



ENGAGING YOUNG PEOPLE IN LEARNING: WHY DOES IT MATTER AND WHAT CAN WE DO?

edited by Joanna Morton

Conference Proceedings



NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH

TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MĀTAURANGA

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Engaging young people in learning: Why does it matter and what can we do?

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1. INTRODUCTION

Cathy Wylie

New Zealand Council for Educational Research

All students need to be engaged in learning—not just the interested students, not just the ones who are obedient. The figures for those leaving school without a meaningful qualification, and our truancy and discipline rates all tell us we need to do better. The push for all students to succeed in learning can seem like a daunting challenge. But it is also exciting, because it gets us thinking about learning; what it is, and how it “works”.

The student engagement conferences, held in Wellington and Auckland, did not provide mechanical recipes—there is no such thing. So much of learning is a form of interaction: particular individuals interacting with curriculum materials and with teachers and the learner’s peers and family.

That is why the image of “engagement” is very useful in thinking about learning. It is an *active* image, for both learners and teachers. Not the famed “empty vessels” into which knowledge is poured, nor “couch potatoes” who pick up understanding through watching or being entertained.

Student engagement is a relatively new term in New Zealand. Thinking back over the 20 years since the Tomorrow’s Schools reforms, I remember debates about access, and the dominance of the idea that students needed to be ready for school, that it was they who had to adjust to the environment. Pastoral care was seen as something completely separate from learning. I also recall research that focused on “time on task” as a measure of learning. I think we have moved quite a distance since then in our understanding of the need to engage students in learning, both for their and our sake, and in our measurement of learning. People are now much more aware of the fact that students are a diverse group, with different students having different learning needs. We now know it is not enough to simply open doors and encourage entrance.

The conference gave us the opportunity to think about student engagement in learning. What fosters it? What hinders it? What does this mean for teaching? What does it mean for how we organise our schools if student engagement is a prime criterion? What does this mean for “pastoral” care—ensuring that students feel that what they do matters to someone? What does it mean for the curricula we offer? What does it mean for how we assess?

To counter disengagement, we need to think systematically and over time about how we use information about student engagement and respond to it. And we need to hear the student voice.

At the New Zealand Council for Educational Research (NZCER), some of what we know about student engagement has come from the longitudinal Competent Children, Competent Learners project. This has tracked a group of children from 1993, when they were nearly five and in Wellington-based early childhood education, to the present day. Our latest findings are from the age-16 phase of the research.

In that study, we see most children start school all bright eyed and bushy tailed. The turning away from school doesn't start to really be noticeable until age eight, when it begins to happen for those students who haven't experienced early success in literacy and numeracy. We have observed some patterns that are relevant to student engagement:

- Age-16 student engagement levels are linked to school attendance, National Certificate of Educational Achievement (NCEA) achievement, teachers' perceptions of student behaviour and attitudes (or key competencies).
- Engagement levels reflect past as well as present development of "learning identities" and habits.
- In terms of overall engagement levels, the biggest drop is between ages 12 to 14—as students enter adolescence.
- By the age of 16, 36 percent are usually or always bored; 8 percent rarely or never.
- Twenty-nine percent rarely or only occasionally enjoy learning.
- Twenty-five percent wanted to leave school as soon as they could, or had left school.

Feeling comfortable or safe at school—or what we call feeling "affirmed at school"—is different from engagement in school: enjoying learning, not often feeling restless or bored, or wanting to leave school as soon as possible. Feeling affirmed and being engaged in school are correlated, but they are also distinct. You can feel affirmed by school and still be involved in some quite risky behaviour that will undermine your engagement with learning at school. So providing a safe and comfortable environment for diverse students—which is important because it is also linked to useful attitudes to teachers—is not enough to ensure engagement in school and its work.

Engagement in school is more likely with positive learning environments. We know this from the questions we asked Competent Children, Competent Learners participants about their most and least enjoyed classes at age 16.

Teachers of the most enjoyed classes said they:

- use group activities and discussion, which includes activities of interpretation and articulation
- allow students to have input into the context and direction of learning activities

- use practical activities
- allow students to act on issues that concern them
- have fun with the class.

Students said that in their most enjoyed classes:

- teachers are interested in their ideas
- teachers understand how they feel about things
- teachers provide scaffolded support—building on student interests, using relevant examples
- teachers are fair
- teachers are clear
- they can see connections with the outside world
- they have practical activities.

Engagement is about building motivation and helping students develop their learning identity. The conference explored what systems are needed to frame teaching and learning in ways that engage more students than we would have thought possible 20 years ago, and in ways that pull back in those who are on the edges of engagement.

Student engagement is not an end in itself. But in the process of exploring student engagement, it is possible to find out more about what students need to learn, which will help us focus on how to bring their energy into the classroom, to improve learning outcomes.

2. DISENGAGEMENT FROM SCHOOL

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Most of us know an engaged student when we see one. They are involved in class work and maybe other aspects of school life—for example, extracurricular activities or socialising with their classmates. They seem to be excited about school and (at least some of) their classes, or at least they don't seem miserable when it's time to attend them. They want to graduate. They're willing to put forth extra effort if it's needed to get a high grade, or even just to get a passing grade. It's obvious to an educator when a student is engaged in school and often it's obvious when they're not.

School engagement was intended to be a simple concept that teachers could identify and use to describe everyday student behavior in familiar terms. But, give a simple idea to a bunch of academics and watch what we can do to it!

This paper addresses five questions about school engagement and disengagement: (1) What meanings have researchers given to the term *engagement* and which of these meanings guide us in shaping students' learning and behavior? (2) What is student disengagement and how does it happen? (3) What educational outcomes accompany engagement or disengagement? (4) Which school practices and policies exacerbate student disengagement? (5) What does research tell us can be done to reduce student disengagement? The findings in this paper are based on empirical research, even if the research on some topics is not as plentiful or exemplary as we might like.

We report largely on research conducted in the United States. I hope it isn't difficult to translate the findings to corresponding ages, grades and school organisation in New Zealand. There are some parallels in terms of outcomes:

- In the United States in 2006, 77 percent of the population at the typical age of graduation from high school actually graduated that year (Organisation for Economic Co-operation and Development, 2008a). Overall, 9.5 percent of Americans aged 16–24 (approximately 3.5 million) lacked a high school credential (Institute of Education Sciences, 2008).
- The highest dropout rates are concentrated in particular schools. Students in schools with “weak promoting power” are five times more likely to drop out of school. These schools advance fewer than 50 percent of their students from freshman to seniors on time, and are typified by high poverty levels and large minority enrolments (Balfanz & Legters, 2004).

- School administrators often complain that most or all of their time is spent dealing with discipline problems, compromising their efforts to maintain high academic standards (Borelli, 1997).
- In New Zealand in 2006, 74 percent of the population at the typical age of graduation from secondary school graduated that year (Organisation for Economic Co-operation and Development, 2008a).
- In New Zealand, 11 percent of 15- to 24-year-olds are neither employed nor in educational or training programs. The percentages are higher for particular minority groups. Only 80 percent of youth are still in school six months after their 16th birthday (Organisation for Economic Co-operation and Development, 2008b).
- “Suspensions, exclusions, and expulsions are widely used [for behavior problems] and contribute to disengagement from school” (Organisation for Economic Co-operation and Development, 2008b, p. 76). Despite efforts to reduce suspensions, there is wide variation in suspension rates by ethnicity and year level.

These indicators suggest that both countries face similar problems with student behavior and disengagement.

What is engagement in school?

As of 2009, the number of definitions of *engagement* is large and increasing. The number of components is growing, and so is the number of terms used in different ways, or different terms used to describe the same idea. We have a two-factor model of engagement, some three-factor models, at least one four-factor model, a nine-factor model and several “kitchen sink models” with umpteen components that change with students' grade levels. To confuse the issue further, engagement rating scales sometimes have items that are quite unrelated to the concept of engagement.

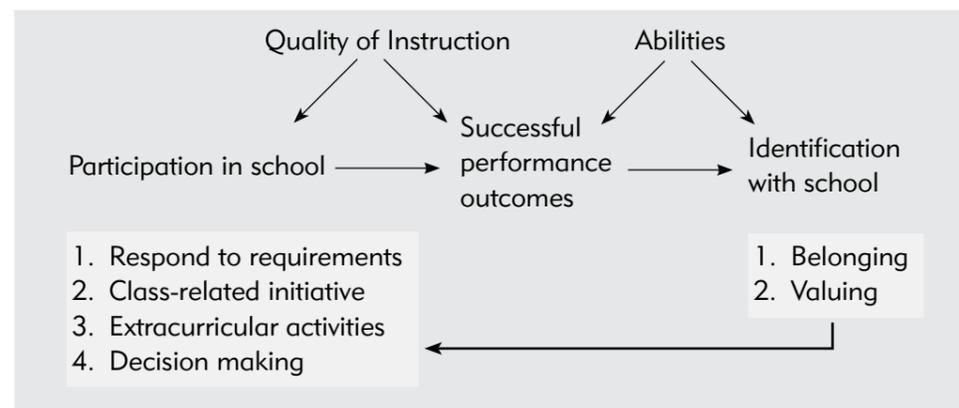
In this paper, we review what engagement meant in the 1980s when the concept became popular, along with today's criteria for deciding what should and should not be considered school engagement.

I've always liked the basics of Helen Marks' definition of engagement: “the attention ... investment, and effort students expend in the work of school” (2000, p. 155). *The American Heritage Dictionary of the English Language* (1973) gives definitions that convey the same “dynamism” or “pull”; for example, “to obtain and hold the attention of; to engross”, or “to involve oneself or become occupied; participate”.¹

¹ Excluding the definition “to promise to marry”.

Components of engagement: What components of engagement are implied by these definitions? One set was given by Finn (1989) in a model that showed student “participation” and “identification with school” interacting and supporting one another over a period of years (see Figure 1). *Participation* is the extent to which students participate actively in school and classroom settings. It was viewed as having four facets, two of which may be exhibited in the classroom: (1) responding to the requirements of the teacher and the curriculum; for example, attending class, completing assigned work, not engaging in disruptive behavior and (2) initiative taking—in other words, going beyond the minimal requirements. Two additional forms applied to the school more broadly—participation in extracurricular activities and participation in goal setting.

FIGURE 1 PARTICIPATION—IDENTIFICATION MODEL



Identification, the affective component, is (a) the development of an internalised conception of belongingness and (b) valuing school-related outcomes. *Belongingness* was defined as a two-way dynamic: “School is an important part of my own self-view” and “I am a significant member of the school community.” The valuing dimension refers to valuing in the concrete sense; that is, seeing utility in the things attained in school (for example, “this course will help me get a job”), rather than the abstract sense (for example, “everybody should get a good education”) (Mickelson, 1990). Identification is similar to constructs called *school membership*, *school attachment*, *school connectedness* or *school bonding*, although these terms are often used without being defined.

The basic ideas of a behavioral and an affective component have persevered, but with two important additions. The first is based on research that used the stimulated recall method of Benjamin Bloom. In a study of mathematics learning among fifth grade students, researchers videotaped and interviewed students and asked them to complete questionnaires about their attention and cognitive processes during classroom learning (Peterson, Swing, Stark, & Waas, 1984).

The study documented (not surprisingly) that internal cognitive processing mediated the relationship between instruction and achievement. This finding resulted in a distinction being made between behavioral engagement comprised of observable student activity, and internal processing, referred to as “cognitive engagement”; that is, “the expenditure of thoughtful energy”.

The second addition came from the realisation that there are two kinds of behavioral engagement—learning behavior and social interaction with the teacher and other students. Social behavior in the classroom includes, for example, following behavior rules, working co-operatively with other students, or the obverse, disrupting classroom activity. In one model, these are considered two separate components (Appleton, Christenson, Kim, & Reschly, 2006) and in other models, as part of behavioral engagement (see, for example, Pannozzo, Finn, & Boyd-Zaharias, 2004).

The three ingredients of engagement—behavioral, affective and cognitive—are referred to commonly (see, for example, National Research Council and Institute of Medicine, 2004; Rumberger & Lim, 2008). All three meet these criteria:

- They are easily understood by practitioners as being essential to learning.
- They entail behavioral or mental “dynamism” or “pull”.
- They meet the definition of one of the three components above.
- They are not antecedents or outcomes of engagement.

Most important, research shows that the components can be changed by changing class and school processes and policies (see “Research-based strategies for reducing student disengagement” below).

How to dilute a good idea: Unfortunately, researchers have managed to make simple ideas complex. Appendix A summarises seven popular models of engagement.² The written descriptions of two models have no dimension that clearly fits the definition of school belonging or connectedness (affective engagement), and a third model includes a clear description of belonging/connectedness (affective) but classifies part of it as “cognitive engagement”. The written descriptions of four models have no dimension that clearly fits the concept of cognitive engagement.

More significantly, several models include nonengagement dimensions as engagement (see the “excluded” column of Appendix A). Some are antecedents or outcomes of engagement, and some are extremely difficult to manipulate. The factors we placed in this category include affective reactions to teachers, boredom, anxiety, reactions to peers, learning styles, discipline, safety, liking for school, and motivation, performance and self-efficacy. One approach has a total of 17 factors for 16-year-olds, including 11 that are antecedents, outcomes or distant correlates of engagement; for example, mobility, parent support, performance in academic

² The two from Luckner et al. are counted as one but pertain to different grades.

subjects, drugs and alcohol and “work”. Finally, some models include some or all of the main components of engagement but have a number of items in their questionnaires that fall outside the three categories altogether.

We are not saying that our concept of engagement is “right”. However, the components meet certain criteria: they are well-defined categories that practitioners find easy to understand and they can be changed for the better. The profusion of terms does not help us understand disengagement as a process, or to know how to intervene to reduce disengagement. Beyond that, variables such as “liking for school”, “autonomy”, “self-efficacy”, “mobility” and others have been studied for years under the rubrics “liking for school”, “autonomy”, “self-efficacy” and “mobility”. Little is gained by subsuming these terms under a single umbrella and calling them something else.

What is disengagement from school and how does it happen?

Disengagement is the failure to develop a sense of school membership, failure to participate actively in class and school activities or failure to become cognitively involved in learning. Different degrees of disengagement may be exhibited by students at all stages of schooling. The extreme of disengagement is leaving school without graduating (dropping out), thus severing connections with school, teachers and activities that support learning.

In the United States as elsewhere, there is a long history of attributing these problems to characteristics of the students, their families and communities;³ for example, histories of low grades and retentions, self-esteem, demographics of the home, childrearing practices, peer influences and even students’ own personality defects (see, for example, Balfanz, Herzog, & MacIver, 2007; Ekstrom, Goertz, Pollack, & Rock, 1986; Fortin, Marcotte, Potvin, Royer, & Joly, 2006; Hudley & Daoud, 2007; Roeser, van der Wolf, & Strobel, 2001; Wehlage & Rutter, 1986). Rumberger and Lim (2008) summarised approximately 300 studies with this orientation.

In contrast, several theoretical perspectives explain engagement/disengagement as a long-term process, with both personal and situational causes.⁴ An early model, the “participation—identification model”, laid the groundwork for this line of reasoning (see Figure 1):

On the positive side, most children begin school at age five or six as willing participants, and are drawn to participate initially by encouragement from home and by classroom activities. Over time, participation continues as long as the individual has the minimal

ability needed to perform required tasks and as long as instruction is clear and appropriate. There must be a reasonable probability that the student will experience some degree of academic success. As the student progresses through the grades and autonomy increases, participation and success may be experienced in a variety of ways, both within and outside the classroom. These experiences encourage a student’s sense of identification with school and further participation. Frustration and less-than-successful experiences are inevitable, but should not be sufficient to interrupt the self-sustaining nature of the cycle. (Finn, 1989, p. 129)

On the negative side:

Students lacking the necessary encouragement at home may arrive at school predisposed to nonparticipation and nonidentification; they do not enter the cycle depicted in Figure 1. While exceptional teachers may engage the interest of some of these students, others may begin to resist participation, becoming distracted, bored, or restless, avoiding the teachers’ attention or failing to respond appropriately to questions. In later years, minimal compliance or total noncompliance with basic course requirements may persist: Students may refuse to participate in class discussions, turn in assignments late, or arrive late or unprepared for class. As academic requirements become more demanding, this behavior can only result in course grades that are marginal or failing. These students do not have the encouragement to continue participating provided by positive outcomes. If the pattern is allowed to continue, identification with school becomes increasingly unlikely.

Not all disengaged students experience this debilitating sequence of events. Some make carefully reasoned decisions that the alternatives, for example, work or family care, is the best course to pursue at this point in life. Others may begin school participating fully but encounter obstacles along the way that cause them to withdraw. Nevertheless, without a consistent pattern of participation with the reinforcement provided by success experiences, the emotional ingredient needed to maintain a student’s involvement, and even to overcome the occasional adversity, is lacking. (Finn, 1989, p. 130)

More recent research points to young adolescence as a particularly vulnerable time in a student’s life. Changes in the school organisation and changes in students as they enter adolescence result in a mismatch between students and the classroom environment, increasing the risk of negative emotional and psychological outcomes. Thus, experiences in the early and middle grades (grades 6–8 in American schools), may be critical in establishing trajectories of engagement (Eccles, 2008; see below).

Early and later engagement: The idea that disengagement starts early and continues has been supported in empirical research. Classic studies by George Spivack and his colleagues showed that misbehavior in kindergarten through grade 3 was related to misconduct at ages 14 and 17 (Spivack & Cianci, 1987). Studies since that time have shown this association repeatedly through elementary and secondary grades and even into postsecondary schooling in the form of entering a postsecondary program, earning credits and completing a program of study (Finn, 2006).

One longitudinal study followed students from grade 4 through high school, assessing academic and social (behavioral) engagement in fourth and eighth grade, and identification with school in eighth grade (Pannoizzo et al., 2004). Engagement

³ A perspective sometimes known as “blame the victim”.

⁴ An idea originally forwarded by Rumberger (1987).

was rated by teachers on the Student Participation Questionnaire in fourth grade (Finn, Folger, & Cox, 1991), and a self-report form of the same instrument in eighth grade; identification with school was assessed on the Identification with School scale (Voelkl, 1996). Student demographics and academic achievement were used as control variables.

Academic participation in grade 4, and both academic and social participation in grade 8, were related to graduating from high school even with the control variables in the analysis. Academic participation was the stronger of the two. Identification with school was positively correlated with high school graduation as well, but became nonsignificant when the effects of participation were controlled statistically. In all, the study demonstrated the long-term stability of behavioral engagement, and emphasized that academic behaviors more than other engagement measures were related to high school graduation or dropping out.

What outcomes accompany engagement or disengagement?

Behavioral and cognitive engagement are so clearly connected to school performance that it is no surprise that positive relationships are found consistently (see recent reviews in Finn, 2006; National Research Council and Institute of Medicine, 2004). Research from the 1960s to now has established high correlations of simple behaviors such as attendance, paying attention, responding to teachers' directions, exhibiting appropriate classroom behavior and initiative taking with academic achievement. The relationship is found both in the elementary and secondary grades.⁵ Participation in extracurricular activities also seems to have a positive relationship with academic achievement.

Affective engagement (identification), in contrast, has weak or indirect relationships with academic achievement. To the extent that it is related to achievement, the connection may be due to its effect on motivation and effort instead of directly affecting achievement (Goodenow, 1993; Osterman, 2000; Voelkl, 1997). At the same time, low identification with school is associated with a host of adverse behaviors, including academic cheating, drug and alcohol use during the school day, a range of health risk behaviors, dropping out of school and juvenile delinquency (Finn, 1989; Hawkins, Catalano, & Miller, 1992; Rumberger & Larson, 1998; Voelkl & Frone, 2000, 2004).

Two studies with “twists”: Two research studies added small but important pieces of information about engagement and achievement. Finn and Rock (1997)

⁵ One Australian study found a reciprocal relationship between behavioral engagement and academic achievement among 5- to 14-year-old students, providing some confirmation of the participation-identification model (Rowe & Rowe, 1992).

examined differences between low-income minority students grouped as “resilient”, “nonresilient completers” and “dropouts”, using a national sample of high school students. Resilient students had moderately or highly acceptable grades and test scores and graduated from high school on time. Nonresilient completers graduated from high school but had low grades and/or test scores.

Large differences were found among all three groups on measures of behavioral engagement, including both teacher-reported and self-reported ratings. The differences remained large and significant even when students' psychological characteristics were controlled statistically. It was concluded that academic success in high-risk students (resilience) could be attributed to their degree of engagement in school.

In a second study, a sample of fourth grade students was identified whose behavior was frequently inattentive (cognitive disengagement), and others who were often disruptive in class (behavioral disengagement). These students were compared to engaged students in the same classes on criterion-referenced and norm-referenced achievement tests at the end of the school year (Finn, Panno, & Voelkl, 1995).

Both disengaged groups had lower performance, on average, on all achievement tests compared to engaged students. However (to the surprise of the researchers), the achievement of inattentive students was significantly lower than that of disruptive students. Hindsight being so clear, it was apparent that disruptive students draw more attention from teachers, and some of it leads to increased engagement (“sit down and read the next paragraph to the class”). Teachers may tend to overlook inattentive students, reducing the amount of instruction they receive even further.

What school practices and policies exacerbate disengagement?

The participation-identification model, the work of Eccles and the empirical studies summarised above describe engagement and disengagement as student behavior— influenced partially by families and schools. The remainder of this paper focuses directly on school policies and processes that can affect student engagement or disengagement.⁶ The final section of the paper presents research-based strategies to reduce or prevent disengagement.

What kinds of practices and policies are we referring to? Here we draw from three sources: (1) research in the United States and Great Britain on interventions in the early grades; (2) research and theory about the unique needs of adolescents in the middle grades; (3) research on features of middle and secondary school environments related to disengagement and dropping out. This is drawn largely from a recent publication of the United States Department of Education—the

⁶ School policies and practices are also referred to as school “factors” to avoid repetition.

Dropout Prevention: A Practice Guide (Dynarski et al., 2008). A panel of specialists⁷ reviewed and evaluated research on the causes of disengagement and 11 dropout prevention programs.⁸ The guide describes the quality of the research and, where warranted, makes practical recommendations for reducing disengagement.

We focus on six school factors pertaining to the early, middle and upper grades. Research on the six factors is described in this section. Recommendations for improvement are given in the final section of the paper. Each of the six is manipulable—they can be altered by changing school practices and/or policies to affect student behavior. All of them are already components in one or more programs intended to reduce student disengagement. The six are:

- failure to provide positive early school experiences that can impact engagement through later grades (early grades)
- school conditions that are inconsistent with the needs of adolescents (middle grades)
- school conditions that produce feelings of anonymity (middle and upper grades)
- rules and disciplinary practices that are unclear, too harsh or administered unfairly (middle and upper grades)
- inadequate academic and personal support for students at risk of disidentification (middle and upper grades)
- curricula that may be seen as irrelevant to the needs of the students (upper grades).

The research base

Failure to provide early school experiences that can promote school engagement

Among the policies for younger children being used in the United States, two in particular benefit student engagement: academic preschool programs (usually directed at four-year-olds) and small class sizes in the early grades (K–3, generally five- to eight-year-olds). The effects of both on students at risk of disengagement are especially noteworthy.

High-quality preschool programs

The evidence that high-quality preschool programs are effective in the short and long run is persuasive. Three programs have been evaluated carefully in the United States and produced positive outcomes.

⁷ Including J. Finn.

⁸ Including Check-&-Connect (see Christenson, this volume).

Perry Preschool program: The Perry Preschool program was designed to demonstrate the effects of high-quality preschool programs on low-socioeconomic-status students (Schweinhart & Weikart, 1997). A sample of 123 African-American students at risk for school failure participated, of which 58 were randomly selected to attend the program at ages three and four. Children participated for 2½ hours per day, five days per week, for approximately two years. Teachers visited children's homes once every two weeks, where they explained and demonstrated classroom activities to parents so that parents could reinforce the activities at home. The program included three separate curriculum models, which differed in terms of the degree of initiative expected of the child and of the teacher.

Data were collected on program participants and control-group students from ages three to 11, and at ages 14, 15, 19, 27 and 40. Students who attended the preschool program outperformed the control group on various educational, economic and social indicators, including scores on intelligence tests and academic performance in elementary, middle and secondary school. In terms of engagement, more program-group participants reported spending time on homework than did nonprogram participants, and program-group participants had significantly better attitudes toward high school, fewer absences and were more likely to graduate from high school than were students in the control group. At age 19, study participants responded to an interview in which they expressed greater affective engagement (identification and valuing) compared to those who did not attend the preschool program (Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984).

Carolina Abecedarian program: The Carolina Abecedarian study was also designed to investigate the effects of an early childhood intervention program on the cognitive development of low-socioeconomic-status children beginning in infancy (Campbell & Ramey, in press). It included 111 infants, approximately half of whom had teenage mothers, and most of whom were African-American. Fifty-seven infants (between the ages of six weeks and six months) were randomly assigned to a full-time child-care program, and the remaining 54 served as controls.

The preschool centre operated eight hours per day, five days per week, and participants in the treatment group attended the program for five years. The curriculum was designed to enhance children's cognitive, language, perceptual-motor skills and social development. As infants grew, they were exposed to more conceptual and skill-based content, which emphasised language development. At age five, children from the preschool group and the control group were rerandomised by matching pairs of children on their Stanford-Binet scores, and then assigning one of each pair to a school-age treatment or control group. School-age treatment began in kindergarten and lasted through second grade. It consisted of home and classroom visits by a resource teacher who designed custom learning activities for parents to use at home with their children.

By 18 months of age, children in the treatment group scored significantly higher on tests of infant-toddler development than their nontreated counterparts, and continued to outperform them during the remaining preschool years, and on intelligence and achievement tests in early school grades. Later follow-ups showed that program participants continued to have higher IQ scores and completed significantly more years of education than did individuals in the control group (Ramey & Campbell, 1984).

Chicago Child-Parent Center program: The Chicago Child-Parent Center (CPC) program was designed to enhance the physical wellbeing and cognitive development of low-income minority children (Stenner & Mueller, 1973). The CPCs provided educational and family-support services, including outreach activities and health and nutritional services. Children attended the CPCs for three hours per day, five days per week for two years. The educational intervention focused on teaching basic skills in language, arts and maths, through structured but diverse learning experiences. Intensive parent participation was encouraged as was staff development for teachers. When participants entered kindergarten, they were given the option to continue receiving services under the direction of a parent-resource teacher through second or third grade.

The CPCs were evaluated as part of the Chicago Longitudinal Study that collected data from 1,539 children who attended early childhood programs. Of the sample, 989 children attended CPCs, and the remaining children, matched with CPC participants, attended alternative early childhood programs. Ninety-four percent of the participants were African-American and 6 percent were Hispanic. Data were collected from participants through age 22 and continue to be collected today. CPC participants had greater cognitive skills at kindergarten entry and higher school achievement scores than the comparison group throughout the school years. CPC participants also had higher rates of high school completion and completed more years of education than did participants in the preschool comparison group (Reynolds, Temple, & Ou, in press).

Principles of effective preschool programs: Several researchers have summarised the essential features of an effective preschool program: an age-appropriate academic curriculum, intensive contact with children starting early, parental involvement and allowing for continued services in kindergarten and beyond (Clifford, Bryant, & Early, 2005; Ramey & Ramey, 1998).

These programs embody these features, and each has produced significant long-lasting effects. While the curricula used in the three programs differed, they all included a component intended to enhance children's cognitive skills, and elements were added to the curricula as children grew older. Second, each program included children aged three or four (and the Abecedarian program included even younger children). Each of the three programs was intensive, involving at least 2½ hours of

contact with children per day, five days per week, for at least two years; the teacher-pupil ratios were all in the neighbourhood of 10:1. Each program involved direct contact with children and their parents. Finally, continuing services were available in kindergarten and beyond in the Carolina Abecedarian program and the Chicago Child-Parent Center program. Programmes without this feature risk having their effects dissipate when students enter larger, less intensive kindergarten classes.

Small classes in the early grades: Class size in the elementary grades impacts on academic achievement and, directly and indirectly, school engagement. Research on the relationship of class size to academic achievement has been extensive. It includes a large (12,000-student) within-school randomised experiment—a rarity in education.⁹ In a nutshell, the statewide experiment, Project STAR, confirmed a connection between class size and academic achievement in all subject areas in grades K–3 (see Biddle & Berliner, 2002; Finn, 2002; Finn, Gerber, Achilles, & Boyd-Zaharias, 2001). The main findings comparing the academic achievement of students in classes of 13–17 to those in classes of 22–25 were:

- Academic benefits were apparent in every grade (K–3) in every subject tested^{10,11}.
- The benefits increased with each additional year a student spent in a small class.
- The benefits were greater for minority students and for students attending inner-city schools—effect sizes up to three times as great.
- Students who attended small classes in K–3 maintained their academic advantages in all subjects in grades 4–8 (after small classes had been disbanded).

The strength of the carryover effects was related to the number of years students had attended small classes. Three or four years, beginning early, may be necessary to be sure of long-term benefits.

The basic results were replicated by non-STAR researchers using different statistical approaches. Further large-scale class-size reduction efforts (for example, Wisconsin, California) have produced effect sizes very similar to those of Project STAR, although, to date, no other randomised experiment has been conducted.

⁹ Randomised experiments are considered the “gold standard” of empirical research. It is the only research design which, done properly, permits causal relationships to be established between independent and dependent variables. They are difficult to conduct because of the many conditions that must be met, including participants’ agreement to be assigned to the experimental or control condition.

¹⁰ The results for academic achievement are given in Appendix B.

¹¹ Hattie (2005, 2009) included Project STAR in his list of “meta-analyses and major studies” (Table 6.2 of Hattie, 2009). He notes correctly that there were larger effects in grades K–3 than in grades 4–6 when small classes had been disbanded, and that there were no discernible impacts on self-concept or motivation. His excellent review predated studies of the lasting benefits for students who were in small classes for three or four years, i.e., greater academic carryover effects, benefits to graduation rates and rates of students taking college entrance examinations.

Class size and student engagement: The main question for our purposes, however, is the effect of class size on student engagement. American and British research has shown that the effects of small classes are both immediate and long-lasting.

Finn, Pannozzo, and Achilles (2003) reviewed 11 studies of class size and learning behavior.¹² In general, the review concluded that there was a positive impact of smaller classes on students' learning behavior regardless of the methods or measures employed. In these studies, learning behavior was defined as behavioral engagement (for example, "student pays attention in class", "student is engaged in academic activity" or "off-task but not disruptive") or multiple-item ratings (for example, "effort", "initiative" and "active learning"). The two strongest studies—one done through observations and one based on teacher ratings in Project STAR—reported results that favoured small classes on 14 out of 15 variables, with effect sizes running from small to moderate (Blatchford, 2003a, 2003b; Finn, Fulton, Zaharias, & Nye, 1989). These studies had well-constructed measures of student behavior and used rigorous research methodologies.

The review also included 10 studies of the relationship between class size and social engagement. All 10 assessed antisocial behavior, such as disruptiveness, misbehavior or punishments (for example, referrals to the principal), and several also assessed prosocial behavior such as co-operating with other students or following rules. Overall, the studies showed a positive impact of smaller classes on students' social behavior. Of 24 measures of pro- and antisocial behavior, 17 were statistically significant in favour of small classes and six were nonsignificant; no measure in any study was statistically significant in favour of larger classes.

One study reviewed is noteworthy because of its size. In a statewide class-size-reduction initiative in California, 12,000 new teachers were hired in a matter of several months. A sample of third grade teachers was asked to rate the behavior of students in their class the previous day. Significant differences were found between ratings of reduced and nonreduced classes on the percentage of students disrupting the class and on several other specific behaviors. Asked about the most important differences between smaller and larger classes, teachers who had taught both listed "ability to individualise instruction" as the most frequent response, and "easier class discipline" as the second most frequent (CSR Research Consortium, 2000).

In the review, the authors proposed that the differences in student behavior could be explained by "the firing line hypothesis": students in a small class are more visible to the teacher, and to each other, and may be called on at any time to answer questions or participate in a class activity. Students cannot easily avoid being noticed, and teachers cannot readily ignore any student(s) even if they would like

¹² All that could be found after much searching.

to. Principles related to the "visibility of the individual" and "sense of belonging" were proposed as the underlying psychological mechanisms.

Long-term effects of small classes: Data on Project STAR students continued to be collected through high school. At least four studies have been completed by combining these data with information from other sources;¹³ three are described here.

In the most recent study, economist Jason Fletcher (in press) collected students' high school yearbooks to record the number and type of extracurricular activities in which students participated in high school. Fletcher found "suggestive evidence that STAR [small classes] did indeed increase some aspects of high school participation ... in sports, especially for minority students" (Abstract).

Previously, economists Alan Krueger and Diane Whitmore (2001) merged data on college entrance examinations (SATs and ACTs) with the STAR data. The study showed that students who attended small classes in K–3 were more likely to choose to take the exams, compared to peers who had attended full-size classes in K–3. The increase in test taking was substantially greater for black students than for white students, reducing the black–white gap in college-entrance-test taking by 54 percent.

A third study examined high school graduation and dropout rates of students who had participated in STAR (Finn, Gerber, & Boyd-Zaharias, 2005). The results were positive. The effects on graduation rates were larger with each additional year of small-class participation. The effects of attending small classes for four years increased the odds of graduation by about 80 percent. For students from low-income homes, three years of small classes increased the odds of graduating by approximately 67 percent, and four years in small classes more than doubled the odds. The graduation rates for low-income students with three or more years of small-class participation were as high as those of higher income students; the gap in graduation rates was closed completely.

The effect sizes for extracurricular participation were small, while those for college entrance tests and graduation rates were larger. However, the finding of an impact on student engagement six to nine years after the small-class intervention is truly noteworthy.

School conditions inconsistent with the needs of adolescents

Overt forms of engagement or disengagement are apparent by the time students reach the middle grades—grade 6 or 7, when most American students are 11 or 12 years old. Middle-grade students are particularly vulnerable to changes in school practices at

¹³ That is, four studies of which we are aware. The data are available to the public and it is possible that other studies have been completed as well.

odds with their developmental needs. Adolescents have an increased desire for more control and autonomy, heightened concern about peer relationships, an increased need for adult support and guidance and the ability to use higher level cognitive skills (Balfanz et al., 2007; Eccles, 2008; Eccles & Roeser, 2003; Rumberger, 1995).

In contrast, teachers in middle and junior high schools often exert more control over students, are less supportive and caring than were teachers in elementary school, use grading practices that emphasise ability and competition and use more whole-class instruction.

For many students, this is the first time they are exposed to this degree of structure. They find it difficult to develop a sense of community with teachers and are likely to feel alienated. Marginal middle-grade students report the highest levels of boredom of all age or achievement groups. Equally important, struggling middle-grade students are more likely to go unnoticed, contributing to a downward cycle of disengagement and further academic problems (Eccles et al., 1993; Eccles, 2008; Juvonen, Le, Kaganoff, Augustine, & Constant, 2004; Rumberger, 2008).

School conditions that produce feelings of anonymity

Crowdedness: Several classic studies have shown that school size is inversely related to attendance, extracurricular participation and a sense of school belonging, effects that tend to carry over to social participation in adulthood (Lindsay, 1982, 1984). More recent research shows that large schools tend to produce feelings of anonymity and alienation and discourage personal interactions between faculty and students (Klonsky & Klonsky, 1999, Lee & Burkham, 2003; Stewart, 2003). And very large schools tend to have high levels of student misbehavior which, in turn, detract from the effort expended on learning (Finn & Kasza, 2009; Haller, 1992; Klonsky, 2002). Sociological theory suggests that this is due to overcrowding, a phenomenon that has negative effects on the attitudes and behavior of people in many situations.

Minimal personal contact: Students' feelings of anonymity may also be affected by a paucity of teachers', administrators' and others' interactions with individual students. In a survey of young adults (graduates and dropouts), 43 percent reported that they had met with their counsellors one time per year or less, and approximately one-quarter of respondents reported that no high school teacher was influential in their lives in any way (McClellan, Finn, & Boyd-Zaharias, 2004). Other research has shown that the visibility of counsellors and principals is related to students' engagement and behavior (Greenberger, Chen, & Beam, 1998; Keesor, 2005). Without proactive efforts by school staff to make contact with individual students, those most at risk may fail to develop a sense of belonging in school or fail to participate in class or school activities.

Rules and disciplinary practices that are unclear, harsh and punitive, or administered unfairly

In recent surveys, large percentages of teachers have reported that their schools did not have clear discipline policies and that policies were not enforced consistently. Also, students across the board have rated the fairness of discipline in their schools as poor or fair (American Federation of Teachers, 2008; Finn & Willert, 2006; Wehlage & Rutter, 1986).

Clarity: Students who are not informed clearly about school rules and policies, or who believe that their everyday behavior will result in punishment, are less likely than their peers to identify with school. These perceptions are exacerbated in schools where teachers are not informed clearly about codes of conduct, or do not feel supported by administrators when they discipline students.

Form and severity: The harshness of discipline policies itself can contribute to the amount of student misbehavior (Hyman & Perone, 1998). Strict policies may cause a student to be removed from school even if the misbehavior could be eliminated through nonpunitive means; for example, in school suspensions, counselling or other remedial approaches. Some researchers have distinguished care-based from punishment-based discipline policies.

Care-based policies seek to correct negative behaviors and encourage the student to perform better at the next opportunity through positive modeling and setting behavior expectations. Punishment-based policies tend to prescribe swift and sometimes harsh consequences for bad behavior, but do not necessarily seek to modify future behavior" (Newall, 2007, p. 1).

Punishment-based policies may lead to increased discipline problems and increase the likelihood of student disengagement. (Cassidy, 2005; McCloud, 2005)

Fairness: If some students are punished more frequently or more harshly than others for the same misbehaviors, then negative attitudes are more likely to result. That this occurs in American schools has been demonstrated repeatedly (Advancement Project and The Civil Rights Project, 2000; Bryk & Thum, 1989; Cotton, 1990; Rumberger, 1995; Verdugo, 2002).

Inadequate academic and personal support for students

Academic support: Students struggling with school work, or who miss school for any reason, may require additional support to keep up with day-to-day instruction. This may include after-school help or help with homework, tutors, instructional coaches or mentors, remedial classes, catch-up courses and/or instruction in study skills (Bridgeland, DiIulio, & Morison, 2006; Connell, Klem, Broom, & Kenney, 2006; Dynarski & Wood, 1997; Kemple, Herlihy, & Smith, 2005; Rumberger, 2008). Urban schools in the United States tend to provide less support of this type than do suburban schools, even though that is where it is needed most. Without

this support, frustration and disengagement are increasingly likely (Rosenbaum, Rubinowitz, & Kulieki, 1986).

Personal support: Teachers' attitudes and expectations—especially for minority students, students from low-income homes or students having academic difficulty—may impact students' attitudes and engagement.

Teachers who care about students' academic performance, show warmth and friendliness toward students and support for good work are encouraging student engagement and academic performance. These kinds of emotional support are particularly important to minority or low-socioeconomic-status students and to students having academic difficulty. Many studies have shown that students who lack positive support from their teachers are more likely to be unhappy and bored in the classroom and to disengage from class work (see, for example, Eccles et al., 1993; Groninger & Lee, 2001; Roeser, Midgley, & Urdan, 1996; Ryan & Patrick, 2001; Wentzel, 1997).

Teachers' expectations for student performance help shape the ways in which they teach. Some may give less praise or encouragement to minority students or provide fewer learning opportunities for low-performing students. They may assume that some or all students can only perform at lower cognitive levels. Reduced expectations may arise from feelings that some students are not “teachable” or not teachable under current school conditions. Ultimately, these expectations can have a negative effect on student behavior and achievement (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Kagan, 1990; Nwora, 2004; Rubie Davies, 2006; Waxman & Padron, 1995).

Curricula seen as irrelevant to the needs of students

Particular courses: Huge numbers of students report that particular courses are irrelevant to their needs, or that everything they're being taught in school is irrelevant. In the High School Survey of Student Engagement in the United States, 39 percent of students reported that they were bored in class because “The material wasn't relevant to me” (Yazzie-Mintz, 2007). In a study of adolescents asked to keep day-to-day journals of their experiences, most characterised schoolwork as irrelevant; one described it as “boring as cr— and worthless” (Baines & Stanley, 2003, p. 165). The perceived relevance of course work is related to student interest in class, engagement in learning activities and ultimately to academic achievement (Hawkins, Farrington, & Catalano, 1998; Larson & Richards, 1991, Wigfield & Eccles, 1992).

School in general: The perceptions that school is a waste of time and that little of value is provided for out-of-school life is associated with skipping school, dropping out and more serious misbehavior including juvenile delinquency (Finn, 2006; Gutierrez, 2000; Joseph, 1996). Thus, most programs to increase student engagement and reduce dropping out add elements to the curriculum likely to be useful to the post-high-school lives of students at risk (Dynarski et al., 2008).

Research-based strategies for reducing student disengagement

The discussion to this point is about theory and research. But what does this tell us that we can use in “real life”?

Beyond the attitudes and behaviors that students bring with them, school practices and policies can play a role in exacerbating student disengagement. To that extent, we as educators may be able to intervene to reduce the likelihood of disengagement occurring.

Engagement and disengagement are multifaceted. No single strategy is likely to be effective with all students, not to mention the many ways in which one student can disengage from school. The greatest success in reducing student disengagement will be achieved when multiple approaches are adopted as part of a comprehensive plan.¹⁴

Disengagement is often a long-term process. The most effective programs for reducing disengagement include components at the elementary, middle and secondary grades.

A set of recommendations for addressing student disengagement is presented below. They address the principles above and the research and theory discussed in earlier sections of this paper. The recommendations have three features in common:

- They are not “programs” but individual strategies that can be *assembled to suit the needs of a particular school or region*. Thus, schools faced with widespread student problems may choose to implement a school-wide intervention (for example, reduce class sizes) that may not be needed in schools with a small number of problem students.
- They are intended to provide educational support, rather than punishment, for students who are disengaged.
- They are all research based. The rationale and/or research for each is discussed above. All of the strategies have been part of multiple evaluations, either individually or as components of programs shown to be effective.¹⁵

Three points of intervention

- **Preschool and the early grades: Start students on a positive trajectory**
 - Provide quality preschool programs, especially for students who are not prepared to undertake the work of “regular” beginning school programs.

Consider reducing class sizes in the early grades. Students should participate in smaller

¹⁴ A principle adapted from *Dropout Prevention: A Practice Guide* (Dynarski et al., 2008, p. 5)

¹⁵ Some of the recommendations have been adapted from *Dropout Prevention*, which summarises underlying research beyond that given here.

classes for at least three years to realise long-term benefits in engagement, persistence and academic performance. (Note that the actual class sizes—the number of students in the room—should be reduced, not simply the pupil–teacher ratio.)

- **Middle grades: School practices at odds with students’ developmental needs**

- Prepare teachers to acknowledge adolescents’ struggle for independence. Avoid unduly harsh punishment.
- Provide continuing extra help with difficult course material.

Connect curriculum and instruction to students’ lives and the world around them.

- **Middle and upper grades: Address school factors that may contribute to disengagement**

Conditions that produce feelings of anonymity

- Increase personal contact between students and administrators and counsellors.
- Assign a proactive adviser (advocate) to each student at risk of disengagement.
- Assign students and teachers to small learning communities where they spend most of their academic time.

Rules and disciplinary practices unclear, too harsh or administered unfairly

- Make certain that discipline policies, and discretionary decisions, are clear to teachers.
- Make certain that discipline policies are clear to students.
- Minimise zero-tolerance policies to those infractions that endanger the wellbeing of students and staff.
- Minimise “no pass—no play” rules. (Extracurricular activities may be some students’ last remaining connection to school.)
- Work to change punishment-based policies (retroactive, punitive) to care-based policies (proportionate consequences, help students set behavior goals).
- Consider implementing skills-development courses for academic and behavior skills (for example, conflict resolution).

Inadequate academic and personal support for students

- Urge teachers to recognise small accomplishments (for example, attending class regularly or getting a passing grade).
- Provide regular after-school assistance, help with homework, mentors and remedial classes.
- Provide *and promote* catch-up opportunities for students who miss school for any reason (including truancy, suspensions).

- Monitor students’ class work regularly (teachers and advocates); encourage use of extra resources for students having academic difficulties.
- Consider querying students about their perceptions of being welcome and supported in class, and be prepared to intervene if necessary.
- Examine (count) disciplinary actions of teachers.

Curricula seen as irrelevant to the needs of students

- Train teachers to demonstrate the real-world connections of classroom material. (Professional development with on-site follow-up can be helpful.)
- Increase students’ involvement in goal setting and planning course work.
- Choose and implement career and technical education (CTE) program(s). Internships are also important.

These recommendations are a first line of action for reducing student disengagement.¹⁶ Again, multiple strategies are needed to make a noticeable difference in student engagement/disengagement. The specific strategies and the forms in which they are implemented need to be adapted to meet the needs of particular schools.

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¹⁶ Except for those beginning with “Consider”.

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Appendix A: Engagement dimensions

	Behavioral	Affective	Cognitive
Fredricks et al. (2004)	Conduct, academic participation, extracurricular participation, decision making	Belongingness/connectedness/ attachment/bonding/identification: valuing school outcomes	Willingness to put forth thoughtful energy
Jimerson et al. (2003)	"Behavioral" Positive conduct, involvement in learning and academic tasks, participation in school-related activities (following rules, concentrating in class, participating in athletics)	"Emotional" Identification with school	"Cognitive" Psychological investment in and effort directed toward learning, understanding, mastering (preference for hard work, positive coping in the face of failure, effort, ¹ persistence, ¹ flexibility in problem solving)
Darr et al. (2008)	"Behavioral" Observable actions (indicated by participation in extracurricular activities, completion of homework)	"Affective"	"Cognitive" (students' willingness to take on learning challenges, self-reg, persistence in school life) ITEMS: I look for ways to improve my schoolwork; I stop trying when schoolwork is difficult
Appleton et al. (2006)	"Behavioral" Actual participation in school and learning (positive conduct, involvement in school life) ITEMS: I do as little work as possible; I take care that my homework is done properly "Academic" (time on task, credits earned toward graduation, homework completion) "Behavioral" ^{1a} (attendance, suspensions, classroom and extracurricular participation)	"Affective" Students' emotional responses (indicated by valuing and connectedness items) ITEMS: I look forward to school; Proud to be at school; School puts me in a good mood; Waste of time; Respected "Psychological" (feelings of identification and belonging, relevance of schoolwork to future endeavours, ² value of learning ²) ITEMS: What I am learning in my classes will be important in my future ²	"Cognitive" (self-regulation, strategising) ITEMS: I'll learn, but only if [someone] gives me a reward

¹Author placed in behavioural dimension, ²Author placed in cognitive dimension, ³Also called "Social"

	Behavioral	Affective	Cognitive
Libbey (2004)	"Student voice" (student participation in decision making) "Extracurricular activities"	"Belonging" (being a part of school) "Peer relations" (feelings of loneliness, having friends at school) "Teacher support" (feeling close to and valued by teachers)	
Luckner et al. (2006) First Grade	"Attendance/skipping/suspension" (3) "Behavior at School" (9)		
Luckner et al. (2006) Age 16	"Attendance/skipping/suspension" (12) "Behavior at School" (6) "Involvement with school activities" (1) "Involvement in sports" (1) "Involvement in activities" (5) "Homework" (2)		
Finn (1989)	"Participation" (respond to requirements) (initiative-taking)* (extracurricular activities) (decision making)	"Identification" (belonging) (valuing)	

* Author placed this under "participation". Later research placed it as "cognitive".

	Excluded	Not classified
	Not essential to learning; Does not imply behavioral/mental dynamism; Does not meet definition of three dimensions; Is an antecedent/outcome of engagement	Insufficiently defined to classify
Fredricks et al. (2004)	Affective reactions in the classroom (interest, boredom, happiness, anxiety)	
Jimerson et al. (2003)	Performance (grades, scores on achievement tests) (feelings about school, teachers and/or peers) Perceptions and beliefs related to self, school, others (self-efficacy, motivation, perceiving others care, expectations)	
Darr et al. (2008)	Students' emotional responses to teachers, peers, learning and school (indicated by items addressing liking/disliking, peer opinions, feeling safe) Approximately 16/33 items ITEMS: I feel safe at school; Most of my teachers like me; I like learning new things in school (personal goals, autonomy)	
Appleton et al. (2006)	Approximately 17/35 items ITEMS: The school rules are fair; The tests in my classes do a good job of measuring what I'm able to do; My family/guardian(s) are there for me when I need them	(relationships with teachers and peers)

	Excluded	Not classified
Libbey (2004)	"Discipline and Fairness" (belief in school rules) "Loves school" "Safety"	"Academic engagement" (extent to which students are motivated to learn and do well)
Luckner et al. (2006) First Grade	"Attitude about school" (3) "Work Skills" (6) "Mobility" (2) "Retention/grade in school" (4) "Intrinsic interest in learning/intrinsic motivation"	"Attitudes about teacher/teacher support" "Peer groups/friends"
Luckner et al. (2006) Age 16	"Drugs/alcohol" (7), "Performance in aca. subjects" (5) "Attitude about school" (23), "Kinds of classes" (3) "Work" (11) "Mobility" (7) "Retention/grade in school" (5) "Parent support" (4) "Thought of dropping out" (5)	"Connection with school" (involves perceptions of others, rather than feelings of connectedness) "Peer group"
Finn (1989)		

Appendix B: Project STAR academic results

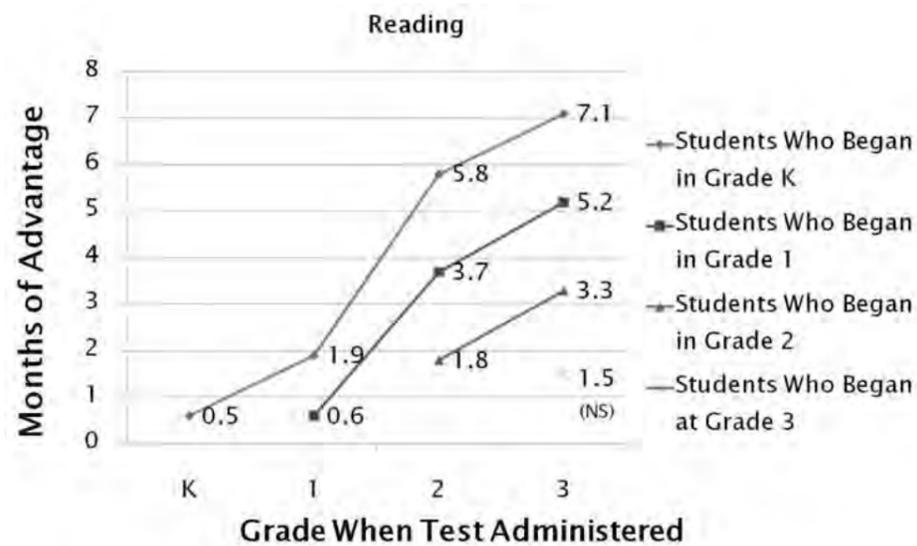
Table 1
Effect Sizes for Small Classes in Grades K-3

Grade/Contrast	SAT tests ^a			BSF tests ^a			SAT grade equivalents (months of schooling)		
	Total Reading	Word Study Skills	Total Mathematics	Reading	Mathematics		Total Reading	Word Study Skills	Total Mathematics
Kindergarten	0.21***	0.20**	0.19***	—	—		0.5	0.5	1.6
Grade 1: All	0.30***	0.29***	0.31***	0.31***	0.21***		1.3	0.9	2.8
1 year—regular	0.16**	0.20***	0.23***	0.23***	0.17**		0.6	0.6	2.0
2 years—regular	0.40***	0.37***	0.38***	0.38***	0.25***		1.9	1.3	3.4
Grade 2: All	0.26***	0.25***	0.25***	0.21***	0.18**		3.9	4.8	3.5
1 year—regular	0.12*	0.08	0.16*	0.13*	0.13*		1.8	1.5	2.2
2 years—regular	0.24***	0.23***	0.24***	0.20***	0.18***		3.7	4.4	3.3
3 years—regular	0.36***	0.38***	0.32**	0.28***	0.22***		5.8	7.8	4.6
Grade 3: All	0.22***	0.21***	0.15**	0.14**	0.11*		4.5	5.5	2.6
1 year—regular	0.08	0.09	0.08	0.08	0.07		1.5	2.4	1.3
2 years—regular	0.16**	0.16*	0.12*	0.11*	0.09		3.3	4.3	2.1
3 years—regular	0.24***	0.23***	0.17**	0.15**	0.12**		5.2	6.2	2.9
4 years—regular	0.33***	0.30***	0.21***	0.19***	0.15**		7.1	8.2	3.7

*p<.05 **p<.01 ***p<.001

Table adapted from Finn et al. (2001), Table 1 and Figure 1.

^aDifference between mean performance of small-class students and regular-class students, divided by the standard deviation of regular-class students.



Grade-Equivalent Advantage in Reading Achievement Scores for Students in Small Classes

From Biddle, B., & Berliner, D. (2002)

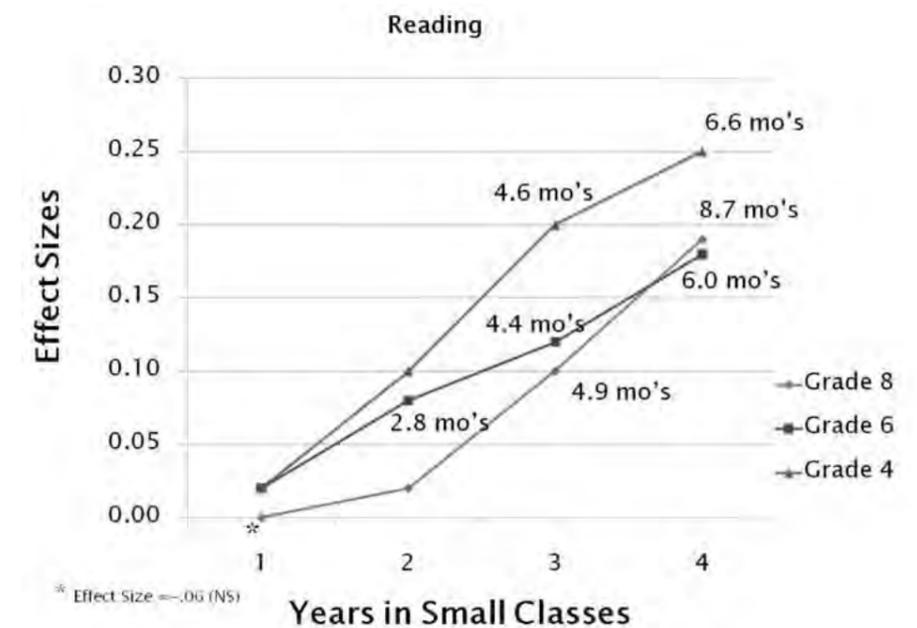
Table 2
Small-class Effect Sizes for Duration Analysis

Grade/Contrast	CTBS tests				BSF tests	
	Total Reading	Total Mathematics	Science	Social Science	Reading	Mathematics
Grade 4						
1 year—regular	0.04	0.17	0.05	0.1	0.03	0.01
2 years—regular	0.12	0.22**	0.11	0.15*	0.12	0.11
3 years—regular	0.20**	0.27***	0.17**	0.21***	0.22***	0.21***
4 years—regular	0.28***	0.32***	0.24***	0.26***	0.31***	0.31***
Grade 6						
1 year—regular	0.04	0.06	0	0.05	0.30*	0.13
2 years—regular	0.09*	0.09*	0.02	0.11**	0.36**	0.18
3 years—regular	0.14**	0.13**	0.04	0.17***	0.42***	0.23*
4 years—regular	0.19***	0.17**	0.05	0.24***	0.48***	0.27*
Grade 8						
1 year—regular	-0.06	-0.02	-0.02	-0.03	-0.03	-0.04
2 years—regular	0.03	0.06	0.04	0.05	0.06	0.04
3 years—regular	0.12**	0.14**	0.10*	0.14***	0.16***	0.11*
4 years—regular	0.22***	0.21***	0.17**	0.23***	0.25***	0.19***

*p<.05 **p<.01 ***p<.001

Table adapted from Finn et al. (2001), Figure 2.

Note: Difference between mean performance of small-class students and regular-class students, divided by the standard deviation of regular-class students.



* Effect Size = -.06 (NS)

From Finn et al. (2001)

3. THE RELEVANCE OF ENGAGEMENT FOR STUDENTS AT RISK OF EDUCATIONAL FAILURE: Findings and lessons from Check & Connect research

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At the time of writing this paper for the 2009 Student Engagement Conference sponsored by the New Zealand Council for Educational Research (NZCER), increasing school completion rates for all students continues to be a pressing issue:

- School dropout is considered by many to be a crisis—and has been referred to as the silent epidemic (Bridgeland, DiIulio, & Morison, 2006).
- Dropout rates are, in general, too high and, in particular, affect targeted student groups differentially (National Center for Education Statistics, 2005). Statistics indicate that thousands of American youth are school dropouts, with an estimated one in eight children in the United States never graduating from high school and, based on calculations per school day, one high school student dropping out every nine seconds (Children’s Defense Fund, 2002).
- Reducing the number of students who leave school without a diploma has been a national priority for the past two decades. One of the eight United States national education goals established in 1991, as part of GOALS 2000, aimed to increase the high school completion rate to 90 percent. This initiative has made slow progress, if any, particularly for those populations that have historically had lower graduation rates (Office of Elementary and Secondary Education, 1998).
- The basic requirements for active participation in our global society have increased dramatically over the past 40 years, as has the importance of postsecondary education for securing employment. There are fewer and fewer employment options for those who leave high school prematurely (Barton, 2005).

Attention to dropout prevention and successful graduation is a significant challenge for schools and educational communities working with students at risk for educational failure. Concern about graduation and dropout rates has significantly increased as a result of federal priorities and legislation such as the No Child Left Behind Act (NCLB). Under the Title I requirements of NCLB, schools will be identified as needing improvement if their overall performance does not increase on an annual basis, or if subgroups, including English Language Learners and youth with disabilities, do not make adequate yearly progress (AYP). Further, graduation rate is one indicator included in AYP calculations for high schools, with the rate defined in terms of the percentage of ninth grade students

who graduate with a standard diploma in four years. There is some indication that required high-stakes graduation tests have a differential negative effect on students of poor or ethnic minority backgrounds (Borg, Plumlee, & Stranahan, 2007) and may actually increase the dropout rates among the most vulnerable for early school departure (for example, those in poverty, English Language Learners, African-Americans, Latino youth) (McNeil, Coppola, Radigan, & Vasquez Heilig, 2008). Merely keeping students in school until graduation is not sufficient. In some cases, students graduate without being college ready or prepared to succeed in various postsecondary enrolment options (Johnson, Stodden, Emanuel, Luecking, & Mack, 2002). Efforts to promote high school completion must ensure that students have the academic and social skills necessary to be productive members of society.

The emphasis on high standards and educational accountability refocuses our attention on those students who are not “making it” in school and are at risk of dropping out. The need for schools and the broader educational community to create opportunities for success and to provide necessary supports for all youth to meet rigorous educational standards is complicated by requirements in many states that students must pass state high school exit exams to earn a standard diploma. Although the goal of these exams is to ensure that students have attained certain competencies prior to receiving a diploma, an unintended consequence may be an increase in the number of students who drop out of school (Johnson & Thurlow, 2004). Cost-benefit analyses strongly suggest that interventions designed to enhance school completion are well worth the investment; the high cost of limited tax revenues for unemployment or low-paying jobs and criminal activity can no longer be ignored (Levin & Belfield, 2007).

We also know that student engagement is considered the primary theoretical model for understanding dropout and is, quite frankly, the bottom line in interventions to promote school completion, defined as graduation from high school with sufficient academic and social skills to partake in postsecondary options and/or the world of work (Christenson, Reschly et al., 2008; Finn, 2006). Student engagement—variously described as commitment to and investment in learning; identification with and having a sense of belonging at school; participation in the school environment; and initiation of an activity to accomplish an outcome—is associated with desired academic, social and emotional learning outcomes (Klem & Connell, 2004). The importance of engagement at school and with learning is undisputed by educators, as is the conclusion that too many of our students may be characterised as *bored*, *unmotivated* and *uninvolved*. In other words, as *disengaged* from the academic and social aspects of school life. There is consensus that engagement is a multidimensional construct—one that requires an understanding of *psychological* connections within the academic environment (for example, positive adult-student and peer relationships) and *active student behavior* (for example, attendance,

participation, effort, prosocial behavior) (Appleton, Christenson, & Furlong, 2008; Artelt, Baumert, Julius-McElvany, & Peschar, 2001).

The interest in engagement spans national and international (Russell, Ainley, & Frydenberg, 2005) researchers as well as several inter-related disciplines (for example, public health [Blum & Libbey, 2004], and school psychology [Appleton, Christenson, Kim, & Reschly, 2006; O'Farrell, Morrison, & Furlong, 2006]). On a day-to-day practical level, however, engagement has been seen as an antidote for the pervasive conditions of student alienation and apathy. Teachers and other school personnel want information on how to connect and re-engage marginalised, uninterested students. Therefore, engagement has become a significant consideration for educators both as a means of understanding student behavior and performance and for addressing student needs—individually and in system-wide efforts.

In this paper, Check & Connect, an evidence-based model of student engagement, is described. An important premise of Check & Connect is the shift in focus from *preventing* negative outcomes, such as dropout, to *promoting* student competence, school success and school completion. The model is a service-delivery mechanism for meeting the needs of students placed at risk of educational failure; therefore, the referral concern for Check & Connect can be varied (for example, attendance, reading, behavioral or emotional difficulties). Finally, on the pyramid of intervention (as described in Christenson, Reschly et al., 2008) Check & Connect is an individualised intervention at the targeted (tier 2) or intensive (tier 3) level; however, we have speculated that engaging *all* students at school and with learning necessitates thinking of school-wide (tier 1 universal) interventions (Christenson, Reschly, et al., 2008).

A new orientation for intervention

A nontraditional conceptualisation of educational risk and the focus on engagement as a way to differentiate a dropout vs. a school completion goal undergird the Check & Connect philosophical and theoretical orientations. For example, students at risk for educational failure are typically described in terms of status variables (for example, income, ethnic/cultural background) rather than alterable variables (for example, attendance, academic performance, behavior). Pianta and Walsh (1996) caution professionals to conceptualise risk as a statistical relation between one index, for example, poor academic skills, and the likelihood of attaining a given outcome of interest, such as dropping out of school, given specified conditions or factors. Therefore, risk emphasises probabilistic relations between specific factors and identifiable outcomes; assigning risk status to an individual simply connotes that they share characteristics similar to a group in which there is known probability of attaining a certain outcome that is greater than the probability in the general population. They state that the notion of risk is “a useful construct with which to

think about and design ways to interrupt cycles of failure” (p. 20); however, they aptly note “research describes what is, given existing circumstances. It says little about what can be given different circumstances” (p. 30). Furthermore, students at risk for educational failure are those for whom there is little to no interface of systems or support for learning. According to Pianta and Walsh, “School failure is at its core caused by an inability or unwillingness to communicate—a relationship problem” (p. 24). Similarly, support defined by Garbarino (1982) emphasised connections that occur whenever individuals (for example, parents, teachers) or systems (schools, churches, families) have ongoing contact with each other that is organised around concern for the needs and progress of youth. For a significant number of students, however, discontinuity between home and school is a risk factor, particularly with respect to expectations, value placed on learning and communication patterns (Pianta & Walsh, 1996).

Second, the distinction between dropout prevention and school completion is relevant for intervention design for students who show signs of disengaging from learning and, as a result, are at risk over time of not completing high school. This distinction is critical to interrupting cycles of failure that begin early in a child's schooling (Barrington & Hendricks, 1989; Finn, 1989). Furthermore, the differentiation of these two concepts illustrates well the focus of both reducing risk *and* enhancing protective factors. Dropout prevention efforts, albeit discussed most often in the literature, are characterised by creating barriers to prevent the occurrence of risky behavior (for example, tardiness or absenteeism). For example, students may be transported to school to improve attendance and keep them in school; they also may be provided much assistance to complete school work on which they receive mostly Ds to earn credits for high school graduation. Such strategies, however, do not ensure that students will learn or have a successful school experience—one that leads to making a personal investment in one's schooling and lifelong learning needed for future success, especially for access to and success in postsecondary enrolment options. In contrast, the goal of school completion interventions is for students to graduate from high school with skill proficiency and a personal investment in learning.

When the goal of intervention shifts to promoting school completion, supportive strategies to help students acquire skills to meet both academic and social standards—the demands of the school environment—are used. Additionally, relationships with students are built for the express purpose of fostering and supporting their self-perceived competence and relatedness with peers and teachers. Scientific findings from resiliency research have demonstrated repeatedly the power of a caring adult in the life of youth who face adversities. Masten and Coatsworth (1998) suggest that a strong relationship with a caring adult, high expectations and standards and opportunities for meaningful participation contribute to youth

“beating the odds”. Furthermore, these ingredients of supportive communities can be supplied by formal programs, families, neighbours and significant adults, such as educators, coaches, clergy and youth workers. Described as “ordinary magic” (Masten, 2001), resilience refers to the natural consistency and continuity of everyday interactions between adults and youth that are critical for positive outcomes. To promote school completion, attention is given to *standards and support* (Lee & Smith, 1999), specifically providing support that helps students meet ongoing academic and behavioral standards specified by the school. The desired goal of interventions is to have students graduate with academic and social competence, and be academically resilient and consistent learners (Finn & Rock, 1997), rather than to have accumulated the required amount of seat time. Thus, school completion interventions aim to promote a “good” outcome, not simply prevent a “bad” outcome for students and society (Christenson, Sinclair, Lehr, & Godber, 2001).

A significant feature of the shift in focus from preventing dropout to promoting school completion lies in the description of youth; with a school-completion lens, youth are not referred to as “at risk” but as “placed at risk” because of contextual circumstances. The language of dropout tends to saddle the burden of change solely on the youth and to equate the problem with the student (Dorn, 1996). From this perspective, expectations may be lowered and interventions developed with the intent of “fixing deficiencies” within the child. The language of school completion, however, emphasises the importance of the person–environment fit to meet expectations, and the distribution of responsibility for change across the school, family and community as well as the student to provide necessary supports (Christenson & Anderson, 2002; Wentzel, 1998).

Purposes of this paper

The goals of this paper are to: (a) describe Check & Connect, a student engagement intervention model that began with funding from a federal grant in 1990; (b) articulate lessons learnt across 19 years of ongoing research, which includes seven applications of the intervention; (c) advance a theory of student engagement with school, addressing conceptual and methodological considerations of the construct; and d) provide concluding remarks related to the multidimensionality of engagement, the need for explicit programming for intrinsic motivation and continuity across settings and school years for students to make a personal investment in postsecondary education.

Description of Check & Connect

Check & Connect, a targeted or indicated intervention intended to complement universal intervention initiatives of schools and districts (see <http://ici.umn.edu/checkandconnect/>), is a comprehensive intervention designed to enhance students’ engagement at school and with learning—the “bottom line” of school completion programs (Christenson, et al., 2001; Christenson, Reschly et al., 2008). Check & Connect promotes student engagement through relationship building and systematic monitoring of students’ school performance—all done with persistence with marginalised, disengaged students. It consists of four important parts: (1) a mentor who works with students and families over an extended period of time (a minimum of two years including summer); (2) systematic monitoring of students’ school adjustment, behavior and educational progress; (3) timely and individualised intervention to re-establish and maintain students’ connection to school and learning and participation with constructive learning activities to enhance students’ social and academic competence; and 4) partnering (in other words, establishing a connection) with students’ families. The “check” component is designed to facilitate the continuous assessment of student levels of engagement with learning in three categories: attendance, academic performance and behavior. Students’ functional behavior in these areas is used to guide intervention. The “connect” component includes two levels of student-focused interventions: all students receive basic intervention, whereas individual students’ indicators of disengagement are used to supplement basic intervention and to guide the delivery of more intensive interventions. Partnering with families is based on a solution-oriented and family-centered approach (McWilliam, Tocci, & Harbin, 1998) and focuses on enhancing home–school communication and home support for learning.

Elements of intervention

Seven core intervention elements, presented in Table 1, serve to guide the actions of mentors and evaluate treatment integrity (Christenson, Thurlow et al., 2008).

Relationship building. A central tenant of the model—the power of relationships—is supported by a strong correlation between the presence of a caring adult and positive school and postschool outcomes for youth placed at high risk for failure (Masten & Reed, 2002). It is important to note that some students on a mentor’s caseload may already be connected with an adult in the school building—a special-education case manager, custodian or coach. The mentor’s role is not to replace established relationships, but to work with that adult in the process of supporting the student’s engagement at school and with learning. Trust is enhanced by the program’s long-term commitment to a student, preferably at a minimum of two years.

TABLE 1 CORE ELEMENTS OF THE CHECK & CONNECT MODEL OF STUDENT ENGAGEMENT

Elements	Description
Relationships	Mutual trust and open communication, nurtured through a long-term commitment that is focused on students' educational success.
Problem solving	Cognitive-behavioral approach to promote the acquisition of skills to resolve conflict constructively, encourage the search for solutions rather than a source of blame and foster productive coping skills.
Individualised, data-based intervention	Support that is tailored to individual student needs, based on level of engagement with school, associated influences of home and school and the leveraging of local resources.
Affiliation with school and learning	Student access to and active participation in school-related activities and events.
Persistence plus	A persistent source of academic motivation, a continuity of familiarity with the youth and family and a consistency in the message that "education is important for your future".
A focus on alterable indicators of disengagement	Systematic check of warning signs of withdrawal (attendance, academic performance, behavior) that are readily available to school personnel and that can be altered through intervention.
Following students and families	Following highly mobile youth and families from school to school and program to program.

Problem solving. Mentors model and coach the use of a problem-solving approach, intended to promote the acquisition of conflict-resolution skills, the use of productive coping skills and successful habits of learning (for example, challenging oneself, self-regulation, persistence and effort), and the capacity to seek solutions rather than a source of blame. A goal of problem solving is capacity building and minimising the likelihood of creating student and family dependency on the mentor. For problem solving, students are guided through real and/or hypothetical problems using a five-step strategy based on the work of August, Anderson and Bloomquist (1992): (1) "Stop. Think about the problem." (2) "What are the choices?" (3) "Choose one." (4) "Do it." and (5) "How did it work?" Repetitive use of problem solving with students to address the demands of the school environment and the issues facing individual students reinforces the sense of caring for the student by the mentor (Anderson, Christenson, Sinclair, & Lehr, 2004).

Individualised, data-based intervention. The premise of the "connect component" of the model is an individualised approach, one that involves direct teaching, guidance and support delivered in a timely manner. Two levels of student-focused interventions maximise the use of finite resources and the responsiveness of the mentor: basic intervention, which is the same for and delivered to all students; and intensive interventions, which supplement basic interventions and address the

specific indicator of student disengagement noted during monitoring (in other words, the check component). The critical issue for student engagement is the degree to which there is a person-environment fit that allows the student to handle the demands of schooling.

Basic intervention is a deliberate conversation with each student—at least monthly for secondary students and weekly for elementary students. This conversation institutionalises the continual exchange of information about students' progress in school, the relationship between school completion and educational progress and the "check" indicators of engagement, the importance of staying in school and review of problem-solving steps used to resolve conflict and cope with life's challenges. Students showing high-risk behaviors (in other words, not meeting the predetermined criteria for successful performance—see Table 2 for example criteria) receive additional intensive, individualised interventions such as academic support, direct teaching of coping strategies, use of increased goal-setting strategies and family-school problem-solving supportive meetings. As previously noted, the delivery of intensive interventions is based on indicators of the student's disengagement evident in the check data. Individual needs of the student, family desires and circumstances and availability of resources at the school and within the community dictate the specific intervention strategy used. A unique feature of Check & Connect is that interventions are delivered by someone—a mentor—who is in a position to commit resources to a student and their parents for an extended period of time (across school years).

Intensive interventions, which supplement basic interventions, generally fall in the broad categories of problem solving (for example, increase number and frequency of problem-solving sessions, hold parent problem-solving meetings, use individualised behavioral contracts and work with administrators to provide alternatives for out-of-school suspensions); academic support (for example, tutoring via the mentor or others, use of individualised academic contract); and recreation/community service (for example, access to afterschool activities, summer employment, service learning). Specific examples of intensive interventions, some categorised according to McPartland's (1994) typology for engaging at-risk students, are presented in Table 3.

Interventions are not prescriptive, meaning that there is no cookbook or one-to-one correspondence between student performance and the intervention coordinated by the mentor. Rather, interventions are individualised based on student need and indicators of disengagement and risk while considering the elements of the model and resources available to support the student's connection with school. For example, if skipping classes is the primary area in which a student demonstrates increased risk, a mentor may determine which classes the student skips, looking for a pattern and antecedents or events that perpetuate the pattern, in order to design and implement the best intervention and plan for the student. Alternately, if a pattern of suspensions (in-school and out-of-school) emerges as the area of increased risk,

TABLE 2 DEFINITIONS OF INDICATORS AND CRITERIA FOR HIGH RISK

Indicator of risk	Definition	High risk
Tardiness	Arriving late either for school or for class.	Five or more incidents per month or ≥15 percent incidents per month
Skipping	Missing selected class periods within a day without an excused reason.	Three or more incidents per month or ≥15 percent incidents per month (e.g., # classes skipped/# classes, times, days enrolled)
Absenteeism	Full day's absence for excused or unexcused reasons. Days when the student is absent for out-of-school suspensions should be included here.	Three or more incidents per month or ≥15 percent days per month (e.g., # days absent/# days enrolled)
Behavior referrals	Being sent to administrative or resource staff for inappropriate behavior.	Four or more referrals per month
Detention	A consequence for inappropriate behavior for which the student "owes" time either before or after school. (The student is often required to perform some custodial function on the school grounds, to complete schoolwork or at least to sit quietly.)	Four or more incidents per month
In-school suspension	A consequence for inappropriate behavior for which the student spends the school day(s) in a separate area or classroom of the school building. (The student is typically supervised and required to participate in a structured activity, such as completing homework, participating in school maintenance projects or sitting quietly.)	Two or more incidents per month
Out-of-school suspension	A consequence for inappropriate behavior for which the student spends a defined number of school days at home. (The student is not allowed on school property for the suspension period.)	Two or more days suspended per month
Failing classes	Receiving a grade of D or F in any class.	Two or more Ds per grading period and/or one or more F
Behind in credits	Earning too few credits to be on track to graduate in four years.	Earning less than 80 percent of the possible credits per grading period

TABLE 3 SELECTED EXAMPLES OF CHECK & CONNECT INTENSIVE INTERVENTIONS

Mentors enhance students' opportunities for success in schoolwork	<ul style="list-style-type: none"> • Set clear goals with students and identify ways to succeed. • Talk with teachers to gather and share information about student progress. • Talk with students about their academic progress and ask whether they need assistance. • Access services for students, such as arranging for tutoring services or providing homework help directly. • Assist with a homework schedule or develop a plan for work completion. • Design a time-management system in conjunction with the student. • Teach organisational skills (e.g., tracking assignments). • Discuss and problem solve about taking responsibility for getting to class on time. • Help students set personal goals for class work that are ambitious and realistic.
Mentors communicate the relevance of education to future endeavours	<ul style="list-style-type: none"> • Help students set future personal goals by discussing where they would like to be two years after their expected high school graduation date. • Encourage student to identify necessary steps to pursue personal goals and attain career aspirations. • Monitor ongoing student performance and have problem-solving discussions that focus on choosing goals based on the student's interests, skills and limits; adjust goal and develop plan of action as appropriate. • Help students see the link between attending class, grades and learning. • Discuss wages as a function of schooling, linking discussions to budget planning.
Mentors create a caring and supportive environment	<ul style="list-style-type: none"> • Contact parents by phone or make home visits to share information and jointly develop a plan to re-engage students in school. • Write contracts with students, teachers and parents to develop alternatives to disciplinary actions that might lead to withdrawal. • Teach students behavior that is expected through role playing, coaching and modelling positive skills. • Help students and their families access community services and agencies. • Identify ways to connect students to the life of the school and provide opportunities for students to discover personal interests. • Teach how to behave appropriately in class or how to use anger-management skills. • Teach students how to make friends and maintain friendships. • Role play how to respond to teasing and how to receive or provide constructive criticism. • Build student skills on how to ask for help. • Assist students in learning to accept limits.
Mentors help students with personal problems	<ul style="list-style-type: none"> • Enhance their decision-making skills through the use of structured problem solving. • Learn how to constructively navigate schools, along with their families, and help families learn strategies for reducing students' risk of dropping out. • Cope with family changes (e.g., moves, divorce, new boyfriends/girlfriends). • Problem solve around substance-abuse issues. • Learn how to talk with parents to get support.

the mentor may talk with the student about the reason for suspension and problem solve regarding what could be done differently next time; or, if the student has an increase in failing classes or is behind in credits, the mentor may determine whether families need suggestions, resources or support for helping with learning at home and, if so, provide it.

Partnering with families is essential. A family-centered approach (McWilliam et al., 1998) is used to guide parent “connect” interventions. The mentor’s role includes engaging parents or caregivers in the student’s schooling and learning, facilitating contacts with other resources as requested by the family or minimising barriers identified by the family. In general, the two focuses for parent connections are participating at school (conferences, school events, building positive relationships with teachers, using problem-solving strategies) and making education a priority in the home (increasing out-of-school learning time, providing information about promoting successful learners, setting goals, enhancing parent–youth communication, increasing motivational support for learning, navigating school rules).

Partnering with families is strengthened by keeping the focus of family–school connections on improving a student’s educational performance. Mentors serve as a liaison between home and school, enhancing communication with families by providing information about school policies and practices and maintaining a positive, solution-oriented and problem-solving approach. Varied personalised home–school communication strategies (see Table 4) have been used, including calling parents, writing accessible notes, making home visits, inquiring about and responding to parental needs and desires, inviting parents to be partners, attending conferences and working with school staff and community supports to offer workshops that families identify as being interesting or important.

Home visits are an integral element of outreach efforts to engage students in learning. The ultimate goal of the home visit, which is just one of several ways to communicate with students and their parents or caregivers, is to establish a dialogue that is sometimes not possible over the telephone, through email, homework hotlines, letters and memos. Persistent and respectful communication is dependent upon using all means of contact, which often fall outside of the defined work day—in the evenings or over the weekend. This approach shifts the majority of outreach efforts from attempts at contact to actual interactions and exchange of information. Furthermore, the actual parent “connect” strategies have varied on our different applications of Check & Connect; in some projects we have employed parent aides in the classroom, encouraged parents to serve as participants in parent–teacher action research or helped parents earn a General Educational Development (GED),¹⁷ while in others we have negotiated with parents how they want to be involved in the monitoring system. In all cases, mentors are responsive to parent

¹⁷ The process of earning the equivalent of a high school diploma.

needs and strive to provide parents with options for engagement, and mentors work to strengthen classroom and building-level policies and practices that welcome and encourage family engagement, especially for disengaged, marginalised parents. Mentors invite parents to partner, inform parents about their children’s progress, are informed by parents about events and suggestions for intervention and include parents in decisions for their children’s schooling. Mentors are vigilant about what needs to occur to strengthen a co-operative family–school relationship.

TABLE 4 HOME–SCHOOL COMMUNICATION STRATEGIES

- Call parents on a regular basis, not just when there are problems.
- Write notes to parents to let them know what is going on in school (make language simple and in the family’s first language).
- Make home visits regarding educational progress.
- Make home visits at least once a year for a positive reason.
- Find out whether parents need suggestions, resources or support to help with student at home.
- Directly invite parents to be partners.
- Attend parent–teacher conferences with parents.
- Work with school staff and community supports to offer parent-education classes or workshops that families identify as being interesting or important.

Affiliation with school and learning. Mentors facilitate student access to and active participation in school-related activities and events (before, during and after school) as well as constructive learning activities during the summer. Research has shown that student participation in extracurricular activities is associated with reduced dropout rates (Feldman & Matjasko, 2005; Gilman, Meyers, & Perez, 2004; Rumberger, 1995). This association can be attributed to an increase in structured, supervised out-of-school time as well as an alternative opportunity for youth to develop a sense of belonging and shared values with school.

Helping youth gain access has been the most common barrier to surmount across Check & Connect sites. Mentors’ efforts have included informing students about options, reviewing their schedule for potential conflicts, addressing transportation challenges, waiving enrolment fees, filling out registration forms and obtaining parent permission, walking students to the first meeting and checking with program staff and students for feedback on their experiences.

Persistence plus. To persist in the face of challenges, marginalised youth and their families need a sense of optimism and hopefulness for their children’s learning and school performance (Floyd, 1997). To accomplish this task, mentors apply persistence-plus concepts: persistence means mentors are not going to give up on the students’ ability to learn or allow the students to be distracted from

drop out of school (Christenson et al., 2001; Rumberger & Larson, 1998). In our research, up to a third of targeted students attended multiple schools during a single year within a given service area (Sinclair, Christenson, Lehr, & Anderson, 2003). We surmised that lack of stability seriously undermined the potential for youth to develop a sense of belonging and school connectedness. Even if schools offered a continuum of services to address the needs of disenfranchised students, the potential benefit could be lost if youth do not remain in the building long enough or trust someone enough to participate.

Theoretical underpinnings of Check & Connect

Check & Connect was informed to a great extent by an analysis of critical engagement variables, systems theory for home–school–community collaboration, and the literature on resiliency, cognitive-behavioral interventions and motivation to increase the holding power of schools (Reschly & Christenson, 2006a, 2006b). Coleman’s (1987) notion of social capital (in other words, referring to the amount of adult–student interaction focused on students’ academic and personal matters as well as the support networks available to the family) is crucial to the mentor’s role, as are McPartland’s (1994) components to increase the holding power of schools (in other words, provide opportunities for success in schoolwork, communicate the relevance of education to future endeavours, create a caring and supportive environment and help students with personal problems; see Table 3). Mentors strive to support students’ educational progress in the context of the family and the school and to increase social capital where it does not naturally occur by brokering existing resources. The model is designed to both reduce risks and enhance protective factors in students’ lives. In Check & Connect, we focus on building protective factors by promoting resiliency through a mentoring-type approach, competency through a cognitive-behavioral approach and home–school collaboration through family-centered practices (Dubois, Holloway, Valentine, & Cooper, 2002; McWilliam et al., 1998).

Finally, the theoretical underpinnings are illustrated by four guiding principles: (1) the seminal nature of early, sustained intervention; (2) the differentiation of status and alterable variables; (3) the multidimensional nature of student engagement; and (4) the school and family as critical influences for student outcomes. Early and sustained intervention is integral to the success of students because the decision to leave school without graduating is not an instantaneous one, but rather a process that occurs over many years. Research suggests that most students who drop out are expressing an extreme form of disengagement from school and learning that is preceded by indicators of withdrawal (for example, poor attendance) and unsuccessful school experiences (for example, academic or behavioral difficulties) (Finn, 1989; Rumberger, 1995). The overt indicators of disengagement are generally

accompanied by feelings of alienation, a poor sense of belonging and a general dislike for school. Disengagement from school often begins early in a student’s educational career. Retrospective studies show it is possible to identify students at risk for dropping out as early as the second or third grade using attendance data, teacher comments about behavior and achievement scores (Barrington & Hendricks, 1989). Others found that after accounting for attendance, achievement and behavior, attachment to school in first grade was predictive of later dropout (Alexander, Entwisle, & Horsey, 1997).

The helpfulness of the distinction between status and alterable predictors, the second guiding principle, lies within a suggested course of action for educators—to focus efforts on those predictors of dropout amenable to change (Christenson et al., 2001). Traditional research in the area of dropout has focused on status variables such as income and race. As national concerns about dropout rates heightened, Finn (1993) differentiated variables associated with students’ exit status, suggesting two main groups: status predictor variables that educators have little ability to change, such as socioeconomic status of the student body; and behavioral or alterable predictor variables that are more readily influenced by educators, families and students, such as out-of-school suspensions and course failures. Many alterable variables—such as attendance, academic performance, problem behavior and grade retention—are powerful, consistent predictors of students’ early withdrawal from school.

Much of what is currently known and theorised about student engagement developed out of the literature on dropout prevention and intervention. In the seminal model proposed by Finn (1989), school completion and dropout are described in terms of students’ engagement with school. His definition of engagement consisted of involvement/participation, belonging or connectedness and commitment or valuing components. Defined as a behavioral state by Finn, *participation* is characterised by involvement in school activities and includes responding to basic requirements such as attending school, arriving to class on time, paying attention to teachers and completing assignments; engaging in informal class-related activities that are not required; joining extracurricular clubs; or participating in school governance.

In contrast, he defined *identification* with school, the psychological aspect of engagement, as a student’s internalised conception of belonging to school and valuing success in school-relevant goals. Applied to school completion and dropout, the process of engagement works as follows: participation leads to successful performance, promoting feelings of identification or belonging at school; which in turn promote ongoing participation. In contrast, dropout is viewed as a gradual process of disengagement from the schooling that includes impaired or reduced participation, less successful outcomes and reduced identification and belonging that culminates in the student’s early departure from school. Finn and Rock (1997)

have shown that participation differentiates at-risk secondary students who are academically successful and their less successful counterparts. School completers with academic success (resilient students) engaged significantly more often in a distinct set of school behaviors related directly and clearly to learning than school completers with poor academic performance (nonresilient completers) or dropouts. School behaviors included going to school and class on time, being prepared for and participating in class assignments, expending necessary effort to complete class assignments and homework and avoiding being disruptive in class. Consistent with these findings, Floyd (1997) stressed the importance of supportive home and teaching environments, the development of perseverance (willingness to work hard in the face of barriers) and optimism (belief that academic efforts would pay off) for economically disadvantaged African-American secondary school students.

The third guiding principle is that student engagement is a multidimensional construct that requires psychological connections within the academic environment (for example, positive adult–student and peer relationships) and active student behavior (for example, attendance, participation, effort, prosocial behavior). Interventions to promote school completion address engagement comprehensively, not only focusing on academic or behavioral skill deficits, but also the social, interpersonal aspects of schooling, particularly the need for connections to other adults and peers. In their review of 21 dropout prevention programs, Dynarski and Gleason (2002) reinforced the recommendation to provide extra personal support for students and to create smaller and more personal settings in order to enhance relationships with students. In particular, they called for schools to reduce dropout rates by adopting a systemic approach that understands the nature of academic, social and personal problems affecting students and tailoring services to address these problems. Understanding the student perspective and creating a person–environment fit is instrumental to the effectiveness of these programs.

Based on three psychological needs of students—autonomy, belonging and competence (Osterman, 2000)—the conceptual framework for engagement in Check & Connect is a multidimensional construct that involves multiple indicators within four subtypes: academic, behavioral, cognitive and affective (see Table 5). This framework was proposed by Christenson (2002) upon the completion of two Check & Connect studies with students with disabilities (Sinclair, Christenson, Evelo, & Hurley, 1998; Sinclair et al., 2005). Indicators of academic and behavioral engagement are observable, whereas indicators of cognitive and affective engagement are internal, requiring student perspective as the source of information. In his theory of development—truly “development-in-context”—Bronfenbrenner (1992) underscored the seminal nature of understanding and attending to the perception and meaning of the individual with respect to personal interactions and events.

TABLE 5 CONCEPTUAL FRAMEWORK FOR ENGAGEMENT

Observable indicators	Exemplified by:
Academic engagement	time on task, academic engaged time and accrual of credits
Behavioral engagement	attendance, fewer suspensions and classroom participation
Internal indicators	Exemplified by:
Cognitive engagement	perceived relevance of schoolwork, self-regulation toward goals, meta-cognition
Affective engagement	identification with school, belonging and perceived connection at school with teachers and peers

The fourth guiding principle of Check & Connect is that school and family policies and practices are critical to success. Context matters. In Check & Connect, engagement is not conceptualised as an attribute of the student, but rather as an alterable state of being that is highly influenced by the capacity of school, family and peers to provide consistent support for learning. Figure 2 portrays our conceptualisation of the contextual variables, alterable indicators of engagement and desired learning outcomes aligned toward the goal of skill sufficiency for postsecondary enrolment and success.

Based on a review of the literature, Christenson and Havy (2004) drew three conclusions about the role of context for student engagement. First, school policies and practices, such as tracking, retention, suspension and rigid rule structures, negatively affect student engagement, whereas other practices and policies, such as smaller schools, opportunity for creativity and student choice, and highlighting the relevance of curricula to personal life goals enhance levels of engagement. Schools with a committed faculty, positive teacher–student relationships, an orderly environment and a school emphasis on academic pursuits were associated with lower rates of absenteeism and dropping out (Bryk & Thum, 1989).

Second, relationships and networks between students play a key role in belonging. Having friends at school supports involvement in school-related activities (Berndt & Keefe, 1995). Goodenow (1993a) found that middle school students who were more socially integrated had a significantly greater sense of belonging than those with less peer acceptance, and those with support from friends found the transition to and during ninth grade to be smoother (Isakson & Jarvis, 1999). The influence of peers for belonging may be particularly important during adolescence. Peers highly influence students’ day-to-day behavior in school, such as time spent on homework and enjoyment of school (Steinberg, Dornbusch, & Brown, 1992). There is evidence that students who eventually drop out associate with like-minded students, those

who do not feel part of the social world of school or value educational success (Goodenow & Grady, 1993; Hymel, Comfort, Schonert-Reichl, & McDougall, 1996).

FIGURE 2 FRAMEWORK FOR THE ENGAGEMENT PROCESS



Third, family support and involvement are associated with student engagement. Statistically significant home correlates of school completion include the presence of study aids, high educational expectations and aspirations and parental monitoring and participation (Rumberger, 1995). Students who perceived greater parental support during and after the transition to middle school had a significantly higher sense of belonging at school (Isakson & Jarvis, 1999). Also, engagement is a positive, moderate correlate of motivational support for learning, specifically structuring the home environment and emphasising children's efforts to succeed (Bempechat, Graham, & Jimenez, 1999).

How Check & Connects works

The key to Check & Connect is the mentor (or *monitor*, as this person has been referred to in some of our implementation projects). Regardless of the label used, the mentor is a cross between a monitor, advocate and service co-ordinator (Christenson et al., 1997) and serves as a co-ordinator, intervener and resource for teachers, the student's family and the student. The primary goal of the mentor is to "check and connect", working closely with individual students, their families and teachers to help the student stay connected to school and to keep the student from slipping through the cracks. Mentors create positive relationships with youth and between family and school; promote regular school participation in academic, social and emotional learning; and keep school progress a salient issue for students, parents and teachers. They are often the main person in a student's life who keeps education salient, provides social support for families (for example, navigates school system and requirements; assists with communication) and serves as an anchor point for students, families and teachers. Importantly, Check & Connect adopts a "no blame" approach to working with youth and families, recognising that all parties have strengths that can be amplified to ensure success.

Relationships between students and mentors are built over time and are based on trust and familiarity. Mentors make regular, systematic formal connections with students that involve "check" components (for example, checking grades and attendance) and "connect" components (for example, developing individualised intervention strategies; assisting students and families in navigating the secondary school system) and informal connections that involve showing interest in the student's broader life—and they do these persistently. The use of the aforementioned five-step problem-solving process enables the mentor to be supportive and nonjudgmental as the student learns new behaviors. Mentors believe in students' ability to be personally responsible for their learning and school adjustment regardless of their living arrangements. They continually work with students to acquire the skills and confidence to handle likes/dislikes for school by using the five-step problem-solving strategy and goal setting, as well as acknowledging each improvement and

step toward success (see Table 6 for an example). They explicitly reinforce their expectation for students to be self-motivated learners—one way or another. While past efforts and mishaps are not overlooked, the tendency to blame and shame students or their families is redirected toward generating a new action plan and moving forward. The centrality of relationships for students' learning is evident in the literature; however, the translation of theory and research into practice has been sparse. Check & Connect is one exception.

TABLE 6 USING PROBLEM SOLVING TO SET PERSONAL GOALS

- The mentor and student identify the standards and expectations for the student's success in the target course(s).
- They obtain teacher input about what the student must do to be successful in the course. It is important to consider task completion, quality of work and classroom behaviors.
- The mentor provides ongoing feedback about student performance and uses teacher input to create scenarios relevant for problem-solving practice (for example, use of the five-step plan) with the student on a regular, consistent basis.
- It is especially important to meet with the student to set personal goals for the classes where enhanced academic or behavioral improvement is desired.

Eight steps for school professionals to begin implementing Check & Connect are: (1) determine indicators of disengagement—what will be monitored or checked systematically; (2) identify who will be served; (3) select mentors; (4) determine the need for basic and/or intensive intervention; (5) organise existing resources for intervention; (6) begin systematic monitoring and provide timely interventions; (7) meet regularly to ensure treatment integrity; and (8) evaluate program effects. For more detailed information, the reader is referred to the intervention manual, *Check & Connect: A Comprehensive Student Engagement Intervention: Manual and Intervention Guide* (Christenson, Thurlow, et al., 2008).

In sum, Check & Connect comprises systematic monitoring by a mentor of the indicators of behavioral and academic engagement, timely intervention co-ordinated with teachers and parents, and relationship building by the mentor, who provides the persistent support and an avenue for problem solving with the student. These aspects allow the mentor to design, in collaboration with others, an individualised approach to service delivery for students at risk of educational failure or early school withdrawal. Many elements of Check & Connect are highly consistent with the conditions of engagement delineated by the National Research Council and the Institute of Medicine (2004): opportunities for adolescents to experience supportive adult relationships, to feel a sense of belonging, to develop positive social values and norms and to develop skills and a sense of personal self-efficacy; personalised instruction; ongoing assessment of student skills; high expectations paired with

supports; meaningful connection with students' culture and lives outside of school; and co-ordination with community resources. Furthermore, Check & Connect is congruent with the New Zealand curriculum standards that aim to develop confident, connected, competent and active learners. It should be noted that, despite the careful planning for implementation and the sound theoretical basis of Check & Connect, there have been challenges, many of which have not been overcome. Family mobility, alienating school policies and practices, fragmented/strained home-school communication, mismatch between family and school goals and limited social capital or parent and teacher "connectedness" have characterised challenges for Check & Connect mentors.

Empirical base of Check & Connect

Our research demonstrates that the impact of Check & Connect is very promising. Four main studies used a longitudinal design; however, only two studies involved random assignment of students. Both of these studies examined the effects of Check & Connect on academic and behavioral indicators of engagement for students with disabilities (including emotional/behavioral disabilities) in urban schools (Sinclair et al., 1998; Sinclair et al., 2005). The other two studies involved pre/post measurement of students with and without disabilities in elementary (Lehr et al., 2004) and secondary (Sinclair & Kaibel, 2002) schools in suburban settings. The experimental studies of Check & Connect (Sinclair et al., 1998; Sinclair et al., 2005) have recently met the evidence standards of the United States Department of Education's What Works Clearinghouse (What Works Clearinghouse, 2006; www.whatworks.ed.gov). Overall, the What Works Clearinghouse found Check & Connect to have positive effects on staying in school and potentially positive effects on progressing in school.

Irrespective of educational status (general or special), students with whom we have intervened have all shown signs of student disengagement. Across the various applications of Check & Connect, referral criteria have varied. Examples of the target populations in Check & Connect studies appear in Table 7. Our Check & Connect students could be described as having low academic performance, erratic attendance, behavioral referrals, suspensions and poor task completion and social skills. Their families were mostly comprised of a single mother with a low sense of self-efficacy who was on welfare or working two to three low-paying jobs; they had several siblings and experienced much mobility that also included many school changes within the district. Family-school interaction was generally limited; on average, 30 percent of families had no phones, schools did not have current phone numbers and contact times were constrained to required Individualized Education Program (IEP) or suspension re-entry meetings or an occasional parent-teacher conference.

TABLE 7 CHECK & CONNECT STUDENTS ACROSS STUDIES

- Students with credit deficiencies, along with failing to meet proficiency on state standardised tests, absenteeism or behavior challenges—beginning grade 9.
- Students who were present in school less than 85 percent of the school year, along with credit deficiencies, failing to meet proficiency on state standardised tests, or behavior challenges—beginning grade 9.
- Students who were aggressive and struggling with reading, grades 1–3.
- Students targeted for educational neglect and related attendance issues, grades K–6.
- Students actively working with a probation officer for chronic truancy, ages 11–16.
- Students with emotional and behavioral disabilities—grades 9–12.
- Students with learning and behavioral disabilities—grades 7–9.

We have demonstrated that Check & Connect improves students' academic and behavioral engagement

Two experimental studies with secondary students with disabilities revealed that Check & Connect youth were more likely to be enrolled in school, have persisted in school (in other words, never interrupted) and be on track to graduate within five years. In one study, 94 students were randomly assigned to treatment and control groups upon entrance to ninth grade (Sinclair et al., 1998). These students had received two years of Check & Connect services during middle school. By the end of ninth grade, treatment-group students were significantly more likely than control-group students to be enrolled in school (91 percent vs. 70 percent), to have persisted in school with no periods of 15-day absences (85 percent vs. 64 percent) and to be on track to graduate within five years (68 percent vs. 29 percent). In another study, ninth grade students with disabilities (primarily emotional/behavioral disabilities) were randomly assigned to treatment and control groups and followed for five years (Sinclair et al., 2005). The treatment students ($n = 85$) were more likely to demonstrate persistent attendance and less likely to remain out of school all year compared to students in the control ($n = 79$) group. Check & Connect treatment students were less likely to drop out of school than students in the control group at the end of four years (39 percent vs. 58 percent) and at the end of five years for a subsample of students (42 percent vs. 94 percent). At the end of four years, students in the treatment group were more likely to be enrolled in an educational program (alternative, GED) or to have completed high school than students in the control group (61 percent vs. 43 percent). It is important to note in this study that high school graduation was not defined as graduating in four years from a traditional high school. The effect size for treatment and control student differences for a five-year graduation rate was significant and moderate ($ES = .53$). The treatment students were more likely than the control group to access relevant educational services (for example, alternative programs) and to be involved in their IEP transition planning.

Two other longitudinal studies—both used a pre/post measurement design—yielded similar, positive results: reduced rates of truancy, out-of-school suspensions and course failures and increased rates of attendance, replicating the findings of the studies in which students were randomly assigned to treatment and control groups. Both studies included students with and without disabilities who attended schools in suburban settings. In the first longitudinal study, 147 elementary students received Check & Connect for two years (Lehr et al., 2004). These students were absent or tardy to school 12 percent or more of the time based on enrolment during the previous school year or months prior to referral. At the end of two years, about 40 percent of Check & Connect students were engaged and regularly attending school (the equivalent of 0–1 day absent per month). This reflected an improvement of 135 percent over baseline behavior. Incidence of tardiness to school declined. About 86 percent of Check & Connect students were engaged and arriving to school on time (the equivalent of 0–1 day tardy per month). This reflected an improvement of 104 percent over baseline behavior. About 63 percent of the Check & Connect students involved with the program for at least two years improved their overall attendance. The average attendance rate for students who received Check & Connect for at least two years improved from 87 percent to 89 percent.

Relationships are a key element of the Check & Connect intervention model. The effect of the mentor–student relationship on student engagement was examined for 80 elementary students who received Check & Connect for at least 20 months from the Lehr et al. study (Anderson et al., 2004). In general, results demonstrated that closer, higher quality relationships were associated with improved engagement in school. Specifically, the mentor perspective of the relationship predicted teacher-rated academic engagement, while the student perspective of the relationship approached significance as a predictor of teacher-rated academic engagement. Neither the mentor nor the student perspective of the relationship was a significant predictor of teacher-rated social engagement.

In the second longitudinal study, 363 chronically truant students showed improved attendance and academic performance as well as a reduction in the number of skipped classes and out-of-school suspensions (Sinclair & Kaibel, 2002). About 65 percent of Check & Connect students were successfully engaged (defined as less than 0–1 days absent per month), with no incidences of class failures. Outcomes for students were more effective for those students if they were referred before their absences exceeded 25 percent of the school year.

Our findings suggest that Check & Connect is working to actively engage students and families at school and with learning

Compared with baseline behavior prior to referral to Check & Connect, 87 percent of parents of students in grades K–8 were rated by teachers as more supportive of their children's education (defined as parental follow-through, communication

with school and homework completion) (Lehr et al., 2004). Teachers' perceptions of students' behavior were positive—90 percent indicated students in grades K–8 were showing improvement in homework completion, interest in school and attendance. Teachers' observations of students who received two years of sustained intervention were very positive. Teachers rated these students significantly more likely to be eager to learn, follow school rules, think ahead about consequences, get along with others, show respect for others' rights and feelings and persist when challenged by difficult tasks—all critical competencies and habits of learning success. Nearly two-thirds of the students showed improved attendance, and 15 percent had stabilised their level of engagement. One-third of the students were receiving all passing marks.

In sum, Check & Connect, a targeted, evidence-based intervention, has been implemented in urban and suburban communities; in elementary, middle and high school settings; and with youth with and without disabilities. Analysis of program impact data consistently yields positive results: reduced rates of truancy, tardiness, suspensions, course failures and dropout, and increased rates of attendance. In particular, treatment-control differences in critical student engagement variables such as participation (attendance), behavior (social skills ratings), academics (credits earned) and, ultimately, graduation rates have been demonstrated for middle and high school students with disabilities (Sinclair et al., 1998; Sinclair et al., 2005).

Lessons learnt about engaging students placed at educational risk

With the first federal grant (1990–5), we developed, evaluated and refined Check & Connect with a sample of students with disabilities in grades 6–8. Subsequently, there have been six other intervention studies that involve students with and without disabilities in grades K–12. All students showed early signs of disengagement (in other words, functional risk), not only demographic risk (status characteristics that do predict poor outcomes). However, it is necessary to note that in our samples across the studies, students also had status variables (for example, race/ethnicity, socioeconomic status, disability status or having a sibling or parent who dropped out of school) that placed them at risk for dropout.

Important lessons learnt across the seven applications of Check & Connect:

- Positive outcomes for students marginalised and disengaged from school and learning are possible; we learnt that they result from a *comprehensive intervention* involving the mentor who “checks and connects” and partners with parents—and does so persistently over time and with intervention integrity.

- The construct of engagement is useful for capturing the gradual process by which students disconnect from school and learning. The readily accessible data at schools in terms of attendance, academics and behavior allow for *systematic monitoring* of students' engagement at school and with learning.
- Because engagement focuses attention on relevant, alterable variables, it provides a means to intervene at the earliest signs of a student's withdrawal or disconnection from school and learning. The *assessment-to-intervention* link uses data to make decisions for students.
- Engagement is a construct *relevant to all students*, albeit attempts to delineate influences on dropout led to the growing interest in student engagement. It is equally important for student apathy and hopefulness about one's future.
- The *power of relationships* for students alienated from school and learning—for whatever reason—cannot be ignored. Persistence, continuity and consistency (the persistence-plus element) from caring adults are key dimensions for changing the trajectory of students' pathways toward school completion. We contend that a unique feature of Check & Connect is not the specific interventions per se, but the fact that interventions are facilitated by a person—the mentor—who is trusted and known by the student and who has demonstrated their concern for the school performance of the youth persistently and consistently over time. Check & Connect is not a formulaic intervention; rather student need within context is used to develop a plan of action.
- The *role of the mentor*, who fuels the academic motivation of students by underscoring intrinsic motivation and problem-solving strategies, is essential. Among other things, mentors provide instrumental support—facilitating problem solving toward students' personal goals and giving regular, systematic, informed feedback in a nonjudgmental way. They encourage the student to self-observe, self-evaluate and self-reflect on progress toward goals; emphasise the importance of a work ethic—effort, persistence and trying again—to help the student self-regulate their motivation; and make a long-term commitment—at least two years—to be a persistent source of support for the student and family.
- Persistence, ongoing sharing of information and resources, motivational home support for learning and solution-oriented problem solving directed toward a genuine interest in improving the child's success and school experience are necessary to *engage parents* for some students.
- The critical issue for student engagement is the degree to which there is a *person–environment fit for the student to be prepared to handle the demands of schooling*. Both standards and supports—in combination—are necessary for disengaged students. Context matters. Students placed at risk for educational failure can attain personal goals with a focus on both standards and supports for learning. We have repeatedly witnessed the change for individual students when they realise that the mentor is there—providing persistent support to attain educational standards.

Student engagement—a multidimensional construct

Engagement is generally conceptualised as a multidimensional construct, involving two or three components. Researchers espousing a two-component model often include a *behavioral* (for example, positive conduct, effort, participation) and an *emotional* or *affective* subtype (for example, interest, identification, belonging, positive attitude about learning) (Finn, 1989; Marks, 2000; Newmann, Wehlage, & Lamborn, 1992; Willms, 2003), with both subtypes foundational to understanding engagement. More recent reviews of this literature, however, resulted in a tripartite conceptualisation that included a *cognitive* subtype (for example, self-regulation, learning goals, investment in learning) (Fredericks, Blumenfeld, & Paris, 2004; Jimerson, Campos, & Greif, 2003) and was consistent with theories proposing fundamental needs of autonomy, competence and relatedness (for example, Connell & Wellborn, 1991). These theories proposed action (engagement vs. disaffection) and outcome differences resulting from interactions within the social context that determined how well the student perceived the environment to meet their fundamental needs of autonomy, competence and relatedness (Connell & Wellborn, 1991). Our conceptualisation of engagement adds a fourth subtype.

Based on the theoretical work of Finn (1989), Connell and Wellborn (1991), and McPartland (1994) as well as implementation of the Check & Connect intervention model over 13 years in varied school settings, Christenson and colleagues refined a taxonomy, or organising heuristic, not only for understanding student levels of engagement, but also for recognising the goodness-of-fit between the student, the learning environment and factors that influence the fit (Christenson & Anderson, 2002; Reschly & Christenson, 2006a, 2006b). Qualitative comments from students who received the Check & Connect intervention during high school (Sinclair et al., 2005) influenced our conceptualisation of engagement. In our taxonomy, engagement is viewed as a multidimensional construct comprised of four subtypes: academic, behavioral, cognitive and affective, with multiple indicators for each subtype (see Table 5 and Figure 2). For example, academic engagement consists of variables such as time on task, credits earned toward graduation and homework completion with academic success and precision, while attendance, suspensions, voluntary classroom participation and extracurricular participation are indicators of behavioral engagement. Cognitive and affective engagement includes less observable, more internal indicators, such as self-regulation, relevance of schoolwork to future endeavours, perceived value of learning, personal goals and autonomy (for cognitive engagement) and feelings of identification or belonging and relationships with teachers and peers (for affective engagement).

The addition of academic engagement was foundational to the four-part typology. It honoured the strong, consistent finding that high rates of academic learning time are correlated with student achievement for students with and without disabilities

(Fisher & Berliner, 1985), aligned with researchers who examined engagement for specific tasks (Marks, 2000), resonated with teachers concerned about time on task and work completion, and responded to comments from Check & Connect students (Sinclair et al., 2005). The dimensions of engagement used in the High School Survey of Student Engagement (HSSSE) at the Center for Evaluation & Education Policy, Indiana University, also included academic engagement; however, they conceptualised three dimensions: cognitive/intellectual/academic (in other words, engagement of the mind), social/behavioral/participatory (in other words, engagement in the life of school) and emotional (in other words, engagement of the heart) (Yazzie-Mintz, 2007).

Our premise is that viewing engagement as comprised of four subtypes provides an ideal heuristic to achieve an assessment-to-intervention link and to design data-based interventions that maximise the goodness of the person–environment fit. We surmise that effective interventions must account for more than attendance and academic skills; rather, indicators of students’ commitment to learning, perceptions of academic and social competence and sense of belonging must also be considered.

The majority of research has focused on the more observable indicators that are related to academic and behavioral engagement (Christenson, Reschly et al., 2008). Although less research has focused on cognitive and affective indicators of engagement (in comparison to academic and behavioral indicators), there is evidence to suggest their importance to school performance. For example, a robust relationship has been found between cognitive engagement and both personal goal orientation and investment in learning (Greene & Miller, 1996; Greene, Miller, Crowson, Duke, & Akey, 2004; Pokay & Blumenfeld, 1990), which in turn has been associated with academic achievement (Miller, Greene, Montalvo, Ravindran, & Nichols, 1996). Similarly, a sense of belonging (in other words, affective engagement) has been associated with adaptive school behaviors, including task persistence, participation and attendance (Goodenow, 1993b). In general, students who feel connected to and cared for by their teachers report autonomous reasons for engaging in positive school-related behaviors (Ryan, Stiller, & Lynch, 1994). Given these findings, it is necessary to move beyond indicators of academic and behavioral engagement to understanding the underlying cognitive and affective needs of students.

Placing engagement as the cornerstone of high school reform initiatives, the National Research Council and the Institute of Medicine (2004) concluded that student engagement is represented by the student belief of “I can” (perceptions of competence and control), “I want to” (personal values and goals) and “I belong” (social connectedness to peers and teachers). This framework suggests that paying attention to students’ emotional and intellectual feelings about school is essential for understanding their schooling experiences and academic outcomes. Basically, achievement depends on more than time on task or attendance, albeit these are positive

moderate correlates of academic achievement (Greenwood, 1991). In the words of the National Research Council and the Institute of Medicine (2004, p. 212):

A common theme among effective practices is that they have a positive effect on the motivation of individual students because they address underlying psychological variables such as competence, control, beliefs about the value of education, and a sense of belonging. In brief, effective schools and teachers promote students' understanding of what it takes to learn and confidence in their capacity to succeed in school by providing challenging instruction and support for meeting high standards, and by conveying high expectations for their students' success. They provide choices and they make the curriculum and instruction relevant to adolescents' experiences, cultures, and long-term goals, so that students see some value in what they are doing in school. Finally, they promote a sense of belonging by personalising instruction, showing an interest in students' lives, and creating a supportive, caring social context.

Consistent with other researchers (Fredericks et al., 2004), we posit that engagement is a mediator between contextual influences (in other words, facilitators) and desired academic, social and emotional learning outcomes, albeit most research underscores academic achievement. Yet, the distinction between indicators of engagement and facilitators of engagement identified among the set of alterable predictors of school completion highlights the role of school, family and peer contexts in closing any engagement definition gap (see Figure 2). Indicators of engagement convey a student's degree or level of connection with school and learning, such as attendance patterns, accrual of credits and problem behavior, whereas facilitators of engagement are contextual factors that influence the strength of the connection, such as school discipline practices, parental supervision of homework completion and peer attitudes toward academic accomplishment. Examining facilitators of engagement has implications for intervention practice and policies, while indicators of engagement can guide identification procedures—initiating referrals at the first signs of withdrawal—and monitor the progress of individual students and programs. Crucial to efforts to monitor the engagement of all students is the determination of the most predictive indicators and influential facilitators across relational contexts and over time (Eccles et al., 1993; Reis, Collins, & Berscheid, 2000). Attention to student development across diverse student subgroups is vital to maintaining a school context with sufficient holding power to engage all students.

As stated previously in this paper, engagement is not conceptualised as an attribute of the student, but rather an *alterable* state of being that is highly influenced by contextual factors, such as policies and practices of the school or family influences. Although three key contextual factors have been identified—home, school and peers—in relation to the capacity of each to provide consistent support for learning (Wentzel, 1998), the peer context was less explicit in Check & Connect. It most often was relegated to discussions with students about expectations to graduate among peers, relational aggression and social networks (Berndt & Keefe, 1995;

Kurdek & Sinclair, 2000). In our thinking and procedures, the mentor more explicitly connected with school and family contexts, attending to school climate (Bryk & Thum, 1989), quality of teacher–student relationship (Furrer & Skinner, 2003; Hamre & Pianta, 2001), effective instruction in academic, social and emotional learning areas and mental health support (Zins & Wang, 2001). They provided support for options for programming (Dynarski & Gleason, 2002) in the school context and educational socialisation practices (in other words, academic and motivational support for learning) (Bempechat, 1998; Rumberger, 1995) in the family context. It is noteworthy that students were more likely to avoid high-risk behavior (for example, substance abuse, violence) when they felt connected with their families and schools (Resnick et al., 1997).

There are other important considerations with our conceptualisation of the engagement process as it appears in Figure 2. First, the types of engagement are not mutually exclusive, but rather are understood as inter-related subtypes of the larger engagement construct. For example, students' feelings of belonging (affective) may promote greater effort and participation on the part of students (behavioral), and teaching practices that promote strategy use or self-regulation (cognitive) may also facilitate greater time on task or homework completion (academic).

A second consideration concerns the interaction of student engagement and context *over time*, and the mediating role of engagement. For example, research finding an exponential increase in academic achievement for students with higher levels of engagement (Finn, 1993) is consistent with suggestions that increased engagement elicits increasingly positive environmental responses, begetting increased engagement. Engaged students are thought to perceive more support from teachers and peers, with this perception leading to increased levels of engagement and continued adult support (Furrer, Skinner, Marchand, & Kindermann, 2006; Osterman, 2000). In sum, engagement seems to have a “rich-get-richer” quality to it, suggesting that effective early intervention may produce results substantially greater than the initial investment of resources.

Conceptual considerations of the engagement construct

The approximately 25-year history of engagement research highlights its need for a clear definition and conceptualisation. In 1985, a review by Mosher and MacGowan found only two studies that actually used the term *engagement*, and one of these studies defined engagement as student participation in school-offered activities, but proceeded to infer it by examining disengagement (Natriello, 1984). Although many ways to operationalise and measure engagement have proliferated, definitional clarity has been elusive. The theoretical and research literatures on engagement generally reflect little consensus about definitions; many researchers have noted the considerable inconsistency in the terminology used across studies (Fredericks et

al., 2004; Furlong et al., 2003; Jimerson et al., 2003). Examples of the varied terms for the engagement construct and corresponding definitions frequently used by researchers appear in Table 8.

Juxtaposition of the varied definitions of engagement elucidates themes across groups of researchers. For instance, some definitions contrast the positive outcome of engagement with the negative result of disaffection, such as alienation (for example, Connell & Wellborn, 1991; Skinner & Belmont, 1993), whereas others imply that the negative outcome is the absence of engagement itself. Some specify contextual fulfilment of fundamental needs as mediators of engagement (Christenson & Anderson, 2002; Connell & Wellborn, 1991; Furlong et al., 2003), whereas others focus on engagement, with less attention to its precursors. All definitions include behavioral components, and many also contain emotional or psychological components, but far fewer include academic or cognitive components. Finally, most researchers define engagement in a general broad sense rather than with a primary focus on specific instructional tasks (Marks, 2000), with only two who explicitly mention an element of reaction to challenge (Klem & Connell, 2004; Skinner et al., 1990); others may have meant to imply such an element. One constant across the myriad conceptualisations of engagement is that it is multidimensional. Yet, as we know, agreement on the multidimensionality differs from agreement on the number and types of engagement dimensions, which range from two to four.

The relationship between motivation and engagement is another consideration. Although interest in engagement has increased exponentially in recent years, its distinction from motivation remains subject to debate. As one conceptualisation, motivation has been thought of in terms of the direction, intensity and quality of one's energies (Maehr & Meyer, 1997), answering the question of "why" for a given behavior. In this regard, motivation is related to underlying psychological processes, including autonomy (for example, Grolnick & Ryan, 1987; Skinner et al., 1990), belonging (for example, Goodenow, 1993a; 1993b; Goodenow & Grady, 1993) and competence (for example, Schunk, 1991). In contrast, engagement is described as "*energy in action*, the connection between person and activity" (Russell et al., 2005, p. 1). Engagement thus reflects a person's active involvement in a task or activity (Reeve, Jang, Carrell, Jeon, & Barch, 2004). To illustrate this distinction as it pertains to reading tasks, motivational aspects include (a) perceptions of reading competency, (b) the perceived value of reading in order to obtain larger goals (for example, better grades, parent/teacher praise) and (c) the perceived ability to succeed at the reading task, among others. Engagement aspects include the number of words that were read or the amount of text that was comprehended with deeper processing of the content (Guthrie & Wigfield, 2000). Engagement is about relationships (Sinclair et al., 2005); it is not considered a "solo activity" (Yazzie-Mintz, 2007, p. 1) and demands a person-environment fit (Reschly & Christenson, 2006a, 2006b). We believe that motivation and engagement are

TABLE 8 DEFINITIONAL VARIATIONS ACROSS CONCEPTUALISATIONS OF ENGAGEMENT

Name	Research citation	Construct definition
Engagement	Audas & Willms, 2001	Extent to which students <i>participate</i> in academic and nonacademic activities and <i>identify with</i> and <i>value</i> the goals of schooling.
	Connell & Wellborn, 1991	When <i>psychological needs</i> (in other words, autonomy, belonging and competence) <i>are met</i> within cultural enterprises such as family, school and work, engagement occurs and is exhibited in <i>affect, behavior and cognition</i> (if not, disaffection occurs).
	Russell, et al., 2005	<i>Energy in action</i> , the connection between person and activity; consisting of three forms: <i>behavioral, emotional and cognitive</i> .
	Skinner & Belmont, 1993	Sustained <i>behavioral involvement</i> in learning activities accompanied by <i>positive emotional tone</i> (vs. disaffection).
	Skinner, Wellborn, & Connell, 1990	Initiation of <i>action, effort and persistence with schoolwork</i> and ambient <i>emotional states</i> during learning activities.
Engagement in schoolwork	National Research Council and Institute of Medicine, 2004	Involves both <i>behaviors and emotions</i> and is mediated by perceptions of competence and control (<i>I can</i>), values and goals (<i>I want to</i>) and social connectedness (<i>I belong</i>).
Academic engagement	Libby, 2003	Extent to which students are <i>motivated to learn and do well</i> in school.
	Fredericks et al., 2004	<i>Emotional</i> (positive and negative reactions to teachers, classmates, academics and school), <i>behavioral</i> (participation in school) and <i>cognitive</i> (investment) <i>engagement subtypes</i> .
School engagement	Furlong et al., 2003	<i>Affective, behavioral and cognitive engagement subtypes</i> (same as Jimerson et al., 2003) within <i>student, peer group, classroom and school-wide contexts</i> .
	Jimerson et al., 2003	<i>Affective</i> (feelings about school, teachers and peers), <i>behavioral</i> (observable actions) and <i>cognitive</i> (perceptions and beliefs) <i>engagement subtypes</i> .
Student engagement	Chapman, 2003	<i>Willingness to participate</i> in routine school activities with subtle <i>cognitive, behavioral and affective indicators</i> of student engagement in specific learning tasks.
	Natriello, 1984	<i>Student participation</i> in the activities offered as part of the school programme.
Student engagement at school	Willms, 2003	<i>Attitudes toward schooling and participation in school activities</i> (operationalised as sense of belonging and school attendance).
Student engagement in academic work	Marks, 2000	<i>Psychological process</i> involving the <i>attention, interest, investment and effort</i> students expend in the work of learning.
	Newmann et al., 1992	The student's <i>psychological investment</i> in and <i>effort</i> directed toward learning, understanding or mastering the knowledge, skills or crafts that academic work is intended to promote.
Student engagement in/with school	Christenson & Anderson, 2002	<i>Psychological</i> (for example, belonging), <i>behavioral</i> (e.g., participation), <i>cognitive</i> (for example, self-regulated learning) and <i>academic</i> (for example, time on task) engagement.
	Klem & Connell, 2004	<i>Ongoing engagement</i> (behavioral, emotional and cognitive components); <i>reaction to challenge</i> (ideally engage optimistically).
	Mosher & MacGowan, 1985	<i>Attitude</i> leading toward and <i>participatory behavior</i> in secondary schools' programme (state of mind and way of behaving).
Participation, identification ^a	Finn, 1989, 1993; Finn & Rock, 1997	<i>Participation</i> in (at four increasing levels) and <i>identification</i> with school (belonging in school and valuing school-related outcomes).

a While not labelled "engagement", this theory is at the core of subsequent conceptualisations of engagement.

separate but not orthogonal—one could be motivated but not actively engaged in a task (Connell & Wellborn, 1991; Furrer & Skinner, 2003). Motivation is thus necessary, but not sufficient for engagement.

Although motivation is central to understanding engagement, the latter is a construct worthy of study in its own right. Klem and Connell (2004) argued that there is strong empirical support for the connection between engagement, achievement and school behavior across levels of economic and social advantage and disadvantage. Furrer and colleagues (2006) also noted that engagement may be vital within a motivational framework as it interacts cyclically with contextual variables; resultant academic, behavioral and social outcomes, then, are the products of these context-influenced changes in engagement. In addition, the construct of engagement captures the gradual process by which students disconnect from school (Finn, 1989). Consistent with the understanding that dropping out of school is not an instantaneous event, but rather a process that occurs over time, engagement provides a means both for understanding and intervening when early signs of students' disconnection with school and learning are noted. Finally, engagement calls for a focus on alterable variables, including those that address underlying psychological processes, to help increase school completion rates (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Doll, Hess, & Ochoa, 2001) and reform high school experiences to help foster students' achievement motivation (National Research Council and the Institute of Medicine, 2004).

Methodological considerations of the engagement construct

Engagement as a multidimensional construct lends itself well to concrete, observable indicators for two subtypes: academic and behavioral. Accessible data for these subtypes are readily available in most schools, albeit school personnel may not systematically monitor student performance for the purpose of creating an assessment-to-intervention link. In contrast, measuring indicators of cognitive and affective engagement raises many questions. Limitations have been noted when measuring these subtypes of engagement. For example, the same scale items are often used to represent different subtypes of engagement across studies (Jimerson et al., 2003) and subtypes have been examined in isolation (Finn & Cox, 1992), precluding comparison levels of different subtypes with the same participants. Also, survey items are at times extracted from larger, nationally representative databases and subtypes are formed from these studies retroactively (for example, Reschly & Christenson, 2006a). This procedure does not provide clarity in the definition of the construct of engagement or its subtypes. Further, items/subtypes drawn retroactively from larger studies run the risk of not having a strong theoretical or conceptual framework. Moreover, the construct of engagement in general, and the identification of subtypes in particular, represents an amalgamation of isolated studies examining one or two indicators of

each subtype, which is contrary to our view of engagement (Reschly & Christenson, 2006a). Finally, the selection of informants (for example, teachers, students) varies across studies. We contend that the measurement of cognitive and affective engagement through observation and rating of student behavior is highly inferential; therefore, obtaining the student perspective results in a more valid understanding of the student's experience and meaning in the environment (Bronfenbrenner, 1992). What is needed to address these limitations are theoretically sound and empirically based measures of cognitive and affective engagement.

Measuring cognitive and affective engagement is relevant because there is an overemphasis in school practice on indicators of academic and behavioral engagement. Such overemphasis ignores the budding literature that suggests that cognitive and affective or emotional engagement indicators are associated with positive learning outcomes (Fredericks et al., 2004; National Research Council and the Institute of Medicine, 2004), are related to motivation (Reeve et al., 2004; Russell et al., 2005) and increase in response to specific teaching strategies (Marks, 2000; Reeve et al., 2004). Given that school personnel cannot alter family circumstances (for example, income, mobility), we must focus on alterable variables, including those related to the development of students' perceived competence, personal goal setting and interpersonal relationships to offer students optimism for a positive outcome (for example, Floyd, 1997; Worrell & Hale, 2001). If the conceptualisation of the engagement construct, where engagement is hypothesised to be a mediator between contextual influences and academic, social and emotional learning outcomes (Fredericks et al., 2004) will be advanced, it is our position that the development of a psychometrically sound instrument is a necessary first step.

Appleton et al. (2006) developed a scale, the Student Engagement Instrument (SEI), to measure cognitive and affective engagement. The psychometric properties of this 35-item instrument were assessed based on responses of an ethnically and economically diverse urban sample of 1,931 ninth grade students. Factor structures were obtained using exploratory factor analyses on half of the dataset, with model fit examined using confirmatory factor analyses on the other half of the dataset. The model displaying the best empirical fit consisted of six factors: three affective (teacher-student relationships, peer support for learning and family support for learning) and three cognitive (future aspirations and goals, control and relevance of schoolwork and extrinsic motivation). Reliability coefficients for factors ranged from .72 to .88. These factors correlated with expected educational outcomes. Additionally, we have examined the reliability and factorial invariance across grades 6–12 with 2,416 students who were sampled from school districts in the rural southeast and upper midwestern regions of the United States (Betts, Appleton, Reschly, Christenson, & Huebner, in press). For this study, we dropped the sixth factor—extrinsic motivation—because it was comprised of two items, both of which were reverse coded. The five-factor structure of the SEI was invariant; also, equal reliability and similar relationships with latent factors were found for all grades in the study. Results provide additional

evidence that the SEI may be used at the middle and high school levels to measure students' cognitive and affective engagement. SEI items by factor are presented in Table 9.

The degree to which Check & Connect influences students' cognitive or affective engagement (beyond anecdotal reports) or the degree to which cognitive and affective engagement mediate academic and behavioral engagement indicators—specifically attendance and academic achievement—is untested. Our future applications of Check & Connect will assess the degree to which accounting for students' perceived connection with others (in other words, affective engagement) and motivation to learn (in other words, cognitive engagement)—what Brophy (2004) has referred to as explicitly programming for students who are apathetic (in other words, do not see the value of schoolwork) and discouraged (in other words, lack confidence to persist)—results in higher rates of school completion.

Growing interest in, and excitement about, the construct must be tempered by the numerous measurement issues that persist with student engagement. Of utmost importance is that there are few instruments with strong psychometric properties to measure student engagement and equate with expected outcomes; three exceptions are the SEI (Appleton et al., 2006), the *Me and My School* Scale (see Darr, this volume) and the HSSSE (Yazzie-Mintz, 2007). All measures gather the perspective of students. Because their perspective is queried rather than inferred, it may be a more valid way to understand students' experiences and meaning in the learning context, especially students' personal competency beliefs, desire to persist toward goals and sense of belonging (Appleton et al., 2006; Bronfenbrenner, 1992). The value of consistent use of psychometrically sound measures would help remediate the current situation where the same scale items have been used to represent different subtypes of engagement across studies (Jimerson et al., 2003). Perhaps the most imperative and pressing direction for future research involves establishing construct validity for student engagement. Much work remains to clarify the promising engagement construct and improve consistent measurement across research groups. The constancy of the construct across researchers—in conceptualisation and measurement—is vital. Failure to achieve clarification and consistency may obscure a construct of considerable potential within a proliferation of competing conceptualisations.

Discussion of critical considerations for advancing the construct

How student engagement is conceptualised, the importance of multiple engagement subtypes and its applicability for all students is paramount to advancing the use of the engagement construct to improve academic, social and emotional learning outcomes for students. The role of contexts in facilitating student engagement also cannot be ignored. First, attention should be paid to the current use of the terms *student engagement* and *school engagement* in recent literature (Appleton et al., 2006;

TABLE 9 SEI ITEMS COMPRISING THE FIVE-FACTOR MODEL^{A,B}

Item	Component					Item text
	PE 1 ^c	CE 2 ^d	PE 3 ^e	CE 4 ^f	PE 5 ^g	
1	0.795	-0.145	-0.075	0.162	-0.057	Overall, adults at my school treat students fairly.
2	0.768	0.121	-0.055	-0.054	-0.044	Adults at my school listen to the students.
3	0.762	0.042	0.003	-0.069	0.098	At my school, teachers care about students.
4	0.719	0.058	0.061	-0.080	0.086	My teachers are there for me when I need them.
5	0.709	-0.063	-0.052	0.166	-0.064	The school rules are fair.
6	0.675	0.029	0.008	0.079	-0.010	Overall, my teachers are open and honest with me.
7	0.568	0.093	0.098	-0.010	0.085	I enjoy talking to the teachers here.
8	0.483	-0.058	0.266	0.009	0.052	I feel safe at school.
9	0.466	0.200	0.090	-0.113	0.087	Most teachers at my school are interested in me as a person, not just as a student.
10	0.071	0.693	0.019	-0.138	-0.125	The tests in my classes do a good job of measuring what I'm able to do.
11	-0.074	0.678	-0.075	0.018	0.067	Most of what is important to know you learn in school.
12	-0.021	0.648	0.121	-0.028	-0.164	The grades in my classes do a good job of measuring what I'm able to do.
13	0.054	0.595	-0.123	0.200	0.063	What I'm learning in my classes will be important in my future.
14	0.007	0.585	-0.002	-0.059	0.038	After finishing my schoolwork I check it over to see if it's correct.
15	0.020	0.549	0.088	-0.031	0.148	When I do schoolwork I check to see whether I understand what I'm doing.
16	0.115	0.523	0.018	0.092	-0.008	Learning is fun because I get better at something.
17	-0.064	0.486	0.038	0.279	0.085	When I do well in school it's because I work hard.
18	0.021	0.450	0.126	-0.055	0.079	I feel like I have a say about what happens to me at school.
19	0.092	-0.064	0.831	0.037	-0.088	Other students at school care about me.
20	0.148	-0.047	0.763	-0.077	-0.058	Students at my school are there for me when I need them.
21 ^h	-0.057	0.116	0.736	-0.049	0.055	Other students here like me the way I am.
22	-0.015	-0.020	0.674	0.126	0.019	I enjoy talking to the students here.
23	0.166	0.088	0.628	-0.010	-0.064	Students here respect what I have to say.
24	-0.244	-0.037	0.616	0.166	0.227	I have some friends at school.
25	0.058	-0.140	0.065	0.899	-0.014	I plan to continue my education following high school.
26	0.065	-0.090	-0.003	0.777	0.004	Going to school after high school is important.
27	0.081	0.295	-0.051	0.656	-0.011	School is important for achieving my future goals.
28	-0.032	0.211	0.054	0.587	0.021	My education will create many future opportunities for me.
29	-0.056	0.257	0.145	0.446	0.032	I am hopeful about my future.
30	-0.024	0.050	0.023	-0.046	0.839	My family/guardian(s) are there for me when I need them.
31	0.077	0.003	-0.001	-0.011	0.798	When I have problems at school my family/guardian(s) are willing to help me.
32	0.105	-0.064	0.009	0.055	0.607	When something good happens at school, my family/guardian(s) want to know about it.
33	0.021	0.026	-0.017	0.278	0.503	My family/guardian(s) want me to keep trying when things are tough at school.

a The four- and six-factor models are specified in Appleton et al. (2006).
b Items are renumbered from their original format for clearer presentation.
c Teacher-Student Relationships (Psychological Engagement).
d Control and Relevance of School Work (Cognitive Engagement).
e Peer Support for Learning (Psychological Engagement).
f Future Aspirations and Goals (Cognitive Engagement).
g Family Support for Learning (Psychological Engagement).
h From Goodenow (1993b).

Christenson, Reschly et al., 2008; Fredericks et al., 2004). Our work contends that the use of the term *student engagement* is preferred over *school engagement*, because schools engage students as learners, and they are engaged at school and with learning to varying degrees. Schools have holding power for students; thus, school policies and practices can (and in some situations must) foster engaging climates, especially for disconnected youth. Also, the use of school engagement may minimise the impact of family and community or neighbourhood facilitators. An alternative referent, *student engagement with school*, suggests a broader term that could draw attention to academic activities away from the school setting (for example, mathematics used to build a faster enduro go-kart) and to school-related influence that is more distal to the school setting per se (for example, a community mentality that “book learning” is less important than learning an industrial trade). In addition, the mandated school years are but one developmental experience, one time period and one perspective—student engagement is relevant across the life trajectory of an individual (Furlong et al., 2003; Maehr & Midgley, 1996). Perhaps others use *school engagement* because the educational context is viewed as seminal even though engagement is conceptualised as an aspect of both the individual and the environment (Fredericks et al., 2004). This may be consistent with the term *school connectedness*, used primarily in public health (Blum & Libbey, 2004).

Compelling research involving nearly 30,000 students in grades 6 to 8 from 304 Chicago public schools provides a poignant example of the necessity of considering the multidimensional aspect of engagement as well as examining subtypes of engagement in combination (Lee & Smith, 1999). Using one-year achievement gains in mathematics and reading to gauge learning, student level of perceived social support for learning from teachers, parents, peers and the community, in and of itself, did not relate to student learning. Likewise, the other instrumental variable in this study, academic press (operationalised as teacher perception of the school’s focus on challenging students academically and the student’s perception of being challenged academically), in and of itself, did not lead to learning. What was related to substantial increases in learning was the *combination* of academic press and social support for learning. Clearly, a very important aspect of the construct of student engagement is its multidimensionality, with both the more overt subtypes (in other words, academic and behavioral engagement) and less overt subtypes (in other words, cognitive and affective engagement) relating to important outcomes.

Finally, the relevance of the engagement construct for all students (not merely those at risk of dropping out) is bolstered by high school reform efforts that explicitly underscore students’ motivation to learn (Brophy, 2004). Admittedly, a conceptual shift is necessary to increase focus on student engagement, especially in this period of high-stakes school accountability. If dropping out involves a gradual process of disengagement from school, school completion is presumably facilitated by continued, if not increasing, engagement over a student’s time in school. Research has emphasised

the examination of indicators of more overt subtypes of engagement—academic and behavioral—even while knowledge of more internal subtypes of student engagement—cognitive and affective—may enhance timely, effective interventions. Engagement in general, and cognitive and affective subtypes specifically, seem especially helpful as a framework for preventing school dropout and promoting school completion, especially for apathetic learners who do not see the relevance or value of school, or discouraged learners who have experienced extreme frustration. Inherent in the construct of engagement is the commitment to early efforts to engage students, as well as the recognition that the failure to do so may have led to drastically different outcomes later in a student’s educational career. However, comparing motivation and engagement, they are not the same construct. Engagement fits well as an essential pathway in a process through which motivational and other constructs affect important school-related outcomes. Nonetheless, whether this process should be defined by its vital engagement pathway remains the subject of future debate. A pending question to be answered in our conceptualisation is: Is the cognitive engagement subtype as measured on the SEI (see Table 9) really motivation-to-learn or achievement motivation? As portrayed in Table 10, it is noteworthy that achievement motivation and engagement were used interchangeably by the National Research Council and the Institute of Medicine (2004) in their book, *Engaging Schools: Fostering High School Students’ Motivation to Learn*.

TABLE 10 RECOMMENDATIONS FOR FOSTERING ENGAGEMENT AND ACHIEVEMENT MOTIVATION

- Programs motivating students allow for close adult–student relationships; knowledgeable, skilled and caring teachers enhance student engagement.
- Motivation and engagement are enhanced in well-structured educational environments with clear, meaningful purposes; with a challenging curriculum, high expectations and academic press; and with a challenging but individualised curriculum that is focused on understanding, particularly for disengaged students.
- Motivation and engagement are enhanced when students have multiple pathways to competence. Engagement increases in environments where students have some autonomy selecting tasks and methods and play an active role in learning.
- Motivation and engagement are enhanced in a school community that engenders a sense of support and belonging, with ample opportunities to interact with academically engaged peers.
- Motivation and engagement are enhanced where students develop education and career pathways. There are opportunities to learn the values of schoolwork for future educational and career prospects.
- Motivation and engagement are enhanced when there are strong ties linking the school with students’ families and community professionals.
- Motivation and engagement are enhanced when the organisational structure and services address students’ nonacademic needs.

Source: National Research Council and the Institute of Medicine (2004).

The number and configuration of engagement subtypes provide another source of inconsistency and conceptual haziness. Engagement has regularly been believed to involve both behavioral components (for example, participation) and affective

components (for example, identification with school) (Audas & Willms, 2001; Finn, 1989, 1993), with some theorists conceptualising similar components, but labelling “affective” as “psychological” (Newmann et al., 1992; Willms, 2003). Others retain a two-component structure (using “attitude leading to” and “behavior of” participating in the school’s programs), but do not clarify whether that attitude is primarily affective or cognitive (Mosher & MacGowan, 1985). Some theorists and reviewers have noted a cognitive aspect in addition to behavioral and affective components (Connell & Wellborn, 1991; Fredericks et al., 2004; Furlong et al., 2003; Jimerson et al., 2003; Klem & Connell, 2004). Finally, others include behavioral, cognitive and psychological (affective) subtypes, but further differentiate an “academic” aspect (for example, accrual of credits toward graduation) (Christenson & Thurlow, 2004; Yazzie-Mintz, 2007). It may be that consensus will only be achieved for the multidimensional aspect of student engagement, and, if so, researchers will need to define clearly their conceptualisation in each study. Vagueness can no longer be allowed; the type of engagement must be understood relative to each research finding. Based on our research, we favor a comprehensive conceptualisation.

On a positive note, although there are considerable differences in the conceptualisation of engagement and its subtypes, Klem and Connell (2004) argued that despite these differences, there is strong empirical support for the connection between engagement, achievement and school behavior across levels of economic and social advantage and disadvantage. Engaged students tend to earn higher grades, perform better on tests and drop out at lower rates, while lower levels of engagement place students at risk for negative outcomes, such as lack of attendance, disruptive classroom behavior and leaving school. It is encouraging that across varied conceptualisations of student engagement with school, there is promising empirical support for the construct’s relations with important social, emotional and academic outcomes.

Concluding remarks

I wish to extend my appreciation to the New Zealand Council for Educational Research for this opportunity to present at the 2009 student engagement conferences. My colleagues and I have been involved with research in dropout prevention, school completion and student engagement since 1990. Our line of research moved from funding to develop, evaluate and refine a dropout-prevention intervention for students with disabilities in middle schools (grades 6–8), to the concept of creating an intervention model for engaging students placed at risk of dropping out of school, to the explicit focus on student engagement as a necessity for school completion. In our Check & Connect research, we have consistently purported that increasing students’ engagement and enthusiasm for school is much more than simply staying in school and, thus, much more than the dropout problem—it involves *supporting students to meet the defined academic standards of the school, as well as the underlying*

social and behavioral standards. If students are engaged with learning, over time they should not only graduate, but also demonstrate academic and social competence at school completion.

To advance the utility and relevance of the construct of engagement, I offer three points for the consideration of the psychological and educational research community. First, student engagement is a multidimensional construct; therefore, if only one dimension (academic, cognitive etc.) is being examined, it should be labelled as such. Engaged students do more than attend or perform academically; they also put forth effort, persist, self-regulate their behavior toward goals and challenge themselves to exceed.

Recently, we postulated that effective interventions to promote school completion must address student engagement comprehensively (Christenson, Reschly et al., 2008), accounting for more than attendance and academic credits (primary dependent variables in Check & Connect studies to date) by attending to students’ commitment to learning, perceptions of academic and social competence and sense of belonging. Corroborated by the perspective of the National Research Council and the Institute of Medicine (2004), interventions to engage students fully must attend to the students’ belief of “I can” (perceptions of competence and control), “I want to” (personal values and goals) and “I belong” (social connectedness to peers and teachers). This expanded framework suggests that paying attention to students’ emotional and intellectual feelings about school is essential for understanding their schooling experiences and academic outcomes. Interventions are available for four subtypes of student engagement (academic, behavioral, cognitive and affective) at both systems- and individually oriented levels (Christenson, Reschly et al., 2008); therefore, the multidimensional framework appears to be a viable heuristic for designing interventions. And, I speculate that the power of student engagement will be realised when these interventions occur across the pyramid of intervention. As a tier-two (targeted) or tier-three (intensive) intervention, Check & Connect serves an important population of students. It is equally important for educators to be knowledgeable about universal practices (tier one) to engage students. Student-engagement interventions, irrespective of the level, attend to critical motivational and psychologically oriented variables linked to performance in classrooms.

Second, the need for explicit programming for motivation, helping and supporting students to develop an identity as a learner—especially marginalised, alienated, disengaged students—seems self-evident; it is also scientifically based. Linking the power of intrinsically oriented motivational variables (for example, self-efficacy—“I can”, valuing and goals—“I want to”, connectedness—“I belong”) to persistent support—whether by a mentor, caring adult or teaching strategies has been an outgrowth of our work on Check & Connect. Persistence means we do not give up on students. We keep our eye on the target—progress and improvement toward a goal, the future and so on—regardless of the student’s personal living

situation or school circumstances. Check & Connect students have optimism—they receive this from their mentor, who provides the pathway through problem solving and persistent support. In a sense our mentors provide a “language” of Check & Connect, a way of working with students that always projects a positive approach to being in the world, a belief that personal responsibility in the end will take one further than excuses, and the belief that students can learn and live this language and way of being—almost helping them change their self-talk so they solve problems (in other words, use productive coping strategies) instead of running away from them or reacting negatively.

We have found that the explicit programming for motivation (“I can, I want to, I will”) for students who are disengaged, alienated or marginalised from school and learning—those students described as “bored” or “uninterested”—is required to attain desired school performance outcomes. Interventions must be comprehensive, and the construct of student engagement provides an excellent conceptual base from which to understand student behavior in school, and to strive to attain academic, social and emotional learning outcomes. Future research studies need to assess the degree to which cognitive and affective engagement are mediators of academic performance and attendance for whom and under what conditions.

Third, a greater examination of the power of continuity across settings and time to support students to make a personal investment in postsecondary education is needed. Congruence in motivational support for learning from home, school and peers refers to the critical settings, whereas continuity for time seems especially poignant at transition periods. For example, the disconnect between what students do in high school (for example, time spent preparing for class, amount of reading, academic rigor of coursework) and what they will be expected to do once they are in college has been highlighted by the HSSSE (Yazzie-Mintz, 2007). Viewing student performance through the lens of engagement is reasonable in high school and postsecondary settings (see Community College Survey of Student Engagement, 2004), offering the opportunity to align intervention support for students to attain future goals.

In closing, our current work is focused on modifying Check & Connect to prepare students for college (through the project described at www.rampuptoreadiness.org) and to assist those who have graduated from high school without sufficient academic skills to perform in community college settings without taking remedial coursework. These students often do not have the personal and social skills to persist in the face of challenge. As we proceed with our research and development efforts, I am intrigued by whether there is a sequence for some students: first they must attend, then engage and finally make a personal investment in their future. Without fostering the other ABCs (autonomy, belonging, competence) students may not make a personal investment. Drawn from the goal-ability theory of student motivation (Maehr & Midgley, 1996), *personal investment* refers to the choice to invest one’s motivation

in a future outcome. It is formed by three essential and inter-related concepts: (1) primacy of purpose or goals that guide learning; (2) concept of self; and (3) options available. Direction, intensity and quality of students’ personal investment are likely to eventuate in different student outcomes as a function of schooling experiences and family engagement. The direction of behavior pursued by students varies as a function of the kind of choices individuals make and persistence or continuation of a course of action once taken. Similarly, the intensity or nature of investment in any given task may vary as a function of the students’ willingness to revise and resubmit a paper, complete homework with accuracy or be academically engaged. The quality of personal investment refers to self-reflection and a thoughtful learning process. Students who are personally invested consider how they invest when they invest. They are academically venturesome, weighing risks involved; strategic, using different strategies and thinking processes to complete a learning task; and reasoning and critical thinkers, approaching a task critically and creatively. We have found that, within a relationship-based context, personal investment in learning can be initiated and sustained for students placed at risk of educational failure.

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S.L.C.

4. THE ME AND MY SCHOOL SURVEY

Charles Darr

New Zealand Council for Educational Research

Introduction

Over the past two years more than 100 New Zealand schools have used the *Me and My School* (MMS) survey to investigate how students perceive their own engagement in school and learning. Developed by the New Zealand Council for Educational Research (NZCER) and aimed at students in Years 7–10, the survey provides schools with a kind of engagement temperature gauge.

The following discussion begins by introducing MMS and looking at how it defines engagement. It then outlines how the survey was developed and explores some of the patterns found in data collected nationally. It finishes by looking at how schools are using MMS to inform their policies and practice.

The *Me and My School* survey

MMS is a self-report survey that asks students to rate their level of agreement to a series of statements about their own engagement in school and learning. Students respond to each statement by choosing from “strongly disagree”, “disagree”, “agree” and “strongly agree”. The survey is usually done in class groups, and students are not asked to identify themselves on the survey form. When the students have completed the survey, a class representative is chosen to collect the forms and put them in a class envelope, which is sealed and returned to the school office. The survey can also be administered online. In this case students log on to a survey website using a class password and complete the survey onscreen.

NZCER provides an analysis service to score the surveys and produce a series of reports. The reports are provided across student subgroups and allow schools to examine students’ overall levels of perceived engagement, as well as how they have responded to each individual survey item. Nationally representative reference group data are provided in the reports so that schools can compare their students with students nationally.

Schools generally use the survey in Term 3, which is when the original national reference data for the survey were collected. From time to time individual schools will ask to use the survey at other times of the year.

There were several motivations for developing MMS:

1. High levels of school engagement are associated with positive educational and health outcomes.

2. Unlike some educational variables, for instance socioeconomic status or previous academic success, student engagement can be influenced by the ways we teach and the ways we organise our schools.
3. The middle school years (Years 7–10) are pivotal years for students, marked by school transitions, emotional and physical changes and increased rates of suspensions and stand downs.
4. The NZCER team felt it could be useful for schools to have a standardised instrument to look at engagement.

The overall intention in developing the survey was to create a set of survey items and associated reporting functions with proven psychometric credentials that schools could use to inform their understanding of how students perceived their own engagement.

What is student engagement?

Student engagement is an abstract idea—it doesn't exist as a physical entity that can be poked, prodded or contained in a vial. However, most educators would feel that they can sense when it is present and believe that they themselves have an important role in creating the conditions within which engagement can occur.

Wikipedia (“Student engagement”, 2009) describes student engagement as a “usefully ambiguous” term. The ambiguity is certainly reflected in the research literature, where student engagement has a number of definitions, and is often used interchangeably with terms such as *school bonding*, *school attachment*, *school engagement* and *school connectedness* (Libbey, 2004). In a major review of the literature, Fredricks, Blumenfeld and Paris (2004) recognise three definitions of engagement.

The first of these is called *behavioural engagement* and refers to students' actual participation in school and learning. This includes observable behaviours such as positive conduct, persistence in learning and involvement in school life. Behavioural engagement is seen as crucial to academic achievement and the prevention of dropping out. The second definition is called *emotional engagement* and refers to students' emotional responses to teachers, peers, learning and school. Emotional engagement is seen as creating connections with school and “influencing willingness to do the work” (Fredricks et al., 2004, p. 60). Finally, *cognitive engagement* stresses investment in learning, seeking challenge and going beyond the requirements. It also includes employing self-regulation strategies to control and monitor learning.

The distinctions between these definitions are blurred. In research studies, similar survey items are often used to assess the different types of engagement (Jimerson, Campos, & Greif, 2003). The multifaceted nature of engagement leads Fredricks et al. (2004, p. 60) to describe engagement as a “meta” construct. They note that:

The fusion of behavior, emotion and cognition under the idea of engagement is valuable because it may provide a richer characterisation of children than is possible in research on single components. Defining and examining the components of engagement individually

separates students' behavior and cognition. In reality these factors are dynamically interrelated within the individual; they are not isolated processes. (p. 61)

How we define engagement is not a trivial issue. To a large extent it reflects what we value as a worthy outcome of education. One possible danger in developing a survey such as MMS is to define engagement as those activities that lead to success on a narrow range of academic outcomes—for instance, standardised test scores. *The New Zealand Curriculum* (Ministry of Education, 2007) is interested in a much broader range of outcomes than this, some of which are difficult to measure. These include a range of competencies, dispositions and values, such as developing confidence, being connected with others and our environment, being equipped as lifelong learners, having the ability to manage self and knowing how to contribute and relate to others. If we are to be true to the curriculum it is important that what we value as engagement builds towards these outcomes.

What we value as engagement also ultimately reflects our understanding of what it means to learn. Engaging in learning isn't necessarily just about responding to direct instruction, completing work and spending time on task.

How we learn is complex. Jim Neyland (2003), writing in the context of mathematics education, introduces an approach to learning he calls *effortless mastery*. Effortless mastery recognises the role of the unconscious or “undermind” in learning. Here engagement in learning allows for the role of intuitions, feelings and even the aesthetics of the subject matter. Neyland contrasts effortless mastery with more orthodox approaches to learning, which rely on deliberate, self-conscious approaches to knowing. From the orthodox perspective, knowledge is something that is transmitted to the learner. This means it must be atomised and presented in formal sequences. From the orthodox perspective the unconscious is not recognised as useful or involved.

Neyland draws on a rather perverse experiment described by Held and Hein (1963) to suggest that when pedagogical approaches ignore the unconscious, the outcome for some students is manifested in anxiety and mental clumsiness. In the experiment two kittens were exposed to nearly identical visual information. One of the kittens (the passive kitten), however, was placed in a little gondola, and linked up to a harness worn by the other (active) kitten. This meant that as the active kitten moved about and explored its environment, the passive kitten was moved in exactly the same manner. The result was that, as they grew/matured, only the active kitten developed normal depth perception—when released the passive kitten stumbled around uncontrollably, while the active kitten moved with dexterity. Neyland suggests that in our orthodox approaches to learning, the conscious is active, but the unconscious is passive. For some, the result is the mental equivalent of stumbling around.

Neyland (2004) places effortless mastery in a pedagogical framework he calls the jazz metaphor. The metaphor draws from experiences created in jazz music, where improvisation and play are highly valued, but where at the same time musicians

recognise the structures they work in and around. Neyland draws on complexity theory to develop the jazz metaphor. He notes:

In the complexity model, teachers and students do not walk down a predetermined linear path. They become together a small learning organisation that engages in 'laying down a path while walking'. (p. 10)

MMS very purposefully takes a “meta” perspective on engagement by using a collection of survey items that span the definitions in the literature. It focuses on students’ overall perceptions of their connection with school and involvement in learning, rather than their engagement in a specific classroom context or learning area. The survey also resists narrowing engagement to a simple set of academic behaviours, such as following routines and spending time on task.

From a face validity point of view several themes become evident when investigating the item set that makes up MMS. In particular, value is placed on:

- positive, trusting, active relationships with teachers and peers
- a feeling of personal safety and belonging
- a belief in the purpose, relevancy and efficacy of school
- an active involvement in learning situations and a preparedness to persist.

The development of MMS

The development of MMS began with the creation of a large pool of survey items that researchers at NZCER believed were useful indicators of connection to school and investment in learning. Some of the items were sourced from the research literature, including survey work done by NZCER, for instance: “Most mornings I look forward to going to school”, which points towards the emotional definition of engagement (Battin Pearson et al., as cited in Jimerson et al., 2003, p. 16). Others were written specifically for the instrument, for example: “There is just the right amount of challenge at school for me”, which links to the cognitive definition. As part of the development process, other researchers from both inside and outside NZCER reviewed the item choices.

An effort was made to ensure the statements included in the survey were expressed in terms of beliefs, attitudes and behaviours that the student responding holds or exhibits themselves, rather than as observations or judgements they make of the school, their teachers or their peers in general. For instance “I feel safe”, rather than “This school is a safe place”, and “I pay attention in class” rather than “Students in our school pay attention”.

Rasch measurement and MMS

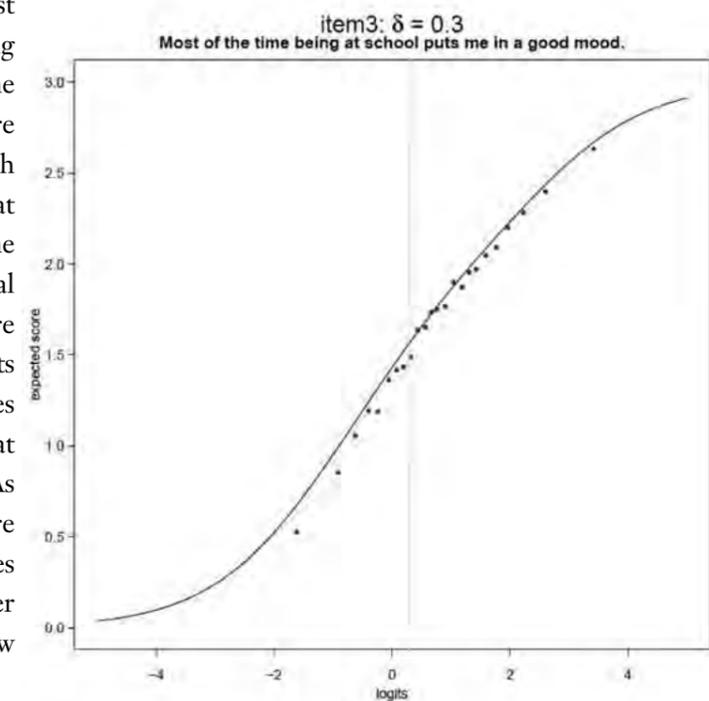
An important aspect of the development of MMS was the application of Rasch measurement (Bond & Fox, 2007).

Rasch measurement is built around a mathematical model that transforms raw survey scores into locations on an equal-interval scale. An equal-interval scale means that each unit on the scale indicates the same amount of the construct or trait being measured. A basic assumption of the model is that the survey is measuring one dominant trait. When transforming a raw survey score to a location on the scale, the model takes into account that some survey items are harder to agree with (involve higher levels of the trait) than others. It also takes into account that the differences or changes in the level of agreement indicated by the response categories (strongly disagree to strongly agree) are not necessarily constant within an item or between items.

Constructing a Rasch measurement scale begins with a theory regarding the trait to be measured. The theory anticipates the kinds of questions and responses that will be associated with different scale locations. The theory is operationalised in the form of survey items (indicators of the latent trait under consideration). Responses are then collected and analysed to see how well they fit the measurement model. Good fit indicates that the assumptions of the model have been met—the survey items are discriminating in a uniform way to measure the same trait. When responses for a survey item show poor fit to the model, evidence exists that the item is measuring something different from the other items, or that it is causing confusion for respondents. When this happens the item becomes a candidate for exclusion from the final instrument.

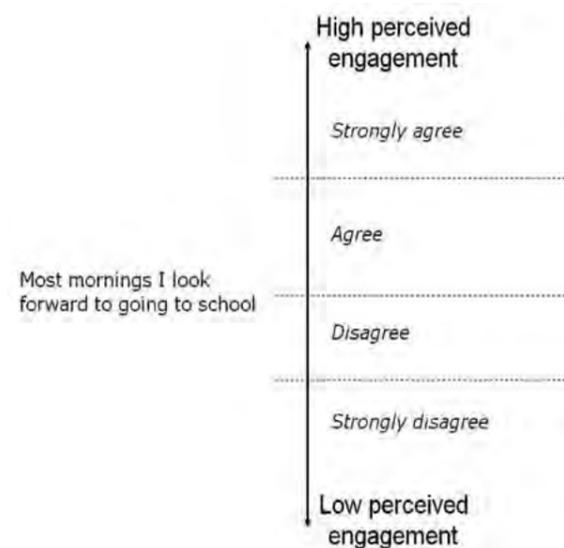
Figure 1 shows a graph used to check the fit of the MMS item “Most mornings I look forward to going to school”. The black curve in the graph is used to show the item score (agreement level) that the Rasch model expects from respondents at different locations on the scale. As the scale score shown on the horizontal axis increases, the expected score on the item goes up. The black dots are used to show the average scores of groups of actual respondents at different points along the scale. As can be seen, the expected scores are very close to the actual average scores recorded from respondents; in other words, responses to this item show good fit to the model.

FIGURE 1 EXPECTED SCORE CURVE FOR ITEM 3



The outcome of the item calibration process is a set of survey items where the response categories for each item can be associated with locations on the measurement scale. Figure 2 provides a picture of how the response categories (strongly disagree to strongly agree) for the statement “Most mornings I look forward to going to school” are associated with the MMS scale. Each of the regions separated by the dotted lines indicates the part of the scale where the specific response is the most probable response. The boundaries between the regions are referred to as “thresholds” and represent “tipping points”, where two adjacent response categories are equally likely.

FIGURE 2 LOCATING A SURVEY ITEM ON THE SCALE



Once the survey items have been located on the scale, it becomes possible to locate the respondent’s survey scores on the scale. In the case of MMS, response data were collected from nationally representative samples of students at each of Years 7–10, allowing us to provide profiles of perceived engagement on the scale that schools can use for comparison purposes.

Rasch analysis was applied throughout the development process, which included two pilot trials each involving over 1,000 students, and a much larger national trial with over 5,000 students. Each analysis provided strong evidence that the survey items were reliably measuring one overarching dimension, meaning that the students’ survey scores and the survey items could be placed on a measurement continuum that stretched from low perceived engagement to high perceived engagement. This also meant that any attempt to divide the items into subsets and produce separate scales would result in very highly correlated measures. A decision was made therefore to produce one overall perceived-engagement scale.

The analyses carried out through the development process enabled the initial item pool of over 60 survey items to be reduced to a more manageable 33 items that showed good fit to the model and provided broad coverage of the engagement construct.

The scale description

Because the different response categories for a survey item can be associated with different parts of a Rasch measurement scale, Rasch measurement scales can be described. Researchers developed a description for the MMS scale by studying how the response categories for the survey items were associated with the scale, and then writing a short summary statement to indicate the most probable responses to the survey items at different scale locations. The scale description for MMS is shown in Figure 3.

Figure 3 shows the scale on the left hand side numbered from 5 units to 105 units. The numbers themselves are simply markers, and indicate increasing scale locations. Scale descriptors, each covering a specific section of the scale, are presented to the right of the scale. As can be seen, high locations on the scale are associated with strong positive responses to the survey items, and low scale locations with strongly negative responses.

There are some interesting observations that can be made using the scale description. First, it is interesting to note which statements are associated with high locations on the scale. For these statements, strong agreement only becomes most probable when students’ overall survey scores are very high. Statements at this high level include: “I find it easy to concentrate on what I am doing in class”; “People care about each other in this school”; and “Most of the time being at school puts me in a good mood”. Strong disagreement with the statement “I often feel bored in class” is also located high on the scale.

Conversely, some statements are relatively much easier to agree with than others. These occur at lower levels on the scale and include items such as: “I respect other students’ space and property at this school”; “I think it is important for me to behave well at school”; and “My family’s culture is treated with respect by the teacher”.

These latter statements represent an interesting pivot or tipping point. Their location on the scale indicates that they are generally the first positive indicators to “turn on” as perceived engagement increases and the last to “turn off” as it decreases. In other words, a person who can’t agree with these statements is generally unlikely to agree with other positive statements about engagement. It is interesting to note the negative responses associated with this point on the scale. These could be seen as either some of the first negative statements to appear as we go down the scale, or some of the last negative responses to disappear as we go up the scale. The negative responses at this level include disagreeing with the statements: “Most mornings I

FIGURE 3 THE SCALE DESCRIPTION



look forward to going to school”; “I am comfortable talking to the teachers about problems”; “I take care that my homework is done properly”; and agreeing with the statement “I often feel bored in class”.

The scale description is an aid to understanding how perceived engagement changes as scale scores increase.

National patterns of perceived engagement

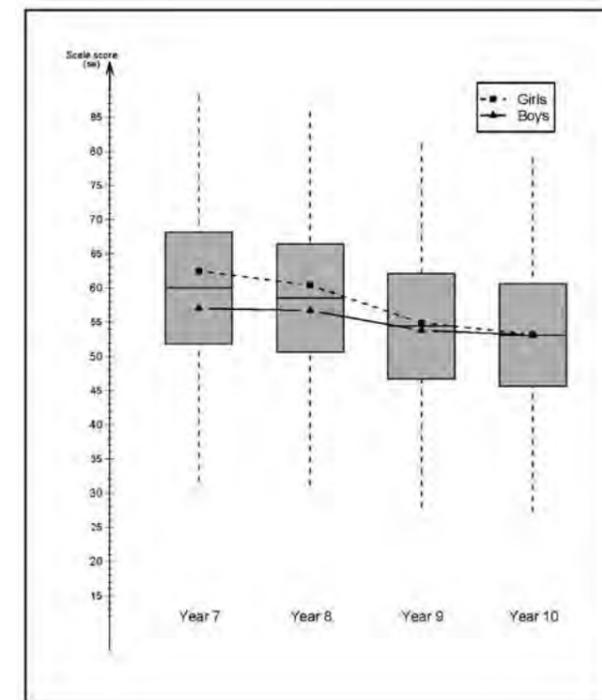
As has already been noted, schools can use the reports generated for MMS to compare their students' perceptions of engagement with the perceptions of students who were part of representative national reference samples in Years 7–10. Two samples were used to produce the reference data: a Years 7 and 8 sample, and a Years 9 and 10 sample. Both samples were stratified according to decile and school type.

The national data expose some interesting patterns. These include differences by year level, gender, ethnicity, school and class.

Perceived engagement by year level and gender

Figure 4 shows that, overall, the level of perceived engagement decreases from Years 7–10. At the median level, students drop from 68 units on the scale in Year 7 to 53 units in Year 10. A very noticeable feature of this decline is the steeper drop that occurs between Years 8 and 9. This, of course, is a transition year for most students, when they will often change to a much larger school, usually with very different organisational structures and patterns.

FIGURE 4 PERCEIVED ENGAGEMENT BY YEAR LEVEL



When we look at perceived engagement in terms of gender another interesting pattern emerges. Figure 4 uses square and triangular markers to show the median scale scores for boys and girls respectively. As can be seen, at the median level Year

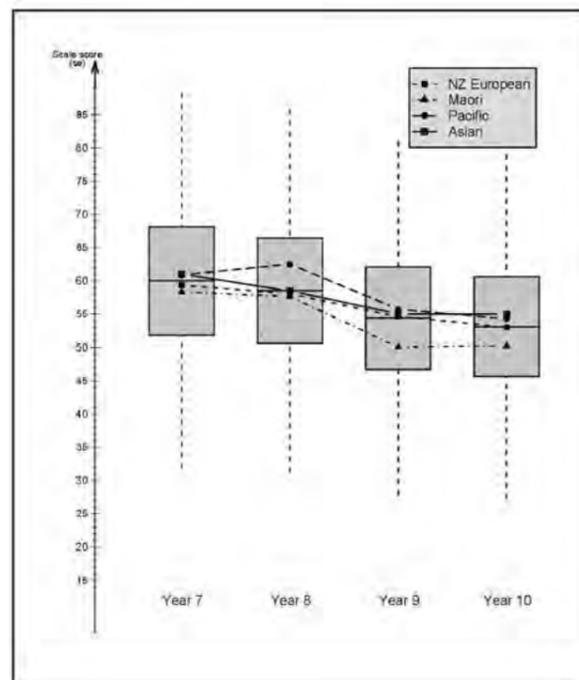
7 female students tend to report higher levels of perceived engagement than their male counterparts. What is interesting, however, is that while overall engagement for both boys and girls declines from Years 7–10, the downward trajectory for females is much greater than that for males. By Year 10 the median engagement scores for both genders are almost exactly the same.

Perceived engagement by ethnicity

When MMS is administered, students are asked to indicate their ethnicity by choosing from New Zealand European, Māori, Pacific, Asian and Other. If they choose to, they can select more than one ethnic group. Figure 5 shows the median scale score by year level for New Zealand European, Māori, Pacific and Asian students. At Years 7 and 8 the median Māori scale score is slightly lower than the medians for other ethnic groups, but only slightly. At Year 9, however, there is a much larger drop for Māori than for any other ethnic group. The result is a fairly large difference at the median for Māori in overall perception at Year 9 and Year 10.

Interestingly, students who choose Pacific as their ethnicity are generally more positive than students who choose other ethnicities. Figure 5 shows them as recording higher median levels at Years 7, 8 and 9 on the scale than students of all other ethnicities. However, the drop that occurs between Years 8 and 9 is as steep as that recorded by Māori students.

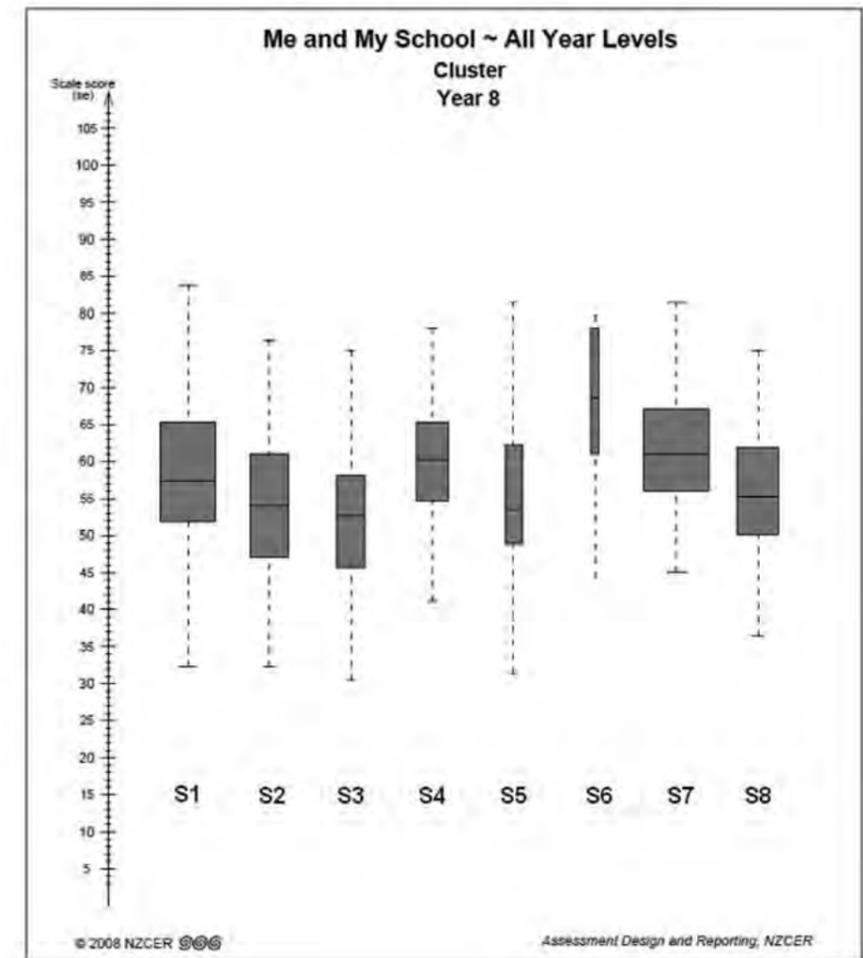
FIGURE 5 PERCEIVED ENGAGEMENT BY ETHNIC GROUP



Perceived engagement by school and by class

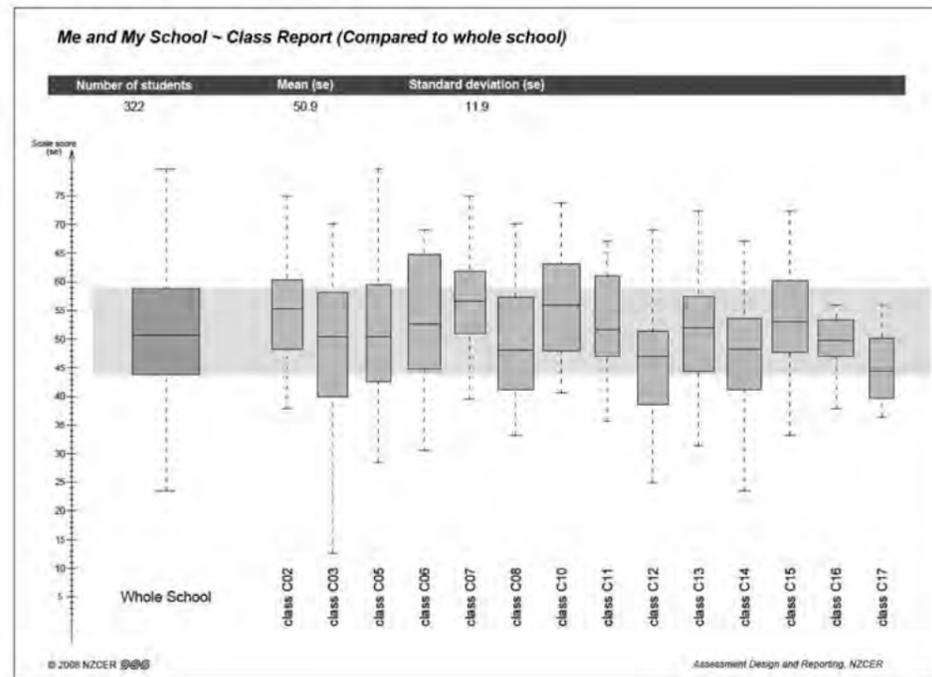
The national survey results also show that there are differences between schools. Figure 6 shows a range of schools with Year 8 students. As can be seen, students at some schools have responded much more positively overall than students at other schools.

FIGURE 6 PERCEIVED ENGAGEMENT FOR A GROUP OF SCHOOLS



Within a school there can be a large amount of variance at the class level. Figure 7 plots the scale scores by class for a large intermediate school. As can be seen, some students in particular classes tend to respond much more positively than students in other classes. This might be explained by differences in the class context, or because the class contains a particular group of students, or both. It is interesting to note that even when a class or school has higher overall perceived engagement there is still a spread of results indicating different experiences for different individual students.

FIGURE 7 PERCEIVED ENGAGEMENT FOR A GROUP OF CLASSES WITHIN A SCHOOL



Patterns for specific survey items

When schools receive their reports they can look at how students have responded to the individual items on the survey and, as with the box plot reports, compare their school results with results from nationally representative reference samples. The reports use strip graphs to show the proportion of students who have selected each of the possible responses.

Some of the individual survey items are particularly interesting to schools. These include “I feel safe at school” and “I often feel bored at school”.

I feel safe at school

Nationally, the results for the item “I feel safe at school” are quite sobering. At Year 7 approximately 16 percent of the national reference group responded that they disagreed or strongly disagreed with the statement. By Year 10 this negative response has increased to 24 percent (see Table 1).

TABLE 1 PERCENTAGE RESPONDING AT EACH YEAR LEVEL TO TWO STATEMENTS

Statement	Year 7	Year 8	Year 9	Year 10
Disagree or strongly disagree that they feel safe at school	16	16	22	24
Agree or strongly agree that they often feel bored in class	47	52	61	64

Safety isn’t necessarily a straightforward issue. What it means to be safe in a particular school context has to be teased out before the issue can be fully understood. Safety can refer to physical or mental safety, or both, and how safe we feel can be affected by the communities we live in and the media messages we hear. However, feeling safe and secure is a basic human need and it is hard to imagine that the opportunities schools present can be optimised when students do not feel safe in their school environment.

I often feel bored at school

According to the national survey results, New Zealand students are often bored at school. Table 1 shows that by Year 10 the majority of the national reference group agree or strongly agree that they often feel bored in class. Returning to the scale description, it is interesting to note that students are more likely to respond positively to all the other statements about engagement, before they will strongly disagree that they often feel bored in class.

Learning can be difficult and often involves discipline. It doesn’t, however, have to be equated with drudgery and a sense of irrelevancy. Teachers are in a position to pique curiosity and elicit interest.

Mihaly Csikszentmihalyi (1990) argues that boredom is a consequence of a mismatch between the skill demands of a task and the capabilities of the learner. Csikszentmihalyi develops this idea in his concept of “flow”. Flow represents a zone of deep engagement characterised by a focus so intense that the person involved often loses track of time. Flow situations happen when the challenge of a task is optimally matched with a person’s skill levels. This balance is essential: too much challenge can lead to anxiety, while too little can lead to boredom. For Csikszentmihalyi, learning happens best in situations which engender flow. Moreover, educators can create the conditions in which flow can occur and individuals can maximise their ability to promote flow.

The national data regarding boredom from MMS suggest that finding ways to create flow and make the work of school relevant to young learners’ lives is an important challenge for educators in the middle school.

How is MMS used by schools?

NZCER is always interested in how schools are making use of the MMS survey. Some of the information we get comes first-hand from schools who have worked closely with us, often as part of a cluster of schools. At other times schools ring or visit us to talk about their result. In the middle of 2009 we also invited schools who had used the survey in the last year to respond to an informal online survey.

Overall, schools report that the MMS survey is useful and that the results have been a catalyst for discussion and the formation of new policies and initiatives.

Promoting student voice

Many schools have seen the survey as a way to elicit student voice. Often the use of the survey to capture a school-wide picture has led to other interactions with students. For instance, some schools have set up focus groups with students to look at some of the issues raised in the survey, such as safety or boredom.

Two schools noted that use of the survey has led to the development of a student council and a rethinking of how the council would be used to inform school decision making.

Promoting discussion amongst staff and community

Several schools have used the reporting from MMS as a focus point for staff meetings. One school reported an activity where groups of teachers were given copies of the MMS reports and asked to discuss a subset of responses. They then had to report back to the larger meeting to lead a more general discussion. According to the school, this led to useful and ongoing conversations.

For some schools, this discussion has also occurred at the board of trustees level. One school also used the survey results to prepare a summary report for their community.

As a catalyst for new initiatives

Some schools have reported that MMS had been a catalyst for new school-wide strategies designed to improve engagement.

For example, in one area an intermediate and a secondary school have decided to look at how the students' perceptions of engagement change as they transitioned from one school to the other. This year, to aid in the analysis, the secondary school's version of the MMS survey form will ask students to show which contributing school they came from. This will be used to produce a series of reports for students who have transitioned from the intermediate.

One school noted that the survey results had contributed to a decision to employ a boys' dean.

As a monitoring tool

Several schools are using the MMS survey to monitor change as students progress through the year levels. They have commented that the first year of data collection has created a benchmark that they can use as a comparison point in future years.

Conclusion

In a book entitled *The Wisdom of Crowds*, James Surowiecki (2004) argues that the collective wisdom of many individuals often leads to the best decision making. Surowiecki gives several examples to make his point. One of the most compelling

is an episode involving the British scientist Francis Galton. One day Galton came across a competition at a village fair to guess the weight of an ox. He noted the variety of people who were trying their luck and wondered what such a crowd of people, many of whom had little or no interest in farm animals, could say about the ox's weight. Galton was so intrigued that after the fair was finished he returned and collected the 800 or so entries. He then calculated the median guess and was surprised to find that the result differed from the official measured weight by only a few pounds.

Surowiecki provides many examples of this kind of crowd wisdom. In his book he lists four criteria that he believes enable this kind of wisdom to flourish:

- Diversity of opinion: Each person has private information, even if it's just their own interpretation of the known facts.
- Independence: People's opinions are not determined by the opinions of those around them.
- Decentralisation: People are able to specialise and draw on local knowledge.
- Aggregation: Some mechanism exists for turning private judgements into a collective decision.

Surowiecki argues that when these conditions exist, the wisdom the crowd can impart is far greater than the wisdom of a limited number of experts.

The MMS survey turns students' private judgements into a collective profile of engagement. It does this by providing a standardised mechanism that students can use anonymously to make judgements on a series of indicators related to their own level of engagement. As such it brings an important voice to the table—student voice.

As a mechanism for providing student voice, it is at least systematic, and I have argued that it has been developed with some rigour. However, I would also argue that it is not necessarily a strong example of student voice—it is at best a starting point, or a catalyst for something deeper and more real.

A voice of course requires a listener.

Brent Davis, (1996) explains listening as a coming together, a kind of touching from a distance. He argues that the most powerful type of listening involves a conversation, where rather than trying to impose or provide a viewpoint to an other—as in a discussion—we work together to reach a joint understanding. This type of listening means that:

There is no winner, no gaining of the upper hand, no final word, no compulsion to stick with the topic. Rather, the conversation allows us to move freely and interactively towards those questions that animate us while enabling us to explore not just the topics that emerge, but why such topics capture our interest in the first place. (p. 40)

For Davis “A goal of the conversation is to deepen understanding and, in that deepening, to create knowledge” (p. 40).

Perhaps the real secret of engagement is to develop our ability to listen to students' voices and to involve them in conversations. Conversations that will sometimes be about learning areas like mathematics, science, English and history, but will also be about the students themselves, their heritage, culture, intuitions and experiences, and their emerging place in the world.

If MMS helps us listen, then I think it will have done some good.

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5. THE TE KOTAHITANGA EFFECTIVE TEACHING PROFILE

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Abstract

Te Kotahitanga is a project that seeks to improve the educational achievement of Māori students in mainstream schools. Through interviews with Māori students, their teachers and whānau, the authors learnt about the characteristics of teachers that made a difference. They have drawn these together into the Effective Teaching Profile.

Introduction

Te Kotahitanga¹ is a kaupapa Māori² research and development project that seeks to improve the educational achievement of New Zealand's indigenous Māori students in mainstream secondary schools. Over the past seven years, through four phases, the project has spread to 33 secondary schools in New Zealand. In 2001 and 2002, the first phase of the Te Kotahitanga research project was undertaken by the Māori Education Research Team at the School of Education, University of Waikato and the Poutama Pounamu Research and Development Centre based at Tauranga.

We began the project by talking to Years 9 and 10 Māori students in a range of schools, along with other major participants in their education, such as their extended families, their school principals and their teachers. The schools ranged from single-sex to co-educational, high- to low- decile, urban to rural, large to small and those with high to low proportions of Māori students. The aim of our conversations was for us to gain a better understanding of Māori student experiences in the classroom (and also of those others involved in their education).

1 *Te Kotahitanga* literally means “unity of purpose” but has increasingly come to embody its figurative meaning of unity through self-determination. Many Māori meeting houses and marae are named Te Kotahitanga in acknowledgement of the late 19th century movement of the same name, which had self-determination for Māori as one of its key policies.

2 Kaupapa Māori is a discourse of proactive theory and practice that emerged from within the wider revitalisation of Māori communities following the rapid Māori urbanisation in the 1950s and 1960s. This movement grew further in the 1970s and by the late 1980s had developed as a political consciousness among Māori people, which promoted the revitalisation of Māori cultural aspirations, preferences and practices as a philosophical and productive educational stance and resistance to the hegemony of the dominant discourse.

We then sought to develop a means of passing these understandings on to their teachers in a way that might lead to improved pedagogy, which would ultimately result in reducing educational disparities through improving Māori student achievement. In doing so we sought to identify those underlying teacher and school behaviors and attitudes that make a difference to Māori achievement. We developed these understandings and practices into what we termed an Effective Teaching Profile (ETP).

Overall, the research was concerned with finding out how schooling could make the greatest difference in reducing educational disparities through raising the educational achievement of Māori children (Bishop, Berryman, Cavanagh, & Teddy, 2007; Bishop, Berryman, Powell, & Teddy, 2007; Bishop, Berryman, Tiakiwai, & Richardson, 2003). An increasing body of evidence has begun to show that as teachers are supported to implement the ETP, they begin to develop classroom relationships and interactions that see Māori students attend more regularly, engage as learners and achieve to levels that begin to realise their true potential (Bishop, Berryman, Cavanagh et al., 2007; Timperley, Wilson, Barrar, & Fung, 2007).

How the ETP was constructed

The ETP was constructed from reflecting upon the numerous conversations we had with the students, their whānau, their principals and their teachers when we were constructing the narratives of experience (Bishop & Berryman, 2006). These narratives are at the heart of the project and are central to the professional development part of Te Kotahitanga, which seeks to assist teachers to implement the ETP in their classrooms so as to improve Māori students' achievement. The narratives are used to allow teachers to critically reflect upon and compare their own understandings about how Māori students see the world and experience schooling with how Māori students themselves experience schooling. This reflection is a necessary part of the consideration by teachers of the part they play in their students' learning.

The ability of students to articulate their experiences clearly and in detail formed the basis of this profile, as the students told us about the types of relationships and interactions between themselves and their teachers that hindered their educational achievement or promoted their advancement.

The ETP is made up of two parts. The first identifies two major understandings that effective teachers of Māori students possess, and the second identifies six ways these effective teachers relate and interact with Māori students on a daily basis.

Part 1 of the ETP

It is clear that our actions as teachers, parents or whoever we are at that particular time are driven by the mental images or understandings that we have of other

people. To put it simply, if we think of other people as having deficiencies, then our actions will tend to follow this thinking, and the relations we develop and the interactions we have with these people will tend to be negative and unproductive. That is, despite our having the best intentions in the world, if the students with whom we are interacting as teachers are led to believe that we think they are deficient, they will respond to this negatively. Various scholars such as Alton-Lee (2003), Kincheloe and Steinberg (1997), McLaren (2003) and Valencia (1997) have elsewhere discussed the detrimental impact of such deficit theorising on the educational outcomes of students. Our own findings support this research.

We were told time and time again by many of the interview participants that negative, *deficit thinking* on the part of teachers was fundamental to the development of negative relations and interactions between the students and their teachers, resulting in frustration and anger for all concerned. The students, their whānau, the principals and the teachers gave us numerous examples of the negative aspects of such thinking, the resultant behaviors and the consequences for students and teachers. Both groups spoke of how negative relations affected them. The teachers spoke of their frustration and anger about not being able to relate to and interact effectively with Māori students. The students spoke about negative relations being an assault on their very identity as Māori people. They told us of their aspirations to participate in learning, and with what the school had to offer, but they spoke in terms of negative relations and interactions being an all-out assault on who they were—on their very basic need to be accepted and acceptable—which precluded them from being able to participate in what the school had to offer.

We also learnt that positive classroom relationships and interactions were built upon positive, nondeficit thinking by teachers about students and their families that saw the students as having loads of experiences that were relevant to the classroom interactions. This *agentic thinking* by teachers means that they see themselves as being able to solve problems that come their way and having recourse to skills and knowledge that can help all of their students, and that they believe all of their students can achieve, no matter what. We learnt that this positive, agentic thinking was fundamental to the creation of learning contexts in classrooms where young Māori people are able to be themselves as Māori: where Māori students' humour was acceptable, where students could care for and learn with each other, where being different was acceptable and where the power of Māori students' own self-determination was fundamental to classroom relations and interactions. Indeed, it was the interdependence of self-determining participants in the classroom that created vibrant learning contexts, which were in turn characterised by quality learning relations and interactions.

The teachers who were already running effective classrooms along the lines described in the ETP told us about the importance of their not seeing Māori

students in deficit terms and of their knowing in themselves that they could make a difference for all of their students. Indeed, these teachers were able to give us numerous examples of strategies they used to create effective learning relationships and interactions in their classrooms (see Bishop et al., 2003, for details). These teachers were very clear that their ability to teach and interact effectively with Māori students in their classrooms was closely tied to their having positive, nonjudgmental relationships with Māori students; seeing Māori students as being self-determining, culturally located individuals; and seeing themselves as being an inextricable part of the learning conversations—not as the only speaker, but as one of the participants. The principals spoke of the importance of classroom relationships that were built on trust and respect, which in turn led to positive learning outcomes. The whānau members were also convinced of the value of positive relationships based upon teachers respecting who the students were as Māori, rather than whatever problems they presented. Above all, the students were very clear that teachers who saw them as having deficiencies were not able to develop positive learning relationships with them, but that their teachers who saw them in positive terms were wonderful to be with and learn with.

Many students spoke of how they reacted strongly when confronted with what they saw as unfair treatment; for example, unfair punishments. Some spoke of retreating into themselves, into drugs and/or using selective absenteeism as a means of escaping from untenable relationships in some particular classrooms. However, one group in particular told us how they reacted and “fought back”, signalling to us that they were striving for their own self-determination within a situation they saw as being manifestly unfair. In many ways, it is a sad irony for Māori people living in modern New Zealand that Māori haka is used in international sports clashes to signal defiance and self-determination, whereas when Māori students display their aspirations for self-determination in a defiant manner at school, they are punished rather than understood.

Part 2 of the ETP

We now turn to the actions that effective teachers demonstrate on a daily basis in their classrooms. In this section we describe each of the actions as drawn from a detailed consideration of the narratives, and then describe how our kuia whakaruruhau explained these actions in terms of Māori understandings. We wish to acknowledge our kuia whakaruruhau, Rangiwahakaehu Walker, Mate Reweti and Kaa O’Brien for their insights into the cultural meanings that are fundamental to the ETP.

Manaakitanga: Caring for students as Māori

The students and their whānau members spoke in detail about the importance of teachers caring for the children as Māori. Indeed, they spoke about this as often as

they spoke about their aspirations for the students to achieve at school. Many Māori leaders have echoed these aspirations and asked “What if we gain good achievement levels but we lose who we are as a people?” That is, what was clear from the stories was the aspirations of Māori people, old and young, for educational relationships and interactions that respected their aspirations for self-determination; for them to be able to be themselves, to be different, but to be part of the conversation that is learning, and to participate in the benefits that education has to offer.

The people we spoke to emphasised the importance of teachers demonstrating on a daily basis that they cared for Māori students as Māori, as being culturally located; that is, as having cultural understandings and experiences that are different from other people in the classroom. They emphasised that Māori people see, understand and interact with the world in different ways, and it is important that teachers are able to create learning relations and interactions where this is fundamental. Despite many teachers saying that they do care for Māori students, their actions that express this need to be in ways that Māori students can understand. Our kuia whakaruruhau termed this phenomenon *manaakitanga*, where *mana* refers to authority and *aki*, the task of urging someone to act. This concept refers to the task of building and nurturing a supportive and loving environment by teachers for Māori and all students where students can be themselves.

Mana motuhake: Caring for the performance of Māori students

The students spoke at length about the low expectations that many of their teachers had of them, and how their performance in class changed when their teachers signalled that they had high expectations of them. Time and again, the students emphasised that teachers get what they expect from Māori students. Teachers who did not appear to care for them, and who had low expectations of them, by and large received poor-quality work from them. The students told us that teachers who expected and allowed them to work interdependently would see them become independent learners. Our kuia explained that in modern times *mana* has taken on various meanings such as *legitimation* and *authority*, and can also relate to an individual’s or a group’s ability to participate at the local and global level. *Mana motuhake* involves the development of personal or group identity.

Ngā whakapiringatanga: Creating a secure, well-managed learning environment

The students did not appreciate chaotic classrooms any more than did their teachers. They also knew when lessons were not prepared and when they were not at the centre of the teacher’s attention, but more of an irritant to be coped with until a more acceptable and probably senior class came along. The effective teachers and the students spoke of the strong desire for and necessity of the boundaries, rules

and organisation that are fundamental to effective learning. This includes teachers knowing their curriculum area and being able to use the curriculum flexibly so as to respond to the learning conversations being developed in the classroom. Our kuia saw this action in terms of *ngā whakapiringatanga*, which involves the careful organisation of the specific individual roles and responsibilities required in order to achieve individual and group outcomes.

This concept has at least two major implications for classroom management. The first is that teachers are able to create a secure, well-managed learning environment by incorporating routine pedagogical knowledge with pedagogical imagination. The second is that teachers need to be able to organise classrooms so that all the individuals involved are able to contribute to their own learning and to support the learning of others. *Ngā whakapiringatanga* is about teachers taking professional responsibility for activating the engagement of all learners.

Wānanga: Engaging in effective learning interactions with Māori students

The students spoke time and time again about the problems that traditional approaches to teaching posed for their learning. They could just not cope with the teacher writing notes endlessly on the board or talking at them for long periods of time. They could not learn from this style of teaching, whereas when they were able to discuss things with their mates and interact with the teacher in smaller-than-classroom-sized settings, they felt much more able to learn. They also wanted feedback on their attempts at learning, and indications as to where they could go with what they had attempted so far (feed-forward). Others spoke to us about the fact that they had good ideas (prior knowledge), and would like opportunities to share these with teachers and their peers in ways that would help them have a say in the direction of lessons and their learning. Our kuia identified that as *wānanga*. As well as being known as Māori centres of learning, *wānanga* can also be a learning forum that involves a rich and dynamic sharing of knowledge. With this exchange of views, ideas are given life and spirit through dialogue, debate and careful consideration in order to reshape and accommodate new knowledge. This means that teachers are able to engage in effective teaching interactions with Māori students as Māori.

Ako: Using a range of teaching strategies

Many of the people we spoke to talked about the problems posed for students' learning by teachers using a limited range of strategies, especially those that precluded interaction and discussion. Our kuia spoke of the aspiration to change this as the desire to implement the Māori understanding of *ako*, which means to learn as well as to teach. It is both the acquisition of knowledge and the processing and imparting of knowledge. More importantly *ako* is a teaching-learning practice

that involves teachers and students learning in interactive, dialogic relationships. With *ako*, teachers use strategies that promote effective teaching interactions and relationships with their learners; teachers can learn from students just as students learn from teachers. It is in contexts like these that *co-construction* of knowledge is likely to occur.

Kotahitanga: Using student progress to inform future teaching practices

Students spoke about their desire to know how well they were learning and their desire to be let in on the secret; that is, learning in such a way that they can monitor their own progress. Effective teachers spoke about how reflecting on student progress could allow them to work towards the constant improvement of their practice. Our kuia understood this in terms of *kotahitanga*, which is a collaborative response towards a commonly held vision, goal or other purpose or outcome, meaning that teachers and students can separately and collaboratively promote, monitor and reflect on outcomes that in turn lead to improvements in educational achievement for Māori students.

Conclusion

Fundamental to the ETP is the creation of a culturally responsive context for learning where teachers understand the need to explicitly reject deficit theorising as a means of explaining Māori students' educational achievement levels, and where teachers take an agentic position in their theorising about their own practice. That is, where teachers see themselves as being able to express their professional commitment and responsibility for bringing about change in Māori students' educational achievement, and where they accept professional responsibility for the learning of their students. This notion of agentic positioning addresses what Covey (2004) terms *response ability*; that is, teachers understanding the power they have to respond to who the students are and to the prior knowledge and experiences that they bring with them into the classroom. This often involves the invisible elements of culture, which are the values, morals, modes of communication, decision-making and problem-solving processes, along with the world views and knowledge-producing processes that assist individuals and groups with meaning and sense making. In short, the realisation that improvements in learning outcomes can result from changing the learning relations and interactions in classrooms, not by just changing one of the parties involved, be they the students or the teachers.

These two central understandings are observable in these teachers' classrooms on a daily basis and are here expressed and understood in terms of Māori metaphor such as *manaakitanga*, *mana motuhake*, *whakapiringatanga*, *wānanga*, *ako* and *kotahitanga*.

In practice these mean that teachers:

- care for and acknowledge the mana of the students as culturally located individuals
- have high expectations of the learning for students
- are able to manage their classrooms so as to promote learning (which includes subject expertise)
- can reduce their reliance upon transmission modes of education so as to also engage in a range of discursive learning interactions with students or enable students to engage with others in these ways
- know and use a range of strategies that can facilitate learning interactively
- promote, monitor and reflect on learning outcomes that in turn lead to improvements in Māori student achievement, and share this knowledge with the students so that they can reflect on and contribute to their own learning.

This ETP, constructed from Māori students' suggestions as to how to improve education for themselves and their peers, and supported by the reported experiences of their whānau, their principals and their teachers, resonates with other analyses of Māori educational aspirations, preferences and practices (Bishop & Glynn, 1999; Smith, 1997). At centre stage is the necessity for a common kaupapa or philosophy that rejects deficit thinking and pathologising practices as a means of explaining Māori students' educational achievement (Shields, Bishop, & Masawi, 2005). In concert is the underlying aspiration for rangatiratanga that promotes the agency of teachers to voice their professional commitment and willingness to engage in effective relations, interactions and reciprocal practices that are fundamental to addressing and promoting educational achievement for Māori students.

The ways suggested for attaining Māori student success draw upon Māori cultural aspirations as identified by the interview participants. That is, the need for caring in the form of manaakitanga; for teachers demonstrating their high expectations and creating secure, well-managed learning settings, again in terms of the mana of the students; and the creation of whānau-type relations and interactions within classrooms and between teachers, students and their homes. These, together with the introduction of discursive teaching interactions and strategies and a focus on formative assessment processes, are identified in the narratives as resonating with Māori cultural aspirations.

Culturally responsive and reciprocal approaches to pedagogy in concert with the underlying aspiration for relative Māori autonomy underlies both the desire and solution for improving the educational achievement of Māori students in New Zealand. This can be operationalised by attending to Māori people's cultural aspirations for self-determination within nondominating relations of interdependence, and better understanding and supporting these contexts to emerge in our classrooms and schools.

Additional reading

Bishop, R., & Berryman, M. (2006). *Culture speaks: Cultural relationships and classroom learning*. Wellington: Huia.

This book contains narratives of experience of Māori students, their families, school principals and teachers. It was from these remarkable stories that the ETP was constructed.

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6. PARTICIPANTS' PERSPECTIVES

This section seeks to capture the responses and views of the participants at the conference. We gave each table large sheets of paper and asked them to work as a group to write down the issues for research, policy and practice arising from the day's presentations and the discussion. This was done at both the Wellington and Auckland conferences. Here is what they told us.

Issues for research

Further exploration of student engagement

There were many ideas about how the concept of student engagement could be further analysed in research. Groups wanted to know more about the causes of disengagement and saw the need for longitudinal research. Where and when do students engage, when do they disengage and what are the factors that influence this?

One group suggested a research outcome could be the development of indicators to characterise engagement. Further exploration of engagement would need to take in the student perspective, include special needs and take account of overseas programmes that have raised engagement for minority groups that were underachieving.

People also wanted more on the link between engagement and achievement and, for the future, whether there was a relationship between national standards and engagement. Will *The New Zealand Curriculum* (Ministry of Education, 2007) make a difference to engagement? One group questioned whether engagement was incompatible with “the industrial metaphor that still directs schooling”. They wanted research that supported schools to move away from punitive approaches.

Participants raised a number of research questions from NZCER's *Me and My School* student engagement survey. The survey showed a dip in engagement between Years 8 and 9—did this occur in area schools, where students don't shift school? There was also interest in further exploration of what “safety” means for students.

Class size

Professor Finn's presentation discussed research into the effect on engagement of small classes in the junior years, and participants felt this raised further issues. What would the impact be of dropping class size to 20? There was particular interest in an exploration of class size at secondary school, specifically tracking its effect on achievement. The research could be extended to look at school size, and its effect on academic achievement, behaviour and engagement.

The research–practice interface

Several groups mentioned the need for a more effective research–practice interface about student engagement. “Research outcomes need to be more readily available in a user/reader/general public-friendly context,” was one comment. They felt benefits could come from information about engagement being more widely known and presented in a positive way in public; for example, through the media. One group made the comment that video footage, as used in Professor Bishop's presentation about Te Kotahitanga, was a great medium for getting messages across about engagement.

Participants were adamant that part of the researcher's job is to translate research findings into practical, achievable strategies and to help get research findings into schools and into teacher practice.

Mentoring

Mentoring is a key part of the Check & Connect programme described by Dr Christenson at the conference, and participants were keen to see this further explored. What makes for effective mentoring? Given that disengagement can be a long process that begins early, how would mentoring work as an early intervention, perhaps at Years 4 or 5?

There was also interest in a study of effective mentoring in schools operating within a tight financial budget.

Building on Te Kotahitanga

Many participants felt Professor Bishop's presentation about Te Kotahitanga sparked more issues for research. People wanted to know more about how its effectiveness was monitored and how students were followed up. There were suggestions for expanding or deepening the programme by, for example, extending it to primary schools, and adopting Te Kotahitanga principles for non-Māori students. One group suggested the development of a pilot programme that integrated lessons from Te Kotahitanga with a future focus and excellence of pedagogy and practice approach.

Transition points and at-risk students

Transition emerged as a focus in the student engagement story, with more research wanted on transitions between primary, intermediate and secondary, and from secondary to tertiary. Participants felt these were times of particular vulnerability for students, that deserved more research attention.

Issues were raised about effective strategies for dealing with at-risk students, and about links to outside agencies that could support schools with at-risk students. Some groups were also keen to see more research about the outcomes for students who go through alternative education programmes.

Impact of assessment and qualification systems

Questions from a number of groups included: Does too much assessment have an impact on engagement, and if so, how? What is the optimal number of credits at senior levels? What is the impact of NCEA on levels of tertiary success, and on the development of resilience and persistence?

Effective learning and effective learning environments

Participants wanted to know more about practices that impact on learning and engagement; for example, collaborative or co-operative learning. What are the teacher classroom practices that make a difference? One group wanted more exploration of how effective teachers create a supportive learning environment. They felt an aspirational statement would be helpful. “What does it mean? What does it look like?”

Supporting teachers with data gathering and effective use

The discussion raised issues about the collecting of “value-added”-type data. Participants felt schools needed more support for collating and using data to inform the ongoing development of their teaching programmes; to talk with students about their strengths, weaknesses or progress; and to discuss student progress with parents.

Keeping the conversation going

There was a keen interest in continuing a shared conversation. One group requested another conference on student engagement in two years time to hear the results of current research. How to disseminate research in this area, and how to sustain the research, was a persistent theme. There were questions about effective ways to embed changes in teachers’ practice and beliefs. Participants wanted awareness raised through case studies, success stories and video footage containing clear messages.

Issues for policy

Class size

Participants wanted policy makers to consider the arguments for smaller class sizes in the early years, and they also wanted evidence about school size considered. The evidence about student engagement also threw up policy considerations about staffing ratios in secondary schools.

Prioritising and co-ordinating

Participants wanted priority given to programmes known to make a difference to student engagement, and for those programmes to be properly resourced

and available to all schools. Programmes need to address the critical points of disengagement at all levels of education.

“Knowing how effective Te Kotahitanga is for Māori students, how does the Government put in place policy to ensure all teachers are supported to put the ideals in place in all schools?” was the comment from one group.

Another wanted to see the findings from Te Kotahitanga framed in terms of other successful programmes for underachieving groups, to inform policy development. There were questions about how to include Pasifika students.

Groups wanted to see policy help drive changes in teacher practice to better support student engagement. Some felt a review of current practice was needed and wanted the Ministry of Education to develop policy guidelines about effective engagement, drawing on best practice from schools. One group was clear that all schools needed to take the Māori education document *Ka Hikitia* (Ministry of Education, 2009) on board and reject deficit theorising. Some wanted mentoring programmes funded.

Several mentioned the need for a co-ordinated, cross-agency approach, and one that connected into the community. They wanted to see efforts to avoid fragmentation of support and intervention programmes. There was a call for government agencies to connect across health and education to identify children and whānau at risk of disengagement, and to introduce mentoring programmes early on and particularly around transition points.

Groups advocated a rethink of policy around payment for mentors and release time for teachers for professional development or observations while working on engagement.

Disciplinary and behavioural policies also needed to be in the mix. “If engagement is about relationships, will punitive policies and actions against parents for truancy push parents further away from the school?” was one comment.

New models for schooling

A strong theme was the need for policy on new models for schooling, especially at secondary school level. “What does this research evidence mean for how we structure and design schools in the 21st century?” queried one group. Many suggested significant changes would be needed to how secondary schools were run, to cater for the needs of all students and to meet the pastoral needs of students as well as their learning needs. Groups felt work was needed to inform and engage all stakeholders in thinking about the purposes of education.

Preservice policy

Participants identified a number of policy issues relating to teacher education, including the need for information about student engagement to be incorporated

into teacher-education programmes. “Change will only happen if teachers come into schools with the knowledge and confidence to give the students the power to construct and lead their own learning,” one group said.

The comment was also made that preservice training needed to better prepare teachers for the reality of the classroom. The emphasis should be on effective teaching, as opposed to subject knowledge.

Issues for practice

Sharing and building knowledge

Groups felt the terms of the student-engagement conversation need to be defined as a starting point. Teachers, the wider staff and boards of trustees need to know what engagement is, and have opportunities to define and discuss it.

They need supportive professional development. This might include the opportunity for teachers to safely reflect on effectiveness and deficit thinking—“This won’t happen in an hour session one afternoon,” one group noted. Every teacher needs opportunities to reflect on characteristics of effective teaching and how they translate into practice.

Several groups mentioned that part of sharing knowledge was for classrooms to be more open and for effective teachers to share their practice. That might be the best way to get teachers on board with new knowledge about engagement. Some groups felt it would be useful for teachers to have indicators to help them see where they were at on the journey of building student engagement.

Student voice

Listening to student voice came up throughout the conference, and several groups picked up on it as an important issue for practice. They suggested schools could use responses from the *Me and My School* survey as a starting point to start making changes. This might lead to purposeful innovations—examples given included appointing class captains or a boys’ dean.

Several groups said there might need to be a particular focus on identifying and bringing forward Māori students, to ensure they had a say and were given leadership opportunities.

Students needed to see the point of what they were learning, to problem solve and to see connections to the outside world.

Ensuring policies are enabling, not punitive

Drawing on Professor Finn’s analysis, participants saw the need for a review of school policies and practices that may be leading to disengagement. Schools need to create the conditions for every child to experience success in order to foster engagement in learning.

Focus on relationships

Groups mentioned relationship building might start with something as simple as greeting students as they came to school. They identified the heart of relationships as being the individual teacher in the classroom and his or her students. But they said the importance of relationships extended to whānau, school and community. Community and family links need to be encouraged and valued.

Participants identified relationships as being about caring for the needs of the students and about their learning. Relationships should be about being fair, setting expectations and providing guidelines on what was expected.

Students should not be invisible or feel anonymous.

Groups said relationships included the connections between students and with other teachers, and could involve teaching students how to manage those relationships.

Gathering and using data

Participants noted the importance of early identification of students who are disengaged or at risk of disengaging, or who are underachieving. They saw this as requiring effective monitoring of data that indicate risk factors. Getting baseline data and then continuing to monitor it was important. When schools had data on attendance, achievement and behaviour, they then needed to think about what constituted engagement. Where was the level set? Schools needed to use the data to design individual support plans to address the needs that have been identified.

Final thoughts

“How is the money for all the projects in schools best provided to improve the educational outcomes for our students and to ‘close the gap’ for our Māori students?”

“How do you provide for the flexibility of experiences that will engage the diversity of today’s learners?”

“Create the conditions for every child to experience success to engage in learning.”

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