe & Hill, 1996). 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 (see Rowe, 1988).

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 (see Bernard, Stephanou & Urbach, 2007). It is also a period when matters such as body image and sexual orientation can become critical issues for some (e.g., Sax, 2005). There is an important principle underpinning *middle schooling* that these phenomena are attributable, at least in part to 'traditional schooling', and can be ameliorated by different organisational, curriculum, assessment and pedagogical approaches.

It is important to note, however, that it is unwise to over-generalise about young people during their middle years, or indeed to generalise about the different phases of schooling. While some young people during their middle years of schooling may experience powerlessness, social estrangement, meaninglessness and 'normlessness' (ACT DET, 2005: 8), 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.

4. MIDDLE SCHOOLING IN THE USA, UK, NEW ZEALAND AND AUSTRALIA

1. United States of America

As noted, the influence of the USA on the *middle schooling* 'movement' has been profound. Today, around 20 million 10-15 year-old American students are enrolled in US middle schools (National Middle School Association (NMSA), 2003a: 1).

In the USA, the earlier configuration of Grade 7 to 9 junior high schools in existence since the first decade of the 20th century, has been gradually replaced since the 1970s-1980s with middle schools serving Grades 6 to 8. Currently, the number of middle schools (over 16,000) greatly exceeds the number of junior highs (around 2,000) in the USA (NMSA web site).⁹

The middle school lobby in the USA has been an influential one, with the NMSA at the forefront (NMSA, 1995). It also needs to be noted that the development and acceptance of middle schools in the USA has not been universal, but has been concentrated in poorer socio-economic areas with high African-American and Hispanic populations, perhaps reflecting the underlying concerns of *middle schooling* with engagement/alienation, attendance, retention and lifting academic achievement. Ironically, some have speculated that while middle schools have been concentrated in lower socio-economic areas with predominantly disadvantaged, minority clienteles, middle schools might actually be better suited to the children and values of the middle classes (Jung, 2007).

However, there has been rising concern with the outcomes of middle schools, to the extent that there is a swing in some states to K-Grade 8 schools, with some calling for a second wave of middle school reform while others have called for the end of 'middle schoolism' altogether (Yecke, 2005: iv).

In the USA, middle schools have been criticised for the poor academic outcomes of their students, yet as noted, these tend to be dominated by minorities.

Overall, the research evidence on *middle schooling* in the USA is mixed. A major study was commissioned by the Rand Corporation, *Focus on the Wonder Years Challenges Facing the American Middle School*. Research findings of the study were reported in *Problems and Promise of the American Middle School* (Augustine et al., 2004). In brief, findings from the study have been summarised thus:

Separating the Middle Grades is Associated with Transition Problems

The history of reform indicates that a separate middle school has become the norm more because of societal and demographic pressures than because of scientific evidence supporting the need for a separate school for young teens. In fact, there is evidence suggesting that separate schools and the transitions they require can cause problems that negatively affect students' developmental and academic progress.

Progress on Academic Outcomes is Uneven

Data show slow but steady increases in achievement scores since the 1970s. However, about 70 percent of American 8th-Grade public-school students fail to reach proficient levels of performance in reading, mathematics, and science on national achievement tests. This is particularly true for Latinos and African Americans, who continue to lag behind their white counterparts, even when their parents have had college educations.

Conditions for Learning are Sub-optimal

Conditions for learning are factors that can enhance or diminish a student's ability to learn. Particularly relevant to young teens are motivational and social-emotional indicators of well-being that are related to academic performance. Disengagement and social alienation not only are related to low achievement but also predict dropping out. National school safety statistics

⁹ <http://www.nmsa.org/>

suggest that physical conflict is especially problematic in middle schools, and student concerns about safety predict emotional distress that can compromise academic performance. Such findings underscore the need to examine a variety of student outcomes in addition to academic indicators. ...

The Vision of the Middle School has not been Fully Implemented

The continuing lacklustre performance of middle schools might also be explained, in part, by inadequate implementation of the middle school concept in most districts and schools. Core practices such as interdisciplinary team teaching and advisory programs tend to be weakly implemented with little attention to the underlying goals. A sufficient level of fidelity to many of the reform practices is not possible without substantial additional attention, resources, and long-term support.

Middle School Teachers and Principals Lack Appropriate Training and Support

Many middle school teachers do not have a major, minor, or certification in the subjects they teach or training in the development of young adolescents. Evidence-based models of professional development for teachers should be adopted to improve the subject-area expertise and the pedagogical skills of teachers.

Parental Support Wanes

Research shows that parental involvement declines as students progress through school and that middle schools do less than elementary schools do to engage parents.

New Reform Models Show Promise

Our review of whole-school reforms and professional development practices identified some promising models that address both academic achievement and the development needs of young teens. If fully implemented, these models might propel our schools forward toward the high levels of achievement that are the goal of the *No Child Left Behind* (NCLB) policy.

Looking Ahead

Today's emphasis on higher standards (such as those NCLB articulates) and on increased accountability through academic testing poses at least two challenges for middle schools. First, as legislation focused solely on academic achievement outcomes holds greater sway, the developmental needs of children might take second place, even though the two are highly interrelated. Second, it is unclear whether adequate federal and state supports are available for schools and students to meet the new standards. Regardless of the nature and scope of the next middle-grade reform efforts, state and federal support is needed at this time, and the efforts of various agencies, organizations, and foundations should be well coordinated. Continuity of effort is likely to provide the right conditions for student growth, institutional improvement, and educational progress. While NCLB creates a feeling of urgency, that urgency should be translated into steady, reasoned attempts to improve the schooling of all our young teens.

2. United Kingdom

The history of middle schools in the United Kingdom has been one of relatively recent enthusiasm and rapid growth, followed by a 'patchy boom', and then steep decline under the influence of the National Curriculum, comprehensive schooling, and other factors (see below).

Middle schooling in the UK has never followed a single approach or model. Rather, Local Education Authorities (LEAs) instituted various models from the 1960s, with the result that there were at any time up to six different configurations of *middle schooling* operating (UK Middle Schools website, undated).¹⁰

1. *Middle* - ages 8-12;
2. *First and Middle* ('combined') – ages 5-12 [considered by some a single tier];
3. *Middle* – ages 9-12;
4. *Middle* – ages 9-13;

¹⁰ <http://www.tafkam.pwp.blueyonder.co.uk/msuk/>

5. *Middle* – ages 10-13, and
6. *Junior High* – ages 10-14.

Overall, middle schools are a school structure that is in rapid decline, although there is still enthusiasm for *middle schooling* philosophies and approaches within the traditional two-tier primary/secondary schooling models.

The UK Middle School web site (undated) has traced the history – ‘rise and fall’ - of middle schools in the United Kingdom, expressed as follows:

Middle schools in the United Kingdom have had something of a chequered history. Observers in the late 1960s might reasonably [have] predicted that every child in Britain would eventually pass through a Middle School at some point in his [sic] career. But this was not to be. Reaching their peak in the early 1980s, Middle School numbers have fallen from nearly 2000 to under 400 in recent years. ...

Despite the history of preparatory schools in the independent sector which have long separated classes at the age of 13, Middle Schools are a relatively new phenomenon in the English state education system, with even the oldest having a history dating back no more than 40 years. In fact, until the mid-1960s, Middle Schools as we now know them were effectively illegal. ...

Until 1964, schools were required to provide for either Primary or Secondary pupils. The former being those pupils who were aged up to 10½, the latter providing for pupils aged 12 and over. Pupils were therefore required to transfer from one type to the other between those ages – which meant an age of transfer at 11, as had been the case since 1926. This changed in the 1964 Education Act, where provision was made for schools with different ages of transfer. However, no specific provision for categorisation of Middle schools was made. For funding, and statistical purposes, schools still had to be categorised as either Primary or Secondary Schools. Consequently, those which took children up to age 12 were ‘deemed Primary’ while those with older pupils normally ‘deemed Secondary’. ...

The growth of Middle Schools would likely have been slow (although perhaps sustained) had it not been for the other great factors in the late 1960s - comprehensive schooling, and the Raising of School Leaving age to 16 by 1973. The push for comprehensive schooling was led by the Labour government. Its Circular (10/65) invited local education authorities to put forward proposals to reorganise their provision to provide comprehensive secondary education. The circular included a number of options, including the introduction of Middle Schools. Alongside this, the need for authorities to find space for an additional year group of pupils by 1973 led to a range of different solutions, including Middle Schools with a variety of ages of transfer.

While it is now mainly agreed that these factors had been the driving force behind change in the 1960s and 1970s, one other factor gave the process some added validity. In 1967, the Central Advisory Council for Education produced its report into Primary Education. Known as the Plowden Report, it recommended to the government that it seek to promote Middle Schools, and indeed standardise transfer at age 12. It argued that an extension of the good work taking place in Junior schools was to be commended, and that the government should fix a standardised age of transfer. (Its recommendation was age 12, although it proposed that age 13 was feasible). While the government did not oppose the introduction of Middle Schools, it did little to encourage it, and as such, the schools appeared in a variety of forms, as suited each authority. ...

The years following the report saw Middle School numbers soar from under 100 to over 1000 by 1974 (following the raising of School Leaving age). Numbers continued to grow in the late 1970s with over 1800 Middle Schools open in 1981 in nearly 50 Local Education Authority areas from Devon to Northumberland.

The patchy way in which the schools developed led to a variety of provision that exists still today. Combined with the reorganisation of local government in 1974, this meant that some education authorities had pupils transferring between one type of school and another at every age from 7 to 13. ...

As is the case with other countries where there is great diversity in the configuration of middle schools, to say nothing of the actual *middle schooling* philosophies and approaches adopted

across and within these types, researching the impacts of *middle schooling* in comparison with traditional approaches is fraught with difficulty. In the case of Britain, other changes in education conspired to undermine the growth of middle schools (UK Middle Schools Web site, undated):

... 1981 saw the first large scale closures of Middle Schools. Falling rolls across the secondary sector led authorities to examine their provision. To maintain viable Upper or High Schools it was sometimes deemed necessary and/or desirable to return to a two-tier structure.

The gradual decline was given a boost in the late 1980s with the introduction of the National Curriculum. The Curriculum is divided into 4 clear sections, known as Key Stages. Each of these aligns with the traditional splits in schooling. Key Stage One, for pupils aged 5 to 7, aligned with Infant Schools, Key Stage Two with Junior Schools (ages 7-11) with Key Stages 3 and 4 representing the Secondary sector – the latter dealing with examination years. The implementation of both the curriculum, and the associated end-of-Key-Stage testing arrangements led yet more authorities to reorganise their provision, often disbanding Middle Schools and returning to the traditional Primary/Secondary split.

By 1999 numbers had fallen back to the levels seen before the Raising of School Leaving Age with around 550 schools open. By 2005 this had fallen again. In September 2005, just 361 Middle Schools are due to start a new academic year – fewer than at any time since 1971. The number looks set to fall yet further. If all of the authorities which currently have plans to withdraw Middle Schools achieve their aims, by 2010 there could be as few as 150 Middle Schools remaining.

Other reasons for the decline in middle schools in the UK (predominantly England and Wales; there were only ever two middle schools in Scotland and both closed in the 1980s) include:

- Insufficient and declining student numbers in middle schools;
- concern over educational standards in middle schools, and
- financial concerns over maintaining a ‘third-tier’ of education.

However, the closures and changes were not universally supported, with the feeling amongst some parent, community and professional groups that the closure of middle schools had not been accompanied by sufficient consultation or research into the efficacy or otherwise of middle schools.

3. New Zealand

Despite more than a century of debate and discussion, middle school education has been slow to develop in New Zealand, with strong views both in favour of, and against the concept. Nolan and Brown (2002: 34-35) have described the issue in the following terms:

... the school system does not deal with students in the middle as a discernable group and, on the whole, it does not provide them with the distinctive middle level education that they need. The New Zealand intermediate school, a quasi-two-year ‘middle school’ [Years 7-8] provides only a partial solution. While seven four-year middle schools have been established since 1995, the primary and secondary teachers’ associations and many school principals, especially secondary principals, are opposed to them, mainly for political and expediency, not educational, reasons.

Nolan and Brown (2002: 35) also 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*. Nolan and Brown (2002: 37-38) comment, however, that 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.

In calling into question the efficacy of New Zealand's existing intermediate schools, and thereby implicitly arguing in favour of structure, Nolan and Brown (2002: 38) warn:

A major caveat is that no matter how well any given intermediate school might embody and implement middle level educational principles, the two-year grade span seriously impedes the realisation of their potential as middle schools ... intermediates can provide students, at best, with only a truncated experience of middle school philosophy and practice, and this at the very point when the students that attend them need continuity, coherency, and sustained challenge over a longer period.

Ward (2000: 366-367) has also provided an overview and background to *middle schooling* in New Zealand:

In New Zealand, the traditional transition school for most pupils is the Intermediate School. Such schools cater to 11 and 12 year-olds (Years 7 and 8) and feature home-room 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. Over the last decade, changes in national education policy in New Zealand have allowed schools to become more self-managing and also to extend their client base. As a result, some primary schools (Years 0-6) recapitated to include Years 7 and 8. But the most significant change occurred where Year 7 to 8 intermediate schools were extended to include Years 9 and 10, thus becoming four-year middle schools.

Because Years 9 and 10 were traditionally the preserve of secondary schools, considerable debate ensued as to the ability of middle schools to adequately cater to this age group. Advocates of retaining the traditional transition stage at the end of Year 8, largely representative of the secondary teachers union, were the most vocal.

The objection to the establishment of Year 7-10 middle schools and the necessary delay of transition to secondary schools included:

- Pupils who enter secondary school at about age 13 (Year 9) embark on a four or five year, longitudinal program in each subject. Late entry into the program (at say, Year 11) interrupts the continuity of a program's content and skills progression.
- Year 11 includes a significant challenge when pupils sit for the first national exam, the National Certificate of Educational Achievement (NCEA). Pupils who enter secondary school in Year 11 already have sufficient challenges in adapting to a new school environment.
- Because middle schools do not have the qualified specialist subject teachers and laboratory resources, typical of secondary schools, pupils from middle schools will be inadequately prepared for secondary programs.
- By the time secondary school pupils are entering their third year, they have established strong social cohesion. Middle school pupils entering the social scene at this stage will have difficulty in being included socially, to be part of a substantially different culture.

Ward tracked the movement of a class of students who moved through years 9 and 10 at Hamilton Middle School, rather than transferring to secondary schools at Year 8, and through their later transition to four different secondary schools. Overall, Ward found (2000: 373):

From a transition perspective, those who enter secondary school later bring with them an added maturity to cope. For them, coping with transition is soon subjugated in favour of dealing with the social demands of the adolescent culture. But, on reflection, all those in this study, along with a sample of parents, maintained that delaying transition to secondary school was a favourable move.

McGee et al. (2003) carried out a review of the New Zealand and international literature on the transition to secondary school and concluded (2003: 53):

... it is clear that there is a considerable amount of international concern about transition from primary to secondary school. In the case of New Zealand, comparatively little research has been carried out on transition.

Consequently, there are numerous gaps in what is known about transition. Much of the New Zealand information is anecdotal, and there is a shortage of research information that links transition to school achievement. Furthermore, much more needs to be known about different student populations, for example, Māori, Pacific groups and other ethnic groups, low achievers, high achievers, boys, girls, and different socio-economic groups.

Māori and Pasifika Education

As noted, a key concern in New Zealand is the academic performance of Māori and Pasifika students. In a recent New Zealand report, *Teacher Professional Learning and Development Best Evidence Synthesis Iteration (BES)* (Timperley, Wilson, Barra & Fung, 2007a), Russell Bishop, Foundation Professor of Māori Education at the University of Waikato, made the following observations concerning Māori education (xviii-xxi):

There remains ... the seemingly immutable problem of achievement differential, with Māori and other minoritised children continuing to score less on standardised achievement tests across all age ranges. Over all, this group has a very poor experience of school, and this has been the case for generations. ...

The usual explanation was that Māori students were culturally deprived: there were few books in their homes, they were not read to from an early age, and so on. ...

In 2001 I returned to my concern about the achievement of Māori students. During that year, a group of us began a systematic examination of teachers' experiences of working with Māori children. As I interviewed teachers, I heard them recount time and time again exactly the same kind of experiences that I had had in the 70s and 80s. They told me of their high aspirations for all of their students, including Māori. They told me of their frustration at not being able to reach Māori students and make the difference for them that, by and large, they were able to make for their other students. They talked about not being able to be what we have since come to term 'agents of change', to feel that they were *agentive* or efficacious. They felt that their ability to make a difference was being compromised by forces beyond their control. Most spoke of being angry, isolated, and professionally bereft of solutions, yet expected by society to provide them. They also spoke about the difficulties they had experienced when trying to translate externally located and curriculum-focused professional development into classroom practice. They were hoping that we could provide them with answers. ...

We were told time and again by many of those we interviewed in 2001 that negative, deficit thinking on the part of teachers was a fundamental cause of negative student-teacher relations. Students, whanau [extended families], principals, and teachers gave us numerous examples of the resulting negative behaviours and their consequences for both students and teachers. Teachers spoke of their frustration and anger. Students told us of their aspirations to learn and to take advantage of what the school had to offer, and how negative teacher actions came across as an all-out assault on their identities as Māori and their need to be accepted and acceptable. The end result was that they were precluded from participating in what the school had to offer. ...

We learned that this positive thinking is fundamental to the creation of learning environments where young Māori can be themselves, where Māori students' humour is acceptable, where students can care for and learn from each other, where being different is acceptable, and where the power of Māori students' own self-determination is fundamental to classroom relations and interactions. Indeed, it is the interdependence of self-determining participants in the classroom that creates vibrant learning environments characterised by the growth and development of quality learning relations and interactions, increased student attendance, engagement, and achievement on both school- and nationally-based measures. ...

The authors of this BES found that as teachers understood the impact of their practice on their relationships with students in their classrooms and/or learned new approaches to teaching that

led to accelerated student learning, they felt more agentive and, in turn, refocused on the teaching–learning relationship. As a result, they had higher expectations of their students. Higher expectations cannot be taught or imposed independent of context; they develop out of improved relationships.

Bishop’s comments are characteristic of a longstanding preoccupation with socio-cultural determinism throughout New Zealand’s education system that is reflected in research, policy and practice.¹¹ Nevertheless, Bishop (in Timperley et al, 2007a: xxi) recognises the importance of an evident refocus among teachers ‘...on the teaching-learning relationship’. In this context, the internationally-renowned work of Professor John Hattie of the University of Auckland is worth noting. Based on meta-analytic syntheses of findings from more than 500,000 evidence-based studies, Hattie (2003: 2-3) has expressed the implications for New Zealand as follows:

Schools account for about 5-10% of the variance in student achievement outcomes. Schools barely make a difference to achievement. The discussion on the attributes of schools – the finances, the school size, the class size, the buildings are important as they must be there in some form for a school to exist, but that is about it. Given NZ schools are well resourced with more uniformity in the minimum standards than most countries, it should be less surprising that in NZ the school effects are probably even lower than in other countries.

Teachers account for about 30% of the variance. It is what teachers know, do, and care about which is very powerful in this learning equation.

Students account for about 50% of the variance in achievement. It is what students bring to the table that predicts achievement more than any other variable. The correlation between ability [i.e., prior achievement] and achievement progress is high, so it is no surprise that bright students have steeper trajectories of learning than less bright students. Our role in schools is to improve the trajectory of all these students, and I note the recent PIRLS and TIMMS studies which have shown that our [NZ] trajectory for the not so bright students is one of the flattest in the OECD world.

With a particular focus on government policy and educational provision in New Zealand schools, Hattie continues to assert:

When I review the initiatives of the previous Ministries of Education up to a couple of years ago, and when I review the policies in so many New Zealand schools, I note that the focus of discussions are more about the influences of the home, and the structures of schools. We have poured more money into school buildings, school structures, we hear so much about reduced class sizes and new examinations and curricula, we ask parents to help manage schools and thus ignore their major responsibility to help co-educate, and we highlight student problems as if students are the problem whereas it is the role of schools to reduce these problems. Interventions at the structural, home, policy, or school level is like searching for your wallet which you lost in the bushes, under the lamppost because that is where there is light. The answer lies elsewhere – it lies in the person who gently closes the classroom door and performs the teaching act – the person who puts into place the end effects of so many policies, who interprets these policies, and who is alone with students during their 15,000 hours of schooling.

I therefore suggest that we should focus on the greatest source of variance that can make the difference – **the teacher**. We need to ensure that this greatest influence is optimised to have powerful and sensationally positive effects on the learner. Teachers can and usually do have positive effects, but they must have exceptional effects. We need to direct attention at higher quality teaching, and higher expectations that students can meet appropriate challenges - and these occur once the classroom door is closed and not by reorganising which or how many students are behind those doors, by promoting different topics for these teachers to teach, or by bringing in more sticks to ensure they are following policy.

Additional implications of this research for New Zealand are worth noting here. Consistent findings from the evidence-based research literature related to the relative impact of teaching and schools on accounting for variance in student achievement outcomes suggest that the

¹¹ For example, see: Biddulph, Biddulph and Biddulph (2003); Harker (2006).

variation between class/teacher groups *within* schools is notably greater than the variation *between* schools (Cuttance, 1998, 2000; Muijs & Reynolds, 2001). As reported by Alton-Lee and Rowe (2007), such is also the case for NZ. In fact, compared with most countries, NZ has larger variation within schools than between schools. Notwithstanding the possible effects of differences between schools in terms of student background factors and intake characteristics, or any 'class-ability' streaming allocations that may operate within NZ schools, this finding is important. If most of the variation in student achievement is within schools, '...reform efforts need to focus on improving the performance of low performing students within schools' (Willms, 2007: 4). With this in mind, Willms (2007: 12) highlights at least two key policy implications for NZ, as follows:

First, school reforms should focus on within-school interventions for all schools, rather than whole-school reforms targeted at low performing schools. Second, within-school interventions should **not** focus particularly on children from low-SES families; rather, they should be universal interventions aimed at improving results for all students, or performance interventions targeted towards those with low levels of academic performance.

4. Australia

During the last 20 years there has been an increasing focus on the middle years and *middle schooling* in Australia. Numerous reports have identified student alienation and disengagement as contributing to under-achievement by many students in the middle years.¹² As a result, most state and territory governments and educational systems have developed and implemented middle school approaches and programs, rather than middle schools *per se*.

Despite the focus on *middle schooling* across government, Catholic and independent school sectors, there are relatively few distinct middle schools in Australia, with the majority of these being in the non-government sector. Most *middle schooling* initiatives in government schools are carried out within existing secondary or K-12 school structures.

To the best of our knowledge, there has been only one empirical Australian study that has attempted to identify 'effective practice' in *middle schooling* (see Hill, Jane, et al., 2002). From this three-year longitudinal study known as the Middle Years Research and Development (MYRAD) Project, the findings were mixed in terms of student achievement and attitude outcomes, but showed that positive advances are made when:

- 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;
- 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 approaches to instructional effectiveness and school improvement are adopted;¹³ and
- three-year action plans and targets are established and tested against data.

The findings indicated that the MYRAD experience focused participating school leaders and teachers' attention on the value of:

¹² See, for example, Luke, Elkins, et al. (2003). The most recent evidence for such claims derives from a national survey among 11,526 students in 81 schools, and responses from teachers on 6,860 students in 73 of these same schools. For specific details, see Bernard, Stephanou and Urbach (2007).

¹³ The value of being data-informed via findings from evidence-based research to support both student and teacher learning (as well as for overall school improvement) is documented by Matters (2006); Rowe (2005c); Visscher and Coe (2002, 2003).

- co-operation, consistency and partnership between primary and secondary teachers/schools;
- sustained system support;
- resourcing and support across all levels — school, cluster, regions, centre and the University of Melbourne;
- use of a whole-school design model and a set of strategic intentions as a conceptual guide;
- securing a whole-school commitment;
- data-informed, evidence-based, evaluative approach; and
- investment in teacher professional development.

However, the findings indicated the need for:

- fundamental reconceptualisation of learning and development of shared understanding within each school of the need for meaning and implications of this;
- focus on the teaching-learning practices in the classroom;
- profound, continuing professional development of teachers;
- profound, on-going professional development of leaders to enhance staff and student learning;
- reduction of crowded curriculum to enable depth of understanding;
- system to support and press for, but not mandate, change; and
- understanding that fundamental change is not likely to be achieved quickly or easily.

A subsequent review of *middle schooling* in Australia, *Beyond the Middle* (Luke, Elkins, et al., 2003) commissioned by the Australian Government Department of Education, Science and Training, represents one of the most significant reviews of *middle schooling* carried out anywhere in the world. With a particular focus on literacy and numeracy achievement outcomes in the middle years, the report concluded that *middle schooling* in Australia is something of an unfinished project. In broad terms, the report found (7-10):

- a) There is a need for a new generation of middle years conceptualisation and research on student pathways;
- b) There is a need to fund a co-operative, multi-partner professional development strategy on middle years school innovation;
- c) There is a need to focus systemic activities on renewing mainstream pedagogy in middle years schooling;
- d) There is a need to align school-based innovations in middle years pedagogy and assessment to focus on student outcomes;
- e) There is a need to integrate and align approaches to assessing and reporting on social and academic student outcomes;
- f) There is a need to commission research into patterns of school leadership for the middle years that sustain improved student outcomes; and
- g) There is a need to support and research distinctive middle years teacher education programs and career pathways.

Most of the reviews of *middle schooling* in Australia have identified a dearth of evidence for the effects of *middle schooling* on personal, social and academic student outcomes. The Northern Territory Council of Government School Organisations (2005: 3) found:

There is little research evidence available in Australia on the effect of middle schooling on student outcomes. Most of the numerous studies published consist of advocacy or focus on student and teacher attitudes rather than actual outcomes for students. Little data has been collected on the effect on student achievement.

The research studies generally show that teachers believe that the introduction of middle schooling practices has improved student engagement and attitudes to learning. There is also evidence of gradual change in teaching practices.

Few research studies have been conducted in Australia or elsewhere on specific practices associated with middle schooling and few have been conducted on a sound methodological basis.

A number of reports and reviews into *middle schooling* in Australia offer the view that the ‘first wave’ of *middle schooling* from the 1980s to 1990s was characterised by great enthusiasm, advocacy and developmental work. However, many of the middle school initiatives were *ad hoc*, localised, fragmented, ‘grab bags’ of strategies; undocumented, unevaluated, and with little evidence of impact on student achievement. Funding arrangements meant that certain groups were targeted for attention, and thus some initiatives were ‘bolted on’ to existing primary/secondary structures rather than embedded in purpose designed middle schools (NT COGSO, 2005: 15; Luke et al., 2003: 135).

By consensus, the next phase needs to be conducted in a more systematic, coordinated, evidence-based manner, supported by more substantial government funding and teacher professional development. In respect of the latter, it is only in the period since 2002 that specialised pre-service teacher training for the middle years has become available in Australia (Pendergast, 2005: 12), although some teacher registration boards and authorities have yet to recognise this specialisation. Lack of in-service training for teachers of the middle years is also seen to be holding back change in *middle schooling* (NT COGSO, 2005: 18).

In his review of *middle schooling* in Australia Prosser (2006: 10) concluded:

The first generation of middle schooling in Australia left business unfinished, especially in relation to the impact of poverty and disadvantage on differential outcomes for students and the need for greater teacher involvement in efforts for middle school reform. These continuing challenges must not be overlooked in a second generation of middle schooling in Australia.

Some of the key concerns identified for the middle years are worth examination in more detail.

5. KEY CONCERNS OF MIDDLE SCHOOLING

The Primary-Secondary Transition

One of the major concerns underpinning *middle schooling* is that of the primary to secondary transition. At its most basic, this transition typically comprises a change of school and a change from a generalist class teacher in a ‘home room’ to a range of specialist teachers and subjects at a larger school site with older, adolescent to adult students.

As noted, it is important to recognise that not all students will find the transition from primary to secondary school problematic. Many will experience little difficulty in adjustment and will relish the change. With this in mind, the following *potential* issues for transitioning students have been identified in the literature (ACT DET, 2005: 9-10):

- Loss of a role model or key adult;
- Loss of trust and diminished responsibility;
- Decline in attitude, motivation and interest;
- Loss of sense of belonging and status; and
- Environmental changes from closeted ‘childish/feminine’ to independent ‘adult/masculine’.

In respect of teaching and learning contexts, according to the ACT DET report (2005: 9-10), for example, the primary to secondary transition can involve change from:

- A small school to a large school;
- An integrated classroom style to a school organised in curriculum areas;
- Being one of the oldest students to one of the youngest;
- A close relationship with one teacher to a less close relationship with many teachers;
- Having much responsibility and leadership to less or no responsibility and leadership;
- Being attached to one classroom to moving between classrooms and having to take responsibility for being in the right place at the right time;
- Interacting with a small group of peers to interacting with a large group of peers;
- A teaching and learning environment requiring few organisational skills to one demanding many, e.g., coordinating assessment tasks from a number of teachers;
- A classroom environment where one subject may flow into another and where activities can be completed to one which is more fragmented; and
- Particular pedagogical approaches and assessment styles to significantly different ones.

Paradoxically, while beginning secondary students might be fearful of the workload and difficulty associated with secondary schooling, there is evidence that there can be a fall in expectations and standards from primary to the early secondary years, with beginning high school students being ‘pulled down’ and/or ‘held’ back. At virtually every transition point in education, there is a tendency to underestimate what students can already do, and what they have already achieved. Students who were engaging in high level activities in their primary years (such as designing web pages) can be stifled by lower standards and challenges when they reach high school (‘this is a computer and this is how to turn it on’), with disengagement, boredom and behavioural problems as possible outcomes (Aubusson et al, 2005; Dinham, 2005; Dinham, 2007a).

The middle school years are also the time when some students engage more fully with learning and make great strides in educational attainment. For others who disengage, the achievement gaps which were already wide in upper primary schooling can be substantial by the end of junior secondary education. This is especially the case for particular groups of students such as the economically disadvantaged and those from backgrounds where, for example, there are low levels of literacy in the home and poor family health (see Wylie & Hodgen, 2007).

In its review, the ACT DET report (2005: 10) into *middle schooling* underlined such variation in student achievement as follows:

Although these are the issues that many students are initially confronted with *at the point of* transition between schools, they are physically, emotionally and socially going through a transition that lasts for many years.

Whilst many students find these changes demanding, others thrive on the challenges that the changes create. National research indicates there is a marked middle years slump in student outcomes, including literacy, numeracy, and engagement ... Data collected in the ACT about students’ literacy and numeracy results at years seven and nine demonstrates that, for many students, there are no major implications for their learning in these areas of the curriculum.

There are many effective transition and ‘linkage programs’ designed to smooth the way from primary to high school which have been developed in recent years (ACT DET, 2005: 10-11; Aubusson, Brady & Dinham, 2005), although whether such programs have any impact on student achievement is questionable (ACT DET, 2005: 11). It is possible that the main outcome of such programs is a reduction in initial anxiety on the part of students (and possibly, their parents) concerning the primary-secondary transition.

It must be said that some secondary schools and teachers have been characterised by a superior attitude to their primary colleagues, with reluctance to finding more about primary curricula,

teaching and learning, past student capability and performance. As a result of this stance, tracking of student performance can be poor, assigned work can be either too difficult or too easy for students, work previously covered in primary school is repeated ('we did this in year 5'), and false assumptions can be made about what students know and can do (Dinham, 2007a).

Finally, there is an irony in the discussion of transitions in the *middle schooling* literature. There is general agreement that transition from school to school and the requisite adjustment and change this entails can be problematic for some students.¹⁴ However in most cases, creating separate middle schools *adds* a transition for students attending such schools, although as noted, New Zealand already has a three-tier system due to its intermediate schools.

Literacy and Numeracy in the Middle Years

Literacy

While, ideally, the middle years should be marked by growing independence and competence in literacy, the reality for many young people is the reverse. Maclean (2005: 104) has noted that although many students in the middle years:

... learn to see their writing from the reader's point of view and to write in interesting and informative ways for a wide audience.

... the middle years are also a problematic time for literacy learning. Achievement in literacy for many tends to plateau or go backwards, and the gap between good and poor readers grows ever wider. Many learners disengage from literacy, and do not read and write even if they are able to. The reasons for these problems are varied. Some students who read successfully in the early years are unable to cope with the increased demands of middle years literacy. ... The reading and writing tasks typically encountered in secondary classrooms are more fragmented and less interesting than in upper primary school ... Many lessons do not have a purpose which is clear to either the students or the teacher, and have no connection to students' backgrounds or interests. There is a lack of intellectual depth, challenge and rigour, and a lack of the focused teaching of skills and strategies which students need to complete the tasks set for them.

Consistent with findings and recommendations from the 2004-2005 Australian Government's *National Inquiry into the Teaching of Literacy* (see Rowe, 2005, b; 2006a), a variety of approaches to literacy teaching and learning has been advocated and these are briefly outlined below. One of the beliefs underpinning literacy in the middle years is that the concept of *middle schooling*, if fully enacted, will enhance the likelihood of success of these approaches.

Maclean (2005: 104-112) observes that approaches to middle years' literacy include:

- Sentence rewriting and sentence combining;
- Forming paragraphs through students 'bundling' ideas about a topic;
- Helping students to identify underlying relationships between paragraphs;
- Teaching techniques like plot graphs, character profiles, response journals;
- Analysis of advertising;
- Using plot devices in writing, e.g., suspense, quests, puzzles, misunderstandings;
- Knowledge of text types and genres;
- Spoken language genres, e.g., reports, interviews, debates.
- Factual genres, e.g., photos, illustrations, icons, diagrams, full colour design;
- Multiliteracies, i.e., becoming expert in a range of mediums, e.g., spoken language, sound, body language, film, illustration, online and digital texts;

¹⁴ Hattie (2007) calculated an ES of -3.4 in respect of student achievement attributable to *changing* schools.

- ‘Metamedia literacies’, i.e., controlling these literacies, e.g., through a PowerPoint slide where students control print, layout, illustration, colour, animation, sound; and
- Visual literacy, i.e., how images and visual designs are organised, are presented to the viewer, and how types and styles of visual design match types and styles of written text.

Meiers (2007) reviewed the K-12 research literature on writing and notes:

Research shows that writing also plays a key role in learning, and that writing to learn is not the same thing as writing to communicate, or to demonstrate learning. Writing helps students to make connections between what they read, view and hear, and what they think and understand. Writing to learn provides a significant tool that strengthens reading comprehension, and enables students to reflect on and question information and ideas. Writing-to-learn strategies help students to become more active learners. Currently there is widespread interest in the effects of writing on learning. This is often described as ‘writing-to-learn’, and is linked to what is sometimes called ‘writing across the curriculum’.

Meiers (2007: 5) cites a major meta-analysis by Bangert-Downs, Hurley and Wilkinson (2004) who concluded:

1. Writing to learn typically produced small, positive effects on school achievement;
2. Grade level, minutes per writing assignment, and presence of prompts for metacognitive reflection moderated writing-to-learn achievement effects; and
3. Treatment length may moderate writing-to-learn effects, suggesting that the influence is cumulative over time.

In terms of how to teach literacy in the middle years, Maclean (2005: 118) offers the following comments and suggestions:

Only by working on several parallel fronts can teachers meet the challenges of middle years literacy. Teachers design units of work and activities that integrate print, sound, illustration and visual design, that are purposeful, engaging and relevant, and that lead students to critique and transform their social worlds. Within the context of these units, skills and strategies are taught at the point of need that help students to achieve their immediate goals and that also help them to be more independent readers and writers.

Numeracy

There are many definitions of numeracy and views on what being numerate encompasses (see Doig & Rowe, 2002; Thomson et al., 2005). While numeracy is undoubtedly linked closely to mathematics, like literacy, it is generally considered the responsibility of every teacher. In respect of *middle schooling*, Dole (2005: 122-123) has commented:

One of the key aspects of numeracy that does, however, relate directly to the teaching and learning of mathematics, is the importance of having a positive disposition to using mathematics....

Assisting mathematics-anxious students to overcome their fear of mathematics, and focusing on reducing the incidence of such fear, must be the responsibility of teachers of mathematics. However, in the middle years of schooling, school mathematics, and thus the development of numeracy, is challenged by students’ disposition towards the study of mathematics, and often schooling in general.

The ‘traditional’ teaching of mathematics (‘drill and skill’)¹⁵ is seen to be the cause of student disengagement and disinterest in mathematics, and resultant disruptive behaviour. A further issue is that classroom gaps in mathematical ability and achievement can widen dramatically in the middle years, with a seven year gap between the lowest and highest performing students in any classroom being common by year 10 (Dole, 2005: 123).

¹⁵ Disparaged by some as ‘drill and kill’.

In a study of Australian public schools in the State of New South Wales where ‘exceptional’ student outcomes were found to be occurring in Years 7-10, and carried out as part of the *ÆSOP* project (*An Exceptional Schooling Outcomes Project*), Pegg, Lynch and Panizzon (2007: 97-107) found the following common themes or elements in the seven mathematics faculties selected for study. It should be noted that none of the schools concerned was a middle school:

About the School – within the schools visited there were procedures and policies in place to allow faculties to thrive. There are four elements to this theme.

- The first concerns a mission to attain high educational outcomes for all students in the school. In essence, this refers to placing student learning at the centre of the school’s focus and seeing other activities as existing to support this. ...
- The second element involves members of the Executive carrying out their role in a competent, capable and supportive manner ...
- Associated with capable school leadership were sound organisational and administrative structures. Many of these structures are concerned with disciplinary issues or codes of behaviour. ...
- Finally, all schools placed a strong practical emphasis on student welfare and support ... these programs became enablers to assist in breaking down barriers that might impede students achieving their potential ...

About the Faculty – three themes concern the faculty:

- a strong sense of team,
- a strong sense of professionalism, and
- a testing/assessment regime as a catalyst for teacher cohesion.

About Teachers and Teaching – three themes concern teachers and teaching:

- solid teaching evident
- effective classroom management, and
- care for students and their learning.

Pegg, Lynch et al. (2007: 105) found that the teachers in the maths faculties were experienced, passionate about mathematics, and cohesive. The teaching of mathematics in Years 7-10 in the seven successful faculties could be characterised as ‘the fundamentals done well’. A key finding was:

... the critical value of the faculty working as a professional team, as a community of professionals. Teachers, while still maintaining their individuality, are a collective that work and share and, most importantly, learn together to seek improvement in teaching for themselves and their colleagues. The teachers in these faculties collectively established a standard of which everyone was aware. They set the mark so that all students had a chance to achieve and feel genuine success. They cared for their students as individuals and they endeavoured to meet the different needs of individual students.

The Issue of Student Engagement

Student engagement, or the lack of it, is frequently perceived as an effect of teaching. As noted previously, one of the 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. A lack of engagement is sometimes labelled ‘alienation’, although there is disagreement on this point, with some commentators believing ‘alienation’ to be a product or outcome of schooling practices in its own right, rather than being the absence of engagement.

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

Fullarton (2002) reported on a study of student engagement in the Longitudinal Surveys of Australian Youth (LSAY) project. Data were obtained from an Australian national sample of

Year 10 students. *Engagement* in this study was defined using Finn's taxonomy of engagement, or participatory behaviours, which considers students' levels of participation in extracurricular activities available to them in their schools. Fullarton (2002: v) noted :

Finn (1989) argued that with such participation comes identification with the school, a 'belonging' that can help promote a feeling of self-worth and assist students to become resilient learners, particularly if they are part of a group at risk of leaving school before completing Year 12. Participation in extracurricular activities has been described as providing all students with an educational safety net, and several US studies have found participation to be positively related to a range of positive educational outcomes.

Major findings from the national study of Year 10 students (Fullarton, 2002: v) were:

- Females had higher engagement levels than males ... in all school sectors and achievement levels;
- Students from higher socio-economic backgrounds and those with professional parents had the highest levels of engagement within the school;
- Students from independent schools had higher levels of engagement than those in Catholic schools, who in turn were more highly engaged than those in government schools;
- Students who plan on enrolling in tertiary study were more highly engaged than those who planned to leave school and go to work;
- Students at single-sex schools were more highly engaged than those at co-educational schools;
- Levels of engagement were found to be higher where students believed that their school had a good climate, that is one where they have high quality teachers, effective discipline, high levels of student learning and a positive school spirit;
- Students who were generally happy with school and with learning ... were more engaged than those who were not; and
- Students who were intrinsically motivated were found to be more engaged than those who were not so intrinsically motivated.

Additional findings from the LSAY project included:

- Between-school differences account for almost 9 per cent of the variation in students' engagement levels. While this is not large, it is significant, and indicates that it *does* matter what school a child attends; and
- The overall level of student engagement in the school was a strong predictor of student-level engagement. High engagement at the school level ... was found to moderate the negative effects of socio-economic status and indigenous status. This finding indicates that the school environment has an important influence on student engagement.

There were significant differences between male and female engagement, with resultant implications (Fullarton, 2002: vii):

For males, attention in schools needs to be paid to classroom and school climate. Males appear to need more of a supportive school and classroom environment to be engaged with their school. They need to be strongly encouraged by their schools and by their parents to participate in extracurricular activities, and a broader range of activities developed by schools that are appealing to young males.

For females, schools need to focus on developing a strong self-concept of ability and positive views of school climate. Whilst for males, parents' educational level, and for females, socio-economic status, are not malleable, their effects are small compared to the effects of overall high levels of student engagement.

Overall, the LSAY report 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 ‘...it is argued in the report that there are ‘flow-on’ effects to more academic parts of the curriculum’ (Fullerton, 2002: vii).

Higher-Order Thinking

Higher-order thinking is a frequently cited desirable outcome of effective middle years pedagogy and schooling. Higher-order thinking is implicit in models and frameworks such as in Education Queensland’s *New Basics* and *Productive Pedagogies* (2002) and the NSW DET’s *NSW Model of Pedagogy* (NSW DET, 2003).

Higher-order thinking is one of the so-called *Productive Pedagogies*. The *New Basics* website (Education Queensland, 2002) defines higher and lower order thinking thus:

Higher-order thinking requires students to manipulate information and ideas in ways that transform their meaning and implications. This transformation occurs when students combine facts and ideas in order to synthesise, generalise, explain, hypothesise or arrive at some conclusion or interpretation. Manipulating information and ideas through these processes allows students to solve problems and discover new (for them) meanings and understandings. When students engage in the construction of knowledge, an element of uncertainty is introduced into the instructional process and makes instructional outcomes not always predictable; i.e., the teacher is not certain what will be produced by students. In helping students become producers of knowledge, the teacher’s main instructional task is to create activities or environments that allow them opportunities to engage in higher-order thinking.

Lower-order thinking occurs when students are asked to receive or recite factual information or to employ rules and algorithms through repetitive routines. Students are given pre-specified knowledge ranging from simple facts and information to more complex concepts. Such knowledge is conveyed to students through a reading, work sheet, lecture or other direct instructional medium. The instructional process is to simply transmit knowledge or to practise procedural routines. Students are in a similar role when they are reciting previously acquired knowledge; i.e., responding to test-type questions that require recall of pre-specified knowledge. More complex activities still may involve reproducing knowledge when students only need to follow pre-specified steps and routines or employ algorithms in a rote fashion.

According to *New Basics*, there is a *continuum of practice* between lower and higher-order thinking:

1. Students are engaged only in lower-order thinking; i.e., they either receive, or recite, or participate in routine practice and in no activities during the lesson do students go beyond simple reproduction;
2. Students are primarily engaged in routine lower-order thinking a good share of the lesson. There is at least one significant question or activity in which some students perform some higher-order thinking; and
3. Almost all students, almost all of the time, are engaged in higher-order thinking.

The rationale for teaching higher-order thinking skills in *middle schooling* incorporates both personal and social-economic aspects. Individually, higher-order thinking skills theoretically enhance one’s life chances, leading to greater personal fulfilment, financial reward, as well as mental and physical health. Socially and economically, enhanced higher-order thinking skills enable greater collaboration, innovation and productivity in workplaces and the economy.

A concern with traditional schooling during the middle years is that of too low intellectual demands being placed on students, and the ‘dumbing down’ of the curriculum. However, virtually every study of effective and successful teaching has identified the importance of high expectations being held by teachers and communicated to students for enhanced achievement progress. A related concern is that traditional schooling neither promotes nor assesses higher-order thinking skills.

As noted, the enhancement and utilisation of higher-order thinking skills lies at the heart of almost all espoused principles and practices of *middle schooling*. Hilton and Hilton (2005: 199) have noted:

Traditional practices in schools have been described as desk-oriented, with teaching often based around a textbook, and directed at one level, usually the middle ability range. ...

The signifying practices associated with middle years schooling attempt to address these concerns by providing alternatives in which students are more actively engaged in learning.

...

Problem and performance-based learning, independent projects, cooperative and collaborative learning, and curriculum integration and negotiation are examples of practices designed to encourage active learning and higher-order thinking. ...

When such activity is missing from the classroom, students are deskilled because they are exposed to busy work and rote learning, which require no reflection.

A key question in teaching higher-order thinking skills relates to assessment. Should these skills be taught and assessed in isolation? What of 'rich tasks' designed to promote higher-order thinking? What of assessment *for* learning of higher-order thinking skills? Hilton and Hilton (2005: 208) address some of these issues:

Assessing higher-order thinking is not an easy task. Proponents of teaching thinking skills in isolation from the main curriculum cite ease of evaluation as a major advantage of their method, as it does not get lost in the broader agenda. The fact that this approach does not relate to students' broader curriculum or middle schooling philosophy and therefore has little authenticity would seem to outweigh any assessment advantage.

A more authentic assessment method is the development of criteria sheets, which scaffold and assess students' thinking skill development in the broader context of an integrated curriculum.

Once again, the research in favour of teaching higher-order thinking skills in *middle schooling* contexts is slight and tentative. Some studies report improved motivation, engagement and achievement, although the effects of higher-order thinking skills approaches tend to be conflated with other learner-centred approaches (see Hilton & Hilton, 2005: 209).

Education for Student Resilience

In the context of *middle schooling* being charged with the responsibility for solving a range of academic, personal and social problems society seems unable or unwilling to deal with (Dinham & Scott, 2000), resilience has been added to the list. Newhouse-Maiden et al. (2005: 77) have commented:

... teachers, schools and families share a central role in the productive construction of protective assets during the middle years ... Research suggests that people who are emotionally resilient, courageous and hopeful are more likely to succeed now and in the future ... The types of attributes that appear to reduce vulnerability show a striking alignment to the developmental tasks being nurtured during the middle years. ... Deliberate educational action targeting the competencies that promote resilience is possible, and arguably ethically demanded, in the middle years of schooling.

Educational systems have advocated the building of resilience through *middle schooling*, the years in which it is seen as most needed (see NSW DET, 2006). In this vein, Newhouse-Maiden et al. (2005: 86-87) recommended 'a number of principles for resilience building'. These, however, lack detail on how best to achieve what is being advocated, and all require a high level of professional skill on the part of the teacher, not to mention time:

- Avoid promoting achievement goals, instead develop a system for acknowledging the achievement of mastery goals in all areas of endeavour;
 - Provide for the development of positive self-concept through opportunities for the development of self-knowledge, particularly of strengths and weaknesses;
 - Provide an environment that encourages an internal locus of control;
-

- Explicitly develop communication and self-help skills. Provide students with opportunities to practise and develop these in a multifaceted way to a high level of skill;
- Encourage a high activity level but not to the exclusion of discretionary time;
- Practise cognitive skills. Explicitly teach problem-solving strategies, scaffolding support, providing scalable worked examples to problems and training in the application of metacognitive processes;
- Discuss coping strategies;
- Proactively establish social networks that cut across age cohorts;
- Expose students to support networks and practise engaging in them through role plays, research activities and community-based activities; and
- Provide opportunities for the sanctioned development of a personal relationship with a positive role model with full regard to the maximisation of the influence of the model.

As noted, building resilience is believed to promote self-esteem, confidence and autonomy, and to help protect young people from a range of potential dangers, including drug and alcohol abuse, anti-social behaviour, bullying, eating disorders, self-harm, suicide and unemployment (see Richardson, 1998).

However, there are concerns over whether the substance of what is being proposed to be taught under the label of resilience is more therapy and social engineering than teaching. A secondary concern is whether teachers have the skills and knowledge (and time) that this form of teaching and learning requires. If not, it is possible that harm to students could result (see Scott, 2007).

Pedagogy for the Middle Years

An often stated feature of *middle schooling* is the utilisation of pedagogies that are believed to be suited to the developmental needs and interests of adolescents. 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’, ‘team teaching’, and so forth.

In its review of *middle schooling*, the Northern Territory Council of Government School Organisations (2005: 26) commented:

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 literature, however, is that teachers frequently feel under-prepared and ill-equipped to adopt and utilise these approaches and strategies. This perception reflects the difficulty of teacher preparation generally in the current context (see Dinham, 2006). In describing their involvement with teacher training in the USA, Carroll et al. (2007: 1), comment generally about the field:

As insiders to teacher education, we, too, are critical of much that goes on in our field. We lament the disregard for serious content knowledge, the preoccupation with techniques, the reliance on unexamined practice. We agree that teacher education too frequently promotes unrealistic goals, offers scant intellectual fare, and fails to provide prospective teachers with the tools to realise their aspirations and society’s expectations.

We understand why this is so. Immersed for many decades in the difficult work of teacher preparation, we have learned that helping prospective teachers develop sophisticated understandings of subject matter, students’ thinking, and the creation and management of

classroom learning communities – the whole, complex package – is hard, intellectually demanding work.

A secondary concern is 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. Hill and Russell (1999) advocated that all middle years teachers have an in-depth knowledge of at least two specialist subject areas, a common requirement for ‘regular’ secondary teachers, but that they also require training for integration of existing subject-area knowledge into special topics or issues. According to Hill and Russell, middle years teachers also require pedagogic knowledge and skills in literacy, numeracy, as well as ICT.

An evaluation of three middle schools in the Australian Capital Territory (Rafiq & Woolnough, 2005: 14) found:

With respect to ‘classroom teaching strategies’ there appears to be a strong agreement between principals, parents and teachers. In general, the responses of the students were not very positive in relation to their teachers and teaching practices in the schools. For example, students expressed a very negative perception of the courses they were taught and none of the students reported positively that they worked in small groups. Although teachers felt that teaching strategies such as cooperative learning, team teaching and hands-on activities were well practiced in the schools, they felt that they were not trained for meeting the needs of adolescents. In general, there was an agreement between the responses of the schools on all items.

According to the majority of the stakeholders, teachers were engaged in professional working relationships, sharing ideas and developing appropriate instructional programs for students. Staff, however, did not feel that their development was inclusive of the various adolescents’ needs. Otherwise, staff felt that they were working as collaborative teams and had a strong sense of belonging and collaboration among themselves. Students had a strong conviction that their teachers had strong knowledge of the content they teach and control over their teaching practices. Regarding teachers’ willingness in helping the students with personal problems, the students’ perceptions were less positive.

Rafiq and Woolnough (2005: 14-15) concluded that ‘most of the students held a negative perception of the teaching and learning environment provided in the schools’. As a result, they recommended the need for specific pre-service and in-service training for middle school teachers with such training underpinned by an understanding of adolescents’ needs. They noted that interdisciplinary teaching needed to go further. Overall, what comes through in Rafiq and Woolnough’s (2005) 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 and unattainable.

Another key aspect to middle school pedagogy is that of ‘discovery learning’. Discovery learning is sometimes labelled cognitive constructivism, or social constructivism, and is seen as ‘a preferred instructional method’ in education, especially during the middle years (Mayer, 2004: 14):

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. Under the banner of social constructivism, the call for discovery learning remains, but with a modest shift in form – students are expected to work in groups in a learning environment with little or no guidance.

Writing in the *American Psychologist*, Mayer (2004) reviewed research on the discovery of problem-solving rules (which peaked in the 1960s), the discovery of conservation strategies

(which peaked in the 1970s), and the discovery of computer programming concepts (which peaked in the in the 1980s). ‘In each literature, pure discovery methods – in which students have maximal freedom to explore – are compared with guided discovery methods – in which the teacher provides systematic guidance focused on the learning objective’ (Mayer, 2004: 15).

As a result of his review of the research literature, Mayer (2004: 17) concluded:

My historical review of three research literatures – teaching problem-solving rules, teaching conservation strategies, and teaching programming concepts – does not offer support for pure discovery methods. Does this mean that constructivism is wrong? It certainly means that a doctrine-based approach to constructivism does not lead to fruitful educational practice. The research in this brief review shows 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* (e.g., hands-on activity, discussion, and free exploration), the kind of activity that really promotes meaningful learning is cognitive activity (e.g., selecting, organizing, 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.

Mayer (2004: 18) also makes a vital additional point in this review of the research evidence on constructivist-based discovery learning: ‘The larger message of this article is that psychology has something useful to contribute to the ongoing debate about education reform’, believing that psychology has tended to be left out of the debate about how young persons learn – particularly given overwhelming findings from the large body of evidence-based psychological research for the primacy and utility of *direct/explicit* instruction (Ellis, 2005; Hattie, 2003, 2005; Kirschner, Sweller & Clark, 2006; Purdie & Ellis, 2005; Rowe, 2006a,c; Wheldall, 2006). Whereas *constructivism* is an established, legitimate theory of *learning* and *knowing* (McInerney & McInerney, 2006), it is **not** a theory of *teaching*. This has particular relevance for effective pedagogy during the middle years, especially given the strong advocacy in middle school teaching for ‘hands-on’, ‘action-oriented’, *constructivist* learning activities. Bruce Wilson (a former CEO of the Australian Curriculum Corporation) at a conference under the auspices of the Australian and New Zealand School of Government (AZSOG), underscored the fundamental importance of explicit *teaching* in contrast to prevailing emphases on *constructivism*. In highlighting the inappropriateness of *constructivism* as an operational *theory of teaching*, Wilson (2005: 2-3), posits:

... We largely ignore generations of professional experience and knowledge in favour of a slick postmodern theoretical approach, most often characterised by the misuse of the notion of constructivism.

... 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.

These assertions by Wilson are consistent with expressed concerns that most faculties and schools of education in New Zealand and Australian universities currently providing pre-service

teacher education base their programs on *constructivist* views of both learning *and* teaching.¹⁶ Westwood (1999), for example, highlights the results of a South Australian study which found that most teachers (79%) had been strongly encouraged to use a *constructivist* approach in their initial teacher education courses and during in-service professional development programs. Even more notably, 67 per cent of the teacher trainees in this study indicated that *constructivism* was the *only* teaching approach to which they had been exposed in their teaching method courses. Commenting on these findings, Westwood (1999: 5) declares:

At the same time as constructivist approaches have been promoted, direct teaching methods have been overtly or covertly criticised and dismissed as inappropriate, with the suggestion that they simply don't work and are dull and boring for learners. The message that most teachers appear to have absorbed is that all direct teaching is old-fashioned and should be abandoned in favour of student-centred enquiry and activity-based learning.

In concluding their more recent critique of prevailing constructivist approaches to teaching, Kirschner, Sweller and Clark (2006: 84) observe:

It is regrettable that current constructivist views have become ideological and often epistemologically opposed to the presentation and explanation of knowledge. As a result, it is easy to share the puzzlement of Handelsman et al. (2004), who, when discussing science education, asked: 'Why do outstanding scientists who demand rigorous proof for scientific assertions in their research continue to use and, indeed defend on the bias of intuition alone, teaching methods that are not the most effective?' (p. 521). It is also easy to agree with Mayer's (2004) recommendation that we 'move educational reform efforts from the fuzzy and unproductive world of ideology—which sometimes hides under the various banners of constructivism—to the sharp and productive world of theory-based research on how people learn (p. 18).

The Importance of a Language of Pedagogy for the Middle Years

Several studies have highlighted the need for teachers engaged in middle school initiatives to have a language or model of pedagogy on which to base discussions, planning, teacher learning, student assessment and evaluation. For example, Sellar and Cormack (2006) reported on the *Redesigning Pedagogies in the North* (RPiN) project which focussed on the redesign of middle years pedagogies in ten state high schools located in the northern suburbs of Adelaide, Australia – an area with significant issues around poverty and social disadvantage. Sellar and Cormack note (np):

Teacher-researchers spoke about the myriad challenges they face teaching in Adelaide's northern 'rust belt' communities, including classroom and behaviour management issues, dealing with a lack of funding and resources and trying to engage students in achieving educational outcomes which enable them to make real choices about their life trajectories. In these early discussions among the teacher researchers and with the university researchers involved in the project, there were ongoing difficulties in finding an adequate language to define and describe what was pedagogical about the ways that teachers responded to these challenges.

The researchers were faced with the challenge of both 'hearing' what the teachers had to say as being about pedagogy, and in relating what they said to conceptions of pedagogy being used in contemporary middle school literature. It became clear that being able to develop a shared concept of pedagogy that helped to mediate between teachers' reports and theoretical accounts was important if the teacher and university researchers were going to be able to describe, experiment with, and redesign the work of teaching and learning in the classrooms of the RPiN schools. ... it became clear that the silences around pedagogy were more complex than a simple terminological slippage. 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.

¹⁶ See: de Lemos (2002, 2004); Fielding-Barnsley and Purdie (2003); Loudon *et al.* (2005a-c); Rowe (2005a, Appendix 2); Westwood (2004, 2006). According to Hills (2007), the same applies to pre-service teacher education throughout the USA, suggesting that constructivist approaches to teaching – especially in mathematics – are 'risky'; see also National Academies (2007).

On the other hand, Aubusson et al. (2005) reported on an evaluation of the Australian Government Quality Teaching Program (AGQTP) in 81 New South Wales (NSW) government primary and secondary schools. In this case, project schools were required to use the recently introduced NSW Model of Pedagogy (NSW DET, 2003) in planning, conducting and evaluating *Quality Teaching Action Learning* (QTAL) projects.

One of the findings from the evaluation of the 50 projects carried out in the 81 schools participating in the AGQTP, was 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. In fact, it was 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. Aspects of the model were visible in staff rooms and classroom displays which served as both resources and reminders. A surprising finding was that students as early as Kindergarten and Year 1 were observed to be using some of the model tools and terminology correctly to describe their own learning.

Authentic, Valid Assessment

Of relevance to this review, 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 schools' 'league tables'.¹⁷

Some have expressed concern with traditional assessment methods in schools that lack 'authenticity' in terms of validity, 'assessment *for* learning' and the monitoring of student achievement progress and/or 'growth'.¹⁸ In noting this concern, the ACT Department of Education and Training (2007), for example, defines authentic assessment thus:¹⁹

Authentic assessment involves students in tasks that are derived from and simulate 'real life' (or authentic) conditions or situations. Its aim is to provide valid and accurate information about what students really know and are able to do. Authentic assessment:

- requires students to construct responses rather than select from pre-existing options;
- makes students aware of the criteria that will be evaluated;
- focuses on higher-order thinking skills;
- is holistic and integrated into the classroom curriculum;
- is based on work samples collected over time to create a portfolio;
- respects that there can be more than one answer; and
- encourages students to reflect on and assess their own work and effort.

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

¹⁷ The dangers of constructing and using 'league tables' have been well-documented by: Goldstein and Myers (1996); Goldstein and Spiegelhalter (1996); Goldstein and Thomas (1996); Rowe (2000).

¹⁸ See: Masters, Meiers and Rowe (2003); Rowe (2005c, 2007d). Moreover, the Australian Council for Educational Research (ACER) has developed several 'growth model' assessment instruments, the most notable of which include: the *Developmental Assessment Resource for Teachers* (DART English) by Forster, Mendelovits and Masters (1994). More recently, in collaboration with the New Zealand Council for Educational Research (NZCER), ACER has developed the widely acclaimed *Progressive Achievement Tests* in: (a) *Reading: Comprehension and Vocabulary* (PAT-R; ACER, 2005a), and (b) *Mathematics* (PAT-Maths; ACER, 2005b). [For recent applications of the PAT-R and PAT-Maths instruments in the context of monitoring the progress of students with learning difficulties, see: Rowe, Stephanou & Hoad, 2007; and Rowe, Stephanou & Urbach, 2006].

¹⁹ http://www.det.act.gov.au/publicat/sei_qt_authentic.htm.

engaging students. Another point worth noting is that most frameworks and models of pedagogy integrate assessment, as asserted by Wyatt-Smith et al. (2005: 272):

Effective pedagogy requires effective assessment, assessment that provides the critical links between what is valued as learning, ways of learning, ways of identifying need and improvement, and perhaps most significantly, ways of bridging school and other communities of practices ... Nothing can be so dampening on learning by middle years students as narrowly-construed assessment that serves only to reinforce a sense of failure and diminish self-esteem.

One of the assumptions with current approaches to assessment is that properly constructed and utilised assessment items and procedures can raise student achievement standards (Assessment Reform Group, 1999: 4-5):

In a review of research on assessment and classroom learning, commissioned by the group authoring this paper and funded by The Nuffield Foundation, Professors Paul Black and Dylan Wiliam (1998) synthesised evidence from over 250 studies linking assessment and learning.

The outcome was a clear and incontrovertible message: that initiatives designed to enhance effectiveness of the way assessment is used in the classroom to promote learning can raise pupil achievement. The scale of the effect would be the equivalent of between one and two grades at GCSE for an individual. For England as a whole, Black and Wiliam estimate that its position in respect of mathematical attainment would have been raised in the recent Third International Mathematics and Science Study from the middle of the 41 countries involved to being one of the top five. They also found evidence that the gain was likely to be even more substantial for lower-achieving pupils. The research indicates that improving learning through assessment depends on five, deceptively simple, key factors:

1. the provision of effective feedback to students;
2. the active involvement of students in their own learning;
3. adjusting teaching to take account of the results of assessment;
4. 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
5. the need for pupils to be able to assess themselves and understand how to improve.

At the same time, several inhibiting factors were identified. Among these are:

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

There is also much relevant evidence from research into the impact of National Curriculum Assessment in England and Wales, one of the most far-reaching reforms ever introduced into an educational system. That evidence suggests that the reforms have encouraged teachers to develop their understanding of, and skills in, assessment. However, the very high stakes attached to test results ... are now encouraging teachers to focus on practising test-taking rather than on using assessment to support learning. Pupils are increasingly seeing assessment as something which labels them and is a source of anxiety, with low-achievers in particular often being demoralised. Other evidence of how practice fails to live up to the principles which make achievement of higher standards a reality comes from school inspectors. The evidence from inspections here is abundant evidence from reports of school inspections that the use of assessment to help pupils learn is one of the weakest aspects of practice in classrooms across the UK.

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 authentic assessment tasks that aid and record learning progress. Wyatt-Smith et al. (2005: 298) note:

The sheer quantity of the current focus on assessment and accountability occurring for the middle years of schooling places teachers in these areas under more pressure to deliver not only good outcomes but also to ensure that appropriate assessment practices occur.

Involving Students in the Curriculum and School

One of the frequently advocated features of *middle schooling* is that of student involvement in classroom curriculum planning. Hunter and Park (2005: 164) have noted: 'Research suggests that students' learning is more effective and rewarding if they have a 'voice' in and ownership of aspects of the curriculum and the teaching/learning process'.

The National Middle School Association in the USA has stated (NMSA website):

Many educators support the idea that young adolescents should and can be involved in classroom curriculum planning. Such involvement could include helping to determine curricular goals, content, methodology, activities, materials, and means of assessment - all of which are components of a curriculum and are included in curriculum planning.

... One model that can be used to involve students in classroom curriculum planning is called 'negotiating the curriculum' ... 'Negotiating the curriculum' is similar to many of the ideas and methods used in teacher-student planning, a method that has been used by teachers for many years ... When negotiating the curriculum, four questions are presented which will assist learners in focusing in on the problem, question, or issue of the intended study, whether determined by the teacher or by the students and teacher together.

1. What do we know already? (Or where are we now and what don't we need to learn or be taught?)
2. What do we want and need to find out? (Or what are our questions? What don't we know? What are our problems, curiosities, and challenges?)
3. How will we go about finding out? (Where will we look,? What experiments and inquiries will we make? What will we need? What information and resources are available? Who will do what? What should be the order of things?)
4. How will we know and show that we've found out when we've finished? (What are our findings about what we have learned? Whom will we show? For whom are we doing the work and where next?) (p. 21).

What the NMSA has not articulated is the *degree* to which students can or should be involved in curriculum planning, merely the types of possible involvement. Further, while such involvement is seen by the NMSA and others as desirable, once again, there is no evidence provided of how such involvement might predict enhanced student attainment. In summary, the NMSA states (web site, np):

Young adolescents can and should be involved in classroom curriculum planning. They have good ideas that can enhance the teaching-learning situation. However students are involved, though, the teacher continues to be the person who is responsible for students' learning of necessary knowledge and skills and for keeping a thorough record of what students have learned.

Another aspect to student involvement is that of teacher-student relationships, and student involvement in decision making through a more 'democratic' classroom and school climate. There is a persistent view in some of the *middle schooling* literature that traditional models of schooling and teaching and the power relationships inherent in these are oppressive to students, and that middle school arrangements and practices offer the opportunity for more positive teacher-student relationships. As with student involvement in the curriculum, enhanced student involvement in classroom and school decision making is believed to increase student engagement, motivation and achievement.

Classrooms and school environments based on mutual respect and positive relationships, and sound and fair student welfare and discipline policies and programs, have all been advocated.

The AESOP study of schools achieving exceptional educational outcomes in Years 7-10 public schools in NSW 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 AESOP study found the following features in the 38 highly performing schools. Dinham (2007c: 269-270) observed:

Student support, common purpose and collaboration – student welfare was found to be central in these schools and faculties, and seen as every staff member’s responsibility. The purpose of student support and welfare is not about ‘warm fuzzies’ or boosting self-concept but of ‘getting students into learning’. Support from school leaders for student welfare programs and procedures is essential and students clearly understand and support student welfare as something done *for* and not *to* them. Over time, there is an improvement in standards, behaviour and attitude that underpins academic success, personal growth and social cohesion. ...

Focus on students, learning and teaching – this emerged as the core category from data analysis of the 38 school case study reports. Within faculties and the school there is concern for students as people, and teaching and learning are the prime considerations of the school. There are commonly cross-school approaches to pedagogy, assessment, reporting and tracking of student achievement, with a particular focus on the year 6-7 primary to secondary transition. There is an emphasis on data-informed decision making. There is consistency yet flexibility in policy implementation, with the simple, standard things done well. While some staff characterised this as ‘zero tolerance’, in reality this was found to be more a case of having clear guidelines and effective communication to ensure that everyone understands procedures and where he or she stands. However, when needed, compassion and flexibility were evident.

Further, in a recent review of research into the effects of leadership on student outcomes, Robinson, Lloyd and Rowe (in press) concluded:

The more leaders focus their influence, their learning, and their relationships with teachers on the core business of teaching and learning, the greater their influence on student outcomes.

While productive and positive student-teacher relationships were identified in the AESOP study as being a characteristic of the highly performing junior secondary schools, it needs to be acknowledged that good teachers and school leaders at *all* levels of schooling find ways to enhance student involvement in the learning process. Mutual respect, attention to student welfare and positive relationships are not just the province of middle schools or *middle schooling*.

Generalist Teachers, Curriculum Integration and Interdisciplinarity

The use of generalist rather than specialist teachers is frequently advocated in *middle schooling*. The rationale for this is that when students have fewer teachers than the normal secondary pattern, teachers and students get to know each other better in the manner of primary schooling. Having fewer teachers is also seen to limit the adjustment needed from a single primary teacher to many secondary teachers, although it needs to be recognised that the use of specialist teachers in the primary years has increased in recent decades, especially in non-government schools which tend to have more flexible staffing arrangements and, in some cases, more resources, than public/state/ government schools.

Once again, evidence for the generalist teacher hypothesis is thin and based on intuitive and anecdotal, rather than empirical evidence. The key point of concern with generalist teachers is whether such teachers possess the depth of subject knowledge and understanding, along with discipline specific pedagogy, to fully challenge and meet the needs of their students and to teach their subject matter effectively. Put simply, are generalist teachers as effective as specialists in

facilitating student achievement with middle years students? A number of researchers of the middle years dispute this (see Dole, 2005; Pegg, Lynch & Panizzon, 2007).

A second, related issue is that of integrated curricula and interdisciplinary studies, often achieved using thematic approaches or case studies which combine the elements of a number of subjects. Wallace, Venville and Rennie (2005: 151-155) have summarised the various forms of curriculum integration as follows:

- *Synchronised approach* ... involve[s] the teaching of similar content and processes in separate subjects across the middle school ... often at similar times. ... Typically, it involves teachers from different subject areas identifying points of connection between pre-existing topics, explicitly drawing the links and teaching in a similar manner, sometimes using common tasks or assignments. ...
- *Cross-curricular approach* ... to integration involves the incorporation or harmonisation of broad skills, concepts or attitudes across separately taught elements of the middle school curriculum. ...
- *Thematic approach* ... usually involves linking various middle school subjects into a particular theme or current point of focus ... usually selected in advance by groups of middle school teachers to run for a set period ... Typically, the disciplines are taught separately in different classrooms, with teachers and students expected to make the connections back to the theme. Sometimes the classes are brought together for a culminating thematic event, such as an excursion. ...
- *Project-based approach* ... involves the deliberate organisation of the middle school curriculum around a project or series of projects in which the subject boundaries are blurred. Integration in this form is seen as a culminating event requiring the application and assembly of an array of knowledge and skills that might come from different subjects.
- *School-specialised approach* ... a middle school (sometimes in concert with the primary and senior school) adopts a long-term curriculum commitment to a particular specialisation ... Examples ... include horticulture and performing arts.
- *Community-focused approach* ... those that reach out beyond the school into the wider community ... they bring the disciplines together to tackle or 'solve' some problem or issue. ... Ideally, a community-based approach goes beyond a theoretical consideration of a problem, involving also some individual or concerted action on the part of students, such as tree planting or writing letters to the local media.

Again, as with generalist teachers, approaches to curriculum integration are 'signature practices' for *middle schooling*. Bahr, Bahr and Keogh (2005: np) write:

Middle years researchers claim that interdisciplinarity in teaching appropriately meets the needs of early adolescents by tying concepts together, providing frameworks for the relevance of knowledge, and demonstrating the linking of disparate information for solution of novel problems. Cognitive research is not wholeheartedly supportive of this situation. Learning theorists assert that application of knowledge in novel situations for the solution of problems is actually dependent on deep discipline-based understandings.

... Writers in favour of interdisciplinarity occasionally resort to emotive rhetoric in attempts to debunk disciplinarity. For example, a recent National Middle Years of Schooling (NMSA) Research Summary (2000) refers to 'separate subject organisations' (disciplinarity) as a 'fanaticism'. However, there is not yet a body of research to provide substantive and convincing evidence demonstrating enhanced learning due to interdisciplinarity. Further, in literature promoting interdisciplinarity for the improvement of learning in the middle years there is little explicit discussion of how interdisciplinarity leads to the building and/or identification of cognitive relationships.

In reviewing the research evidence of the efficacy of interdisciplinarity, Bahr et al. (2005: np) note that while student behaviour, attendance and motivation are areas where outcomes appear to be most positive:

... integrated curriculum is not universally accepted by teachers and students. When compared with conventional programs, teachers and students sometimes report concerns

about extent of content coverage and the amount of learning taking place. ... This is particularly true of high achieving students.

Bahr et al. (2005: np) cite research findings which reveal logistical and planning difficulties regularly experienced with interdisciplinary teaching (i.e., timetabling, planning, teaming), and comment:

These research investigations do not directly test the fundamental premise that interdisciplinarity provides superior opportunities for the development of deep seated knowledge and understanding. With respect to learning, the field lacks of strong evidence base. There is in fact very little research into interdisciplinary classrooms.

Bahr et al. (2005: np) conclude that much of the claims for positive outcomes for interdisciplinarity are unsubstantiated by research:

Our concerns with interdisciplinarity echo those of other authors, notably Beane (2005) who states that 'While the multidisciplinary and interdisciplinary designs are intended to cross subject boundaries, those approaches are still aimed at encountering and mastering content from the subjects involved' (p 4). This basically aligns with our view that mastery of disciplinary knowledge is important before interdisciplinarity can be effective in classrooms.

There is a danger in assuming that breadth of curriculum will provide the type of deep, well structured and expansive knowledge base that can be readily accessed for consideration of interdisciplinary problems. Poorly instantiated knowledge domains are not an appropriate base for the development and/or employment of higher-order thinking. Higher-order thinking, however, is a particular objective for effective Middle years of Schooling (e.g., Vars, 2001). Students who have been exposed to a broad educational program that lacks depth may be disadvantaged.

We advocate for further research into this area. Middle Schooling Reform is built around interdisciplinarity and for sustainability of appropriate schooling for early adolescents we can't afford to get this aspect of the package wrong. Research into the efficacy of interdisciplinarity versus disciplinarity ... will inform the development of effective management of middle years of schooling curriculum.

It is acknowledged that matters such as curriculum integration, discrete subjects, generalist teachers, and the like, are the subject of political and stakeholder contestation within *middle schooling* and the more general educational context. There are strong ideological positions involved, as evident in the comment previously about 'fanatics'. Dowden (2007: 65), a supporter of curriculum integration in the middle grades, warns that:

Despite the eminent suitability of integrative curriculum designs in the middle grades, the American experience suggests that attempts to implement integrative curricula ... are likely to encounter political resistance. Powerful forces are allied with the traditional subject-centred single-subject curriculum, not the least being middle grade teachers' own conceptions and views of themselves as 'subject teachers'. As a result, stakeholders in the traditional curriculum may impede the development of student-centred approaches, thus stifling general acceptance of the integrative model as the preferred curriculum for the middle grades.

The key issue here is, 'preferred curriculum' by whom, and on the basis of what evidence?

Middle School Initiatives Targeted at Specific Groups and/or Problems

Diverse Students

In one of a series of *Best Evidence Syntheses* by the New Zealand Ministry of Education, Alton-Lee (2003) found the following in respect of quality teaching for diverse students:

Quality teaching is identified as a key influence on high quality outcomes for diverse students. The evidence reveals that up to 59% of variance in student performance is attributable to differences between teachers and classes, while up to almost 21%, but generally less, is attributable to school level variables.

This best evidence synthesis has produced ten characteristics of quality teaching derived from a synthesis of research findings of evidence linked to student outcomes. The central

professional challenge for teachers is to manage simultaneously the complexity of learning needs of diverse students. ...

Diversity encompasses many characteristics including ethnicity, socio-economic background, home language, gender, special needs, disability, and giftedness. Teaching needs to be responsive to diversity within ethnic groups, for example, diversity within Pakeha, Māori, Pasifika and Asian students. We also need to recognise the diversity within individual students influenced by intersections of gender, cultural heritage(s), socio-economic background, and talent. Evidence shows teaching that is responsive to student diversity can have very positive impacts on low and high achievers at the same time. The ten characteristics are interdependent and draw upon evidence-based approaches that assist teachers to meet this challenge.

The ten characteristics generated from the synthesis are summarised below:

1. Quality teaching is focused on student achievement (including social outcomes) and facilitates high standards of student outcomes for heterogeneous groups of students;
2. Pedagogical practices enable classes and other learning groupings to work as caring, inclusive, and cohesive learning communities;
3. Effective links are created between school and other cultural contexts in which students are socialised, to facilitate learning;
4. Quality teaching is responsive to student learning processes;
5. Opportunity to learn is effective and sufficient;
6. Multiple task contexts support learning cycles;
7. Curriculum goals, resources including ICT usage, task design, teaching and school practices are effectively aligned;
8. Pedagogy scaffolds and provides appropriate feedback on students' task engagement;
9. Pedagogy promotes learning orientations, student self-regulation, metacognitive strategies and thoughtful student discourse; and
10. Teachers and students engage constructively in goal-oriented assessment.

Indigenous Students

Findings from the Te Kotahitanga case study reported by Timperley, Wilson et al. (2007b) are worthy of note. This ongoing project (currently in its fifth year) aims to improve educational outcomes for Māori students in mainstream New Zealand secondary schools via strategic foci on teacher professional learning. With an emphasis on reducing disparities in educational outcomes for Māori students, the project aims to assist teachers to reflect critically on the assumptions they make about their interactions and relationships with Māori students, and to interrogate their own roles in contributing to low academic achievement, and to high rates of absenteeism and suspensions. The professional learning provided has been designed to support participating teachers to implement the *Te Kotahitanga Effective Teaching Profile* (ETP), namely:

Effective teachers of Māori students create a culturally appropriate and responsive context for learning in their classroom. In doing so they demonstrate the following understandings:

- a. They positively and vehemently reject deficit theorising as a means of explaining Māori students' educational achievement levels.
 - b. Teachers know and understand how to bring about change in Māori students' educational achievement and are professional committed to doing so in the following observable ways:
 1. **Manaakitanga** – They care for students as culturally located human beings.
 2. **Mana motuhake** – They care for the performance of their students.
 3. **Whakapiringatanga** – They are able to create a secure, well-managed learning environment by incorporating routine pedagogical knowledge with pedagogical imagination.
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4. **Wananga** – They are able to engage in effective teaching interactions with Māori students in Māori.
5. **Ako** – They can use strategies that promote effective teaching interactions and relationships with their learners.
6. **Kotahitanga** – They promote, monitor and reflect on outcomes that lead to improvements in achievement for Māori students.

Findings from the four-phase study, among 37 participating schools to date have been most encouraging. Following comparative, population-based, decile-weighted analyses of the student achievement data in Te Kotahitanga schools, Timperley, Wilson et al. (2007b: 5) summarise the key findings as follows:

The magnitude of the gain for Māori is quite remarkable: in 2005, prior to the intervention, the percentage of Māori students in the Te Kotahitanga schools that gained NCEA Level 1 was significantly lower than the national percentage for Māori – in 2006 it was significantly higher. In one of the schools involved, 18.8% of Māori gained NCEA Level 1 in 2005 – the following year the percentage was 63.9%.

With the possible exception of findings from the national ‘Third Wave’ Project across Australian government and non-government schools (Rowe, Stephanou & Hoad, 2007), such dramatic outcomes of interventions for Indigenous students during the middle years are rare. Nonetheless, in considering the impact of *middle schooling* on Australian Indigenous students, Chadbourne (2001) made the observation that it is important to define the sorts of outcomes that such a judgement might comprise, e.g., attendance, behaviour, academic achievement. In his review for the Australian Education Union, Chadbourne (2001: 23-25) noted:

Very few studies have investigated the impact of middle schooling on the academic achievement, attendance and behaviour of Indigenous (and non Indigenous) students in Australian schools. Any claims about such an impact, then, need to be based more on inference and conceptual grounds than on direct evidence and empirical data.

There is direct evidence to show that traditional schools have not served young Indigenous adolescents well in terms of academic achievement, attendance, retention rates, suspension from school and other forms of disciplinary action.

The philosophy and processes of middle schooling have more in common with the culture and learning styles of Indigenous students than do the cultural pre-requisites of student success in traditional schools. Particular aspects of middle schooling that would make Indigenous students feel more ‘at home’ include: the small size of the (sub) school, the school and classroom as a community, close interpersonal relations between teacher and students, authentic learning and assessment tasks, cooperative learning, heterogeneous classes and action learning. Relationships and being person-motivated are central to middle schooling and Indigenous culture.

A report prepared for the Commonwealth Department of Education, Training and Youth Affairs in Australia, *What works? Explorations in improving outcomes for Indigenous students* (McRae et al., 2000), brought together the findings from around 80 projects, site visits and national workshops. In considering the issues commonly identified for students in the middle years, the report noted (2000: 28-29):

The issues ... apply to Indigenous students just as they do to the rest of the population. Their adolescence is no less turbulent, and their transition from primary to secondary schooling no less traumatic. In fact, loss rates from involvement in formal education tend to escalate from this point. Because of location factors, a higher proportion of Indigenous students is required to move from the comparative comfort of a local primary school to a more distant secondary school, making the transition between the two even more challenging.

Addressing Behavioural and Social Problems

It is generally acknowledged that behavioural and social problems in schooling are most prevalent during the middle years.²⁰ Teachers in the middle years typically experience

²⁰ For recent evidence of these problems, see Bernard, Stephanou and Urbach (2007).

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 again raises issues related to the vital link between education and health.

Literacy under-achievement has high social and economic costs in terms of both health and crime. The overlap between students' under-achievement and poor achievement progress in literacy (especially in reading) and their poor behavioural health and wellbeing, is problematic to the extent that what should be an education issue has become a major health issue (see DeWatt et al., 2004).

Dr Reid Lyon (2003: 1-2), Chief of the Child Development and Behavior Branch of the National Institute of Child Health and Human Development (National Institutes of Health, Bethesda, Maryland, US) notes:

The National Institute of Child Health & Human Development (NICHD) considers that teaching and learning in today's schools reflect not only significant educational concerns, but public health concerns as well. Our research has consistently shown that if children do not learn to understand and use language, to read and write, to calculate and reason mathematically, to solve problems, and to communicate their ideas and perspectives, their opportunities for a fulfilling and rewarding life are seriously compromised. Specifically, in our NICHD-supported longitudinal studies, we have learned that school failure has devastating consequences with respect to self-esteem, social development, and opportunities for advanced education and meaningful employment. Nowhere are these consequences more apparent than when children fail to learn to read. Why? Simply stated, the development of reading serves THE major foundational academic ability for all school-based learning. Without the ability to read, the opportunities for academic and occupational success are limited. Moreover, because of its importance, difficulty in learning to read crushes the excitement and love of learning, which most children have when they enter school.

... By the end of first grade, children having difficulty in learning to read begin to feel less positive about their abilities than when they started school. As we follow children through elementary and middle school, self-esteem and the motivation to learn to read decline even further.

... It is important to note that this state of educational affairs describes an extraordinary and unacceptable number of children [with reading difficulties]. According to the National Center for Educational Statistics, 38% of fourth graders nationally cannot read at a basic level – that is, they cannot read and understand a short paragraph similar to that in a children's book. ... The educational and public health consequences of this level of reading failure are dire. Of the 10 to 15% of children who will eventually drop out of school, more than 75% will report difficulties learning to read. Likewise, only two per cent of students receiving special or compensatory education for difficulties learning to read will complete a four-year college program. Approximately half of children and adolescents with a history of substance abuse have reading problems. Failure to learn to read places children's futures and lives at risk for highly deleterious outcomes. For this reason the NICHD considers reading failure to reflect a national public health problem.

Lyons' concerns apply equally in the Australian, New Zealand and UK contexts. The increasing number of anxious parents seeking help from health professionals for their distressed children and adolescents whose behaviour problems have arisen as a consequence of (or are exacerbated by) learning difficulties and failure to acquire functional literacy skills is disturbing.²¹ Following Haggerty et al. (1975), Oberklaid (1988, 2004) appropriately refers to this phenomenon as the *new morbidity* in education and child/ adolescent health. In commenting on a study related to the 'gap between health and education' by O'Keeffe and McDowell (2004), Oberklaid (2004: 251) asserts:

²¹ See, for example: Barkley and Pfiffner (1995); CCCH (2004); Hinshaw (1992a,b); Rowe (1991); Rowe and Rowe (1992, 1999, 2000, 2002); Rowe, Pollard and Rowe (2005); Sawyer et al. (2000); Silverstein, Iverson and Lozano (2002).

The *new morbidity* is no longer new. Mainstream paediatrics has gone a long way to changing training and practice models to address children with developmental, behavioural and psychosocial conditions. ... Perhaps one of the important next steps is to advocate for more systematic paediatric input into teacher training courses and ongoing professional development. In the same way as we now expect paediatricians to understand the classroom implications of organic and developmental disorders, it seems not unreasonable to expect teachers to have a sound knowledge base about children with special needs in their classroom.

Oberklaid's assertion is well supported from earlier comment arising from an extensive body of evidence-based research. For example, in highlighting issues related to 'future directions' for ADHD²² research and intervention policies, Farrelly and Standish (1996: 81) note: 'The impact on mental health and educational systems needs to be examined'. The response to this recommendation is summarised by an edited extract from Rowe and Rowe (1999: 92), as follows:

A central aim of educational systems is to generate, stimulate and maintain efforts towards the on-going improvement of teaching and learning practices that link directly to the quality of educational outcomes for students. In our view, such improvements are not likely to be brought about by academic polemic, nor by the 'top-down-driven' administrative fiat of bureaucracies, since the products of these enterprises (mercifully, in most cases) have an established record of rarely penetrating the classroom door. Rather, with the 'informed' support of parents and health professionals, sustained improvement can be achieved via teacher professional development that maximizes their teaching and behavioral management skills in the classroom. It has been our experience that under such circumstances, teachers themselves become the empowered agents and purveyors of change, having consequent 'domino' effects on the teaching and classroom behavioral management practices of other teachers, and throughout the profession. Ultimately, of course, the measures of success or otherwise of such efforts, like all endeavors to improve the quality of school education, will be judged in terms of their impact on the key areas of improved student learning, behavior, and the enhancement of teacher professionalism.

For what is demonstratively the most salient and problematic issue in child and adolescent mental health, the challenge into the 'new millennium' is to refocus the prevailing models accounting for the overlap between inattentive behavior problems and poor academic achievement – together with their related intervention emphases – to *educational ones*. In our view, the personal, social and financial costs of failure to meet this challenge will be both unsustainable and unbearable.

In respect of these issues, it is interesting to note the key findings from the evidence-based research reported by Rowe and Rowe (1999). That is, in summarizing the findings from fitting multilevel structural equation models to the attentive-inattentive and achievement data in their longitudinal study among junior and middle school students, Rowe and Rowe (1999: 61, 64) report:

...the findings summarized in this chapter indicate that students' literacy achievements and their attentive-inattentive behaviors in the classroom are mediated by complex, multivariate, multilevel, interrelated factors that operate over time and interact in dynamic contexts. That is, the findings again indicate that whereas students' inattentive behaviors in the classroom had small negative effects on their progress in literacy, *Literacy achievement* had significantly stronger effects on **decreasing** their early and subsequent inattentive behaviors in the classroom (or **increasing** both their early and subsequent attentive behaviors).²³ The implications of such findings underscore the importance of ensuring that students are provided with the opportunity of developing literacy skills as early as possible, and highlight the crucial role that teachers have in maximizing effective teaching strategies to meet the

²² That is, Attention-Deficit/Hyperactivity Disorder (ADHD). For classification and diagnostic criteria details, see: *DSM-IV* (APA, 1994: 78-85).

²³ The computed effect sizes were -0.004 SDs and -0.372 SDs, respectively. When a similar model was fitted to the data for students' inattentiveness and achievement progress in Mathematics, the effect sizes were -0.206 SDs and -0.304 (see Rowe & Hill, 1998: 326-328).

cognitive, affective and behavioral needs of all students, as well as providing normative classroom environment conditions that are conducive to learning.

Despite these strong findings, in recent times there has been a greater emphasis in the *middle schooling* literature on and concern for behaviour management, and 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.

However, there are some teachers who, because of their mastery of teaching, rarely experience discipline problems (Ayres et al., 2004; Dinham, 2007a). 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 (Dinham, 2007a; 2008). In such classrooms and schools, behavioural problems are minimised and dealt with in a timely and effective fashion.

Drawing largely upon two Australian research projects, the first in nine Perth middle schools and the second involving the development of a framework of principles and practices for successful student behaviour management, de Jong (2005: 226-241) outlined six key principles for managing student behaviour in the middle years:

1. Management of middle school student behaviour should be developmentally responsive;
2. Middle school student behaviour needs to be understood from an eco-systemic perspective;
3. Practices associated with behaviour management of middle school students must embrace a health-promoting approach to creating a safe, supportive and caring environment;
4. The management of middle school student behaviour must embrace inclusiveness, which caters for the different potentials, needs and resources of all middle school students;
5. The management of middle school student behaviour should incorporate 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
6. Developing positive relationships with middle school students is fundamental to maximising appropriate behaviour and achieving learning outcomes.

The AESOP study of faculties achieving exceptional student outcomes in Years 7-10 in 38 NSW public schools revealed findings which resonate with the principles outlined above. Drawing on data from six schools which were found to have exceptional student welfare program outcomes, Paterson, Graham and Stevens (2007: 38) identified five conditions leading to the effectiveness of such programs:

1. *A framework of clear rights and responsibilities.* Student welfare programs were implemented as part of a framework of rights and responsibilities of students within and beyond the school. Teachers set clear expectations of students in relation to their rights and responsibilities ... Teachers provided feedback to students about the degree to which they were meeting these expectations. ... There was solidarity and consistency amongst teachers with respect to follow-up.
 2. *Integrity.* In managing student support programs, teachers worked effectively as members of a team. Teams were well led and cohesive. Team members shared certain values and approaches that were integral to their practice, but at the same time they were open to change and innovation.
 3. *Links.* In managing student support programs teachers established links within the school to other teachers, and links beyond the school to other schools, the system, the wider school community (e.g., parents) and, to an extent, the wider professional community.
 4. *Positive School Culture.* Student support programs were nourished by a positive school culture in which teachers demonstrated that they cared about their students' well-being and were dedicated to pursuing their sense of safety, sense of belonging, sense of self-esteem, and establishing a sense of trust between students and teachers, and an accompanying sense of responsibility.
 5. *A focus on students and their learning.* Student support programs were effectively integrated into the activities of the school. There was a whole-school focus on students and their
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learning. Teachers did not focus exclusively on academic or welfare outcomes. They focused on student well-being, both in terms of academic achievement and more broadly defined, safety, security and personal development goals.

What the AESOP study demonstrated is that student welfare is both every teacher's responsibility and a whole-school project. 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. A key finding in the AESOP schools was that students understood and perceived student welfare programs as something done *for* them, and not *to* them (Dinham, 2007a; 2008).

Education for Sexuality in the Middle Years

Another aspect of adolescence and *middle schooling* is that which could be termed sexuality and sexual health education. Once again, 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. A recent New Zealand Education Review Office report, *The Teaching of Sexuality Education in Years 7 to 13*, (2007: 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.

The study involved (2007: 1):

... an evaluation of the quality of sexuality education programmes in Years 7 to 13 in 100 primary (full primary and intermediate) and secondary schools. Sexuality education is one of seven key areas of learning in *Health and Physical Education in the New Zealand Curriculum*. The curriculum is compulsory up to and including Year 10.

The report findings, both negative and positive, mirror those for *middle schooling* generally. The executive summary of the report states (2007: 1-2):

This evaluation has found that the majority of sexuality education programmes were not meeting students' learning needs effectively. The findings identify two areas of particular weakness across schools. These are assessing learning in sexuality education and meeting the needs of diverse groups of students. Around two thirds of schools in this evaluation needed to improve their performance significantly in these areas.

ERO found good examples of how schools, parents, students and community agencies have worked together to identify and respond to student needs in sexuality education. In these schools governance and management supported community consultation and development of sexuality education programmes; resources, planning and content were relevant; teachers and students had a strong rapport and support networks were actively promoted; the schools were respectful to all students; and, the schools were safe for all students.

6. RESPONSES TO THE ISSUES AND PERCEIVED PROBLEMS: DOES MIDDLE SCHOOLING MAKE A DIFFERENCE ?

Preliminary Comments

Responses to the issues of *middle schooling* have ranged from the adoption of single strategies or interventions to totally integrated approaches, although the latter is more challenging and less common (Hill & Russell, 1999). Whilst 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 (e.g., NT COGSO, 2005: 3).

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 time. For example, measuring and quarantining the effect of an initiative intended to improve boy's literacy implemented in Year 7 from the effects of 'general' learning and development will be difficult, given that literacy is the basis of all subject areas and that reading and writing occur outside school.

Multiple, overlapping initiatives complicate any attempt at obtaining evidence of effectiveness. A further problem occurs where more than one school is implementing an initiative, often from a centrally determined (systemic) and supported program (Elsworth, Kleinhenz & Beavis, 2004). 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, whilst other schools will do only 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 (Aubusson, Brady & Dinham, 2005).

The Importance of Teacher Professional Learning

Another problem with evaluating and measuring the effectiveness of interventions geared towards issues and problems in the middle years is that school staff frequently lack the skills, time and resources to accomplish these tasks. Longitudinal data on student achievement and how these relate to any initiative are also difficult to obtain and measure, with the result that there is often an initial 'halo' or 'Hawthorne' effect, with judgements of success and failure based largely on teachers' perceptions, rather than on evidence linking interventions to measurable student achievement outcomes (Aubusson et al., 2005; Elsworth et al., 2004).

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 (Aubusson, Steele, Dinham & Brady, 2007). 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 (Dinham, 2007a; Aubusson et al., 2005).

What is the Evidence?

It has already been noted at various points in this paper how the research evidence for *middle schooling* is patchy, inconclusive and questionable overall. In reviewing the research evidence in favour of *middle schooling*, the Northern Territory Council of Government School Organisations concluded (2005: 3):

- There is little research evidence available in Australia on the effect of middle schooling on student outcomes. Most of the numerous studies published consist of advocacy or focus on student and teacher attitudes rather than actual outcomes for students. Little data has been collected on the effect on student achievement.
 - The research studies generally show that teachers believe that the introduction of middle schooling practices has improved student engagement and attitudes to learning. There is also evidence of gradual change in teaching practices.
 - Few research studies have been conducted in Australia or elsewhere on specific practices associated with middle schooling and few have been conducted on a sound methodological basis. However, they indicate that:
 - ◆ Interdisciplinary team teaching is a promising practice that has a positive effect on the achievement of middle school students. Students in schools using this practice have higher achievement and engagement than students in more traditional schools;
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- ◆ Project-based learning seems to be equivalent or slightly better than other models of instruction for producing gains in general academic achievement and for developing lower-level cognitive skills. Students and teachers believe that project based learning is beneficial and effective;
- ◆ A considerable number of studies demonstrate that co-operative learning methods produce higher achievement than competitive and individualistic learning;
- ◆ The effect of flexible scheduling on student motivation and achievement appears to be inconclusive;
- ◆ Keeping groups of students together for two or more years with the same teachers seems to be a promising practice to improve teacher-student relationships and student attitudes to school;
- ◆ Little is known about the effectiveness of student advisory programs, but they appear to be a promising although 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.

Furthermore, with specific reference to ‘at risk’ students, Bahr and Pendergast (2007: 61) assert:

The literature suggests that interventions with young people at risk must be evidence-based with clear aims and consistent delivery. A cognitive behavioural approach with varied activities and strategies has been found to be most effective with well-trained and committed staff, and ongoing evaluation of the program’s effectiveness.

These comments lead to the specification of perceived requirements for successful middle school initiatives.

7. PERCEIVED REQUIREMENTS FOR SUCCESSFUL MIDDLE SCHOOL INITIATIVES

Key Requirements

The literature is clear 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. In summary, based on the published literature to date, the following aspects of *middle schooling* - and it could be argued - any form of effective schooling, have been advocated:

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
 - Improved teacher-student relations.
 - Focussing on students as learners and people.
 - Identifying and meeting their own learning needs; a willingness to learn; professional development.
 - Collaboration with peers, flexibility and risk taking.
 - Structured, critical reflection.
 - Middle years targeted professional development to achieve the above.
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Students need greater knowledge/skills/capacities in:

- Literacy, which is fundamental to learning and achievement.
- Numeracy.
- General learning.
- Thinking and problem solving skills.
- Engagement with learning, participation, attendance, retention.
- Achievement and confidence in learning.
- Reflection, self-awareness.
- Responsibility for own learning; self-direction and discipline; time management.

Parents need greater:

- Feedback and accessibility to staff and school.
- Information on student achievement and development; clearer more regular reporting.
- Information and understanding about school programs and levels of performance.
- Demonstration to, and by them, of the value of education.
- Opportunity for input, although many will not want this.

Other school needs identified in successful *middle schooling* and educational change research literature include:

- Greater focus on transitions, liaison and productive linkages with feeder primary schools and upper secondary schools and teachers based upon mutual understanding and respect.
- Building on known strengths and existing programs.
- Freeing up staff with time for planning, professional learning, evaluation, etc.; funding and other resources for these purposes.
- Distributed leadership under project leaders.
- Project teams and working parties, especially for discrete projects.
- Communication about program; sharing progress and 'success'.
- For more diverse and ambitious approaches, formal means of planning, coordination, learning, data gathering and evaluation are necessary.
- Improved horizontal (across years) and vertical (between years) communication and understanding..
- Targeting of new key staff where necessary.
- Attention to staffing middle years; may need to prioritise over upper secondary years to enable 'best staff' in middle years.
- Demonstrated support from leadership at the 'top'.
- ICT has a role to play both for administration and learning.
- Cross faculty cooperation is important.
- Well understood and consistently applied student welfare and discipline system underpin academic achievement.
- Getting started and maintaining momentum are both difficult and necessary.
- Peer observation of teaching using some form of quality teaching framework for feedback can be highly effective, yet there are fears about this from some staff, who see it as judgemental rather than developmental.
- A strong research and evidence base for change.
- Overall, professional learning and leadership appear key factors in transforming teaching in the middle years (Dinham, 2007b).

Dysfunctional Consequences of Middle Schooling Initiatives

As noted above, two key factors in the success of any school change or initiative are leadership and teachers' professional learning. These elements need to be combined with accepted

principles for organisational and educational change. Elsworth et al. (2004: 74) has noted a number of unintended, negative consequences in their evaluation of a middle years reform program in Victoria, Australia. These were associated with:

- Reluctance to change, e.g., from typical subject approaches to integrated approaches;
- Insufficient funding, especially for teacher release and professional engagement and learning;
- Increase in workload associated with change;
- Time constraints generally;
- Expectations of change not met and targets fall short; and
- Timetabling and/or staffing difficulties.

In addition to the above, one of the major dysfunctional consequences of prevailing middle school reform initiatives is the tendency by school leaders and teachers to focus unduly on the so-called ‘developmental needs’ and ‘problems’ of adolescent students – often at the expense of students’ teaching and learning needs for achievement progress and ‘growth’. In this context, it is helpful to note what students themselves nominate as key characteristics of ‘good teaching’, and ‘effective teachers’ in particular. For example, evidence cited in the NSW *Report of the Review of Teacher Education* (Ramsey, 2000: 12) 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.

From the work of Rowe and Rowe (1999, 2002), Slade (2002),²⁴ Slade and Trent (2000), students consistently report that ‘good teachers’ are 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*’ [This is a particularly salient issue for boys at any school-age level in consequence of what is demonstrably shown to be a highly developed sense of ‘injustice’].

Current Concerns and Future Directions for Reform

Pendergast (2005: 18-19) has provided a succinct account of both current concerns and future directions for reform in *middle schooling*:

1. As a concept, middle schooling is annoyingly nebulous – it is a slippery concept. There is no single definition, no template, no formula for middle schooling. Even the terms used ... appear to lack coherence and agreed definition. ...
2. There appear to be some commonly agreed middle school practices, but these are not exclusive to middle schooling.
3. Middle schooling reform does not exist in isolation, making it difficult to implement, explore and determine outcomes and efficacy.
4. Middle schooling is consistently constructed as being about rethinking education that meets the needs of young people in a changing world.

²⁴ From extensive interview data, Slade (2002: 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.

5. 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.
6. Middle schooling will affect later phase learning if it achieves its goals.
7. 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.
8. Middle schooling means change for teachers.
9. Middle schooling is complex, site-specific and requires sustained, systemic reform.
10. Middle schooling is here to stay – there is widespread evidence that middle schooling is 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.

The present authors endorse Pendergast's (2005) account, particularly the requirement of 'research-based evidence'. For any system/country, the need for findings from strong evidence-based research to inform both policy and practice in educational provision is not an option – it is an imperative. To do otherwise would be irresponsible, and impossible to justify to succeeding generations of teachers, students, parents and to entire national communities.

Yecke concluded from her review of middle schooling in the USA that : 'Middle schoolism is based on pseudo-scientific theories and downplays academic achievement.' However she also concluded that 'Middle schools can be high-performing educational institutions ... The essential problem with middle schoolism is not grade configuration but educational ideology. However a school is structured, in the era of standards and accountability, it must focus first and foremost on students' acquisition of essential academic skills and knowledge' (2005: i-iv).

8. CONCLUDING REMARKS

General

This review has identified many intended functions and features of *middle schooling* articulated in numerous reports, and by interest groups and commentators. At the *prima facie* level, these features and practices seem valid and valuable, at least intuitively. However, a persistent question arising from the available published literature is that of the uniqueness and 'special case' of the middle years. 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.

The features and outcomes of effective *middle schooling* have been identified from investigations that typically employ mixed methods, although case study and qualitative research methods tend to predominate. This is not to deny either the value or 'legitimacy' of such work. Indeed, this work has provided rich insights into what Rohl, House et al. (2000) in a related context refer to as: 'What *seems* to work in schools'. Nevertheless, in the absence of strong evidence-based research findings yielding estimates of effect-sizes for claims of 'improved student learning outcomes' due to specific middle school reform initiatives, such claims may amount to little more than the optimistic rhetoric of its advocates, with neither generalizability nor ecological validity beyond the cases investigated and reported.

Additionally, much writing on *middle schooling* is published in practitioner journals, typically single-school case studies of a few pages, of which there have been literally thousands world-wide since the 1980s. Without attempting to devalue the substance of these publications (which are often first-hand records written with situation-specific knowledge and great enthusiasm), two characteristics common to many of these accounts of *middle schooling* are: (1) a lack of

empirical data to demonstrate claimed changes to student achievement and engagement, and (2) a lack of student (and parent) voice in most cases: 'Much of it has been advocacy rather than objective research and critique ... there has been little evidence-based research on student outcomes from middle schooling practices' (NT COGSO, 2005: 29).

As noted, there is often great enthusiasm on the part of teachers and professional associations for *middle schooling* structures and initiatives, despite some of the difficulties and constraints outlined previously in this review. A great deal of effort can go into the transformation to or formation of a middle school (see Kenny & Quigley, 2006). Almost inevitably, however, research studies are tentative about their conclusions on the effects of *middle schooling* initiatives on student achievement outcomes (Chadbourne, 2001: iv).

Whereas there is some agreement on enhanced student engagement with learning, and greater engagement with broader school activities, it is difficult to find evidence for improved student achievement beyond teachers' hopes, observations and perceptions. In their account of the early stages of the establishment of Orewa College in New Zealand, a Year 9-13 school which became a Year 7-13 school with a Year 7-10 middle school in 2005, Kenny and Quigley (2006: 41) noted:

The establishment of the middle school (we hope) has given the students a target for one phase of their education, and the chance to be a senior in the school at a stage in life when the need to take on some responsibility and leadership can be a motivational and focusing event.

To further illustrate this situation, in their evaluation of the Middle Years Reform Program (MYRP) in Victorian schools, Elsworth et al. (2004: 128, 134) stated:

Notwithstanding the widespread belief among schools that MYRP activities had positive impacts on student engagement and literacy achievement, these results should be interpreted with extreme caution. ... A strong claim for the validity of the school judgements of an increase in literacy achievement cannot, therefore, be sustained.

Similarly, in its review of the evidence for *middle schooling*, the ACT Department of Education and Training (2005: 38) stated:

This review addresses the literature on the history and practices of middle schooling within Australia, the United States, the United Kingdom, Japan and Finland. The focus has been to source material which documents the successes and failures of middle schooling.

The findings of the review are inconclusive. To date, the review has found there is insufficient comparable data to establish whether student academic outcomes have been enhanced as a result of middle schooling practices, since many localities and countries have not pursued consistent methods in collecting, analysing and interpreting data.

Thus, despite the large and burgeoning literature claiming positive effects of *middle schooling* approaches that focus on the cognitive, developmental, social and emotional needs of adolescents, evidence to substantiate these claims remain elusive.

Barriers to Reform

Unfortunately, there continue to be several barriers to middle school reform that: (1) perpetrate prevailing 'myths' of *educational effectiveness* (or 'ineffectiveness'); and (2) generate misinformed and/or misdirected rationalisations of students' differential experiences and outcomes of schooling. Perhaps the most pervasive of these is the widespread tendency to place undue credence on various outmoded and moribund forms of *biological* and *social determinism* (as noted earlier) which assume that individual students – whether they be males or females – do poorly or well because of developmental differences, because they are 'dumb' or 'smart' or because they come from 'disadvantaged' or 'advantaged' backgrounds. In this context, Edmonds (1978: 33) long ago made the following comment:

The belief that family background is the chief cause of the quality of student performance ... has the effect of absolving educators of their professional responsibility to be instructionally effective.

The longstanding and widespread acceptance of these ideological beliefs and their expectations at the teacher, school/university and system levels have little substantive justification in the light of findings from both existing and emerging evidence-based research. The findings do, however, provide strong support for the proposition that it is the identity of the class-teacher groups to which students are assigned that is a key determinant of their perceptions and experiences of schooling, as well as their achievement progress and behaviours in the classroom. For example, Professor David Monk (1992: 320) cites a number of studies in support of the observation that:

One of the recurring and most compelling findings within the corpus of production function research is the demonstration that how much a student learns depends on the identity of the classroom to which that student is assigned.

More recently, and consistent with the longitudinal research findings reported by Hill and Rowe (1996, 1998) and by Rowe and Hill (1998), Cuttance (1998: 1158-1159) concluded:

Recent research on the impact of schools on student learning leads to the conclusion that 8-15% of the variation in student learning outcomes lies between schools with a further amount of up to 55% of the variation in individual learning outcomes between classrooms within schools. In total, approximately 60% of the variation in the performance of students lies either between schools or between classrooms, with the remaining 40% being due to either variation associated with students themselves or to random influences.

Likewise, from the related British research, Muijs and Reynolds (2001: vii) report:

All the evidence that has been generated in the school effectiveness research community shows that classrooms are far more important than schools in determining how children perform at school.

These studies consistently find that differences between schools, when relevant prior achievement and 'intake' characteristics of students are taken into account, are important but not especially large – a finding that is confirmed by results from comprehensive meta-analytic studies by Bosker and Witziers (1995), Hattie (2003, 2007), and by the work of Marks (2005, 2006). Furthermore, they are of an order of magnitude close to that estimated by the influential work of Coleman et al. (1966), and subsequently by Jencks et al. (1972); i.e., ~ 9 per cent of the variance. At the same time, those studies that have been designed to enable the estimation of class-level effects have consistently identified larger proportions of between-class/teacher variance.²⁵

This, in turn, has prompted a renewed focus on *teacher quality* and *instructional effectiveness*, and to some re-definition of fundamental questions that have underpinned educational effectiveness research since the early 1990s (e.g., Akiba, LeTendre & Scribner, 2007; Creemers, 1992, 1994a,b, 1997; Slavin, 1994, 1996, 2005). Based on secondary data analyses from the 2003 *Trends in International Mathematics and Science Study* (TIMSS) across 46 countries, Akiba, LeTendre and Scribner (2007: 369) conclude: 'These analyses provide empirical, cross-national evidence of the importance of investing in teacher quality for improving national achievement.'

In sum, teachers can and do make a difference – regardless of students' social backgrounds and 'intake' characteristics, and whether or not they experience learning difficulties (Cuttance, 2000; Rowe, 2004b; Rowe & Rowe, 2002; Dinham, 2008). As Slavin and colleagues' evaluations of the 'Success for All' program among low socioeconomic schools in Baltimore and Philadelphia have shown, students who, regardless of their gender, socio-economic or

²⁵ See, for example: the *ILEA Junior School Project* reported by Mortimore *et al.* (1988); the re-analysis of IEA data reported by Scheerens, Vermeulen and Pelgrum (1989); findings from the *Victorian Quality Schools Project* (Hill *et al.*, 1993, 1996; Hill & Rowe, 1996, 1998; Rowe & Hill, 1998; Rowe, Hill & Holmes-Smith, 1995; Rowe & Rowe, 1999); key results from the *VCE Data Project* (Rowe, Turner and Lane, 2002); and the meta-analytic synthesis of related research by Hattie (2003).

ethnic backgrounds are taught by well-trained, strategically focused, energetic and enthusiastic teachers, are fortunate indeed (Slavin, 1996, 2005).

What Matters Most ?

So what matters most? Certainly not student compositional characteristics such as *learning difficulties*, *educational disadvantage*, *disruptive student behaviours*, nor school *structural* arrangements of interest to advocates of *middle schooling*, but the imperative of *quality teaching* and *learning* provision, supported by *teaching standards* and ongoing teacher professional development focused on evidence-based practices that are demonstrably effective in maximising students' learning outcomes and achievement progress.

While it is not feasible to legislate such *quality teaching* into existence, the fact that teachers and teaching make a difference should provide impetus and encouragement to those concerned with the crucial issues of *educational effectiveness*, *quality teaching* and *teaching standards*, to at least invest in quality teacher recruitment, pre-service education and on-going professional learning. In this regard, the work of the National Board for Professional Teaching Standards (NBPTS) in the USA,²⁶ including the contributions of Ingvarson and of Bond et al. (2000), are of vital importance. For example, Ingvarson has long been an advocate for the necessity of establishing *teaching standards*, the *certification of highly accomplished teachers*, as well as strategic *teacher professional development* that are linked to both status and salary recognition (Ingvarson, 2001, 2002, 2005; Ingvarson, Elliot et al., 2006; Dinham, Ingvarson & Kleinhenz, 2008).

Finally, the summary of findings from evidence-based research for the effects of *quality teaching* on student outcomes provided by Professor Linda Darling-Hammond at Stanford University are pertinent and require emphasis:

The effect of poor quality teaching on student outcomes is debilitating and cumulative. ... The effects of quality teaching on educational outcomes are greater than those that arise from students' backgrounds. ... A reliance on curriculum standards and statewide assessment strategies without paying due attention to teacher quality appears to be insufficient to gain the improvements in student outcomes sought. ... The quality of teacher education and teaching appear to be more strongly related to student achievement than class sizes, overall spending levels or teacher salaries (Darling-Hammond, 2000: 3).

For the sake of students and teachers, let alone the social and economic future of any nation, the enduring hope is that the importance of *quality teaching* (pedagogical knowledge and professional practice) will be evident in the reality of major improvements to teacher professionalism and students' learning, behaviour, health and wellbeing outcomes. But such reality will not be realised until teachers are at least in receipt of quality, evidence-based, pre-service education and in-service professional development support that are commensurate with their essential status in terms of the invaluable contributions they are able to make to the enrichment of students' wellbeing and life chances, as well as to capacity-building for national social and economic futures (e.g., Cochran-Smith & Zeichner, 2005; Darling-Hammond & Bransford, 2005).

As indicated earlier, the realisation must be that 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. Perhaps there is a need to be reminded that: 'Ultimately, most of what we do in school education – including our efforts to improve administrative structures and the quality of the teaching-learning environment – can be judged in terms of their implications for enhanced student learning' (Masters, 1994: 2). Clearly, the key to such *educational effectiveness* at all levels of schooling (and especially during the early and middle years) involves an operational

²⁶ See: www.nbpt.org/standards/stds.

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

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