

For paper presentation at the AARE conference 2009

**Positive behaviour for learning: Aiming to implement a workable, positive and sustainable approach to managing student behaviour**

Katrina Barker, *University of Western Sydney, Australia*  
Alexander Seeshing Yeung, *National Institute of Education, Singapore*  
Brenda Dobia, *University of Western Sydney, Australia*  
Mary Mooney, *University of Western Sydney, Australia*

***Abstract***

Disruptive student behaviour not only impedes learning outcomes for students but also impacts negatively on teacher efficacy and wellbeing (Lewis, 1999; Tschannen-Moran & Woolfolk Hoy, 2001). Teachers who feel overwhelmed and undermined by poor student behaviour, low student engagement and motivation are less effective in the classroom. These teachers frequently revert to coercive and ineffective forms of discipline when challenged with difficult behaviour (Lewis, 1997). Consequently, the establishment of workable, positive and sustainable processes for dealing productively with student behaviour issues remains an educational challenge. This research examines the effectiveness of a behaviour management approach adapted from the United States, Positive Behaviour Interventions and Supports (PBIS) into the New South Wales Department of Education and Training Western Sydney Region (NSW DET WSR), which was renamed Positive Behaviour for Learning (PBL). Study 1 examines the attitudes of students, staff and parents to the implementation of PBL whereas Study 2 examines the impact of PBL on students' motivation and self-concept. Study 1 found that teachers implementing PBL had positive attitudes towards strategies of promoting positive behaviour. Parents reported high levels of satisfaction with PBL and there were mixed findings for students' attitudes toward PBL. Study 2 compares schools implementing PBL (experimental) with schools on a wait list (control). There were more favourable results for the experimental group compared with the control group in terms of: (a) student academic self-concept, and (b) student motivation. Although PBL is underpinned by principles of behaviourism, teachers interpreted and implemented techniques which sometimes aligned with social constructivist principles.

## **Behaviour Management**

Student behaviour and its implications for learning are a frequent concern of teachers, parents and policy makers in Australia and elsewhere. Disruptive student behaviour not only impedes learning outcomes for students but also impacts negatively on teacher efficacy and wellbeing (Lewis, 1999; Tschannen-Moran & Woolfolk Hoy, 2001). Teachers who feel overwhelmed and undermined by poor student behaviour, low student engagement and motivation are less effective in the classroom. These teachers experience less satisfaction and are more likely to resign their positions, leading to an exacerbation of poor educational outcomes and associated behavioural problems and contributing to the problem of 'hard-to-staff' schools (Howard & Johnson, 2002). A recent study of primary teachers in Western Sydney found that even teachers who felt confident about their teaching abilities expressed concern about student disobedience, distractibility and disruption of others, as well as less frequent but more challenging behaviours such as physical aggression and bullying (Stephenson, Linfoot & Martin, 2000). Focus group discussions conducted by Department of Education and Training Western Sydney Region (DET WSR) in 2004 revealed widespread dissatisfaction with the ways that behaviour problems in schools were being dealt with.

As noted by Porter (2000) and Edwards and Watts (2004), the range of existing approaches to dealing with student behaviour can be differentiated in terms of their relative emphases on teacher control or student autonomy. Many Australian schools have adopted approaches that seek to balance these two dimensions by applying behavioural principles while emphasising the need to establish and maintain strong relationships with students and build student responsibility for their own behaviour. The models proposed by William Glasser (1992) and Bill Rogers (1998) both exemplify this dual focus, perhaps accounting for their popularity with school educators.

However, despite the recent emphasis given by both these theorists to adopting a consistent school-wide model, application of their approaches in schools, has been patchy. For example, the Glasser model (1992), which advocates that students take responsibility for making their own behavioural choices, is frequently wrongly invoked by teachers as a means of threatening students to choose between two aversive teacher-imposed 'choices'. Therefore the Glasser model has been misunderstood and consequently misused. Furthermore, research on classroom management across Australia has found that teachers frequently revert to coercive and ineffective forms of discipline when they are challenged with difficult behaviour (Lewis, 1997).

Reverting to ineffective strategies to deal with challenging behaviour usually entails reacting to misbehaviour rather than implementing proactive strategies to teach and support appropriate behaviour. Ineffective discipline in schools has traditionally entailed responding to student misbehaviour by delivering punishment-based strategies such as verbal reprimands, removal of privileges, office referrals, suspensions and expulsions. These punishment-based strategies, especially when employed inconsistently and without the accompaniment of other positive strategies, are ineffective in changing or reducing student misbehaviour (Woolfolk & Margetts, 2006). Furthermore, coercing students to behave through the implementation of punishment can have aversive effects such that it can escalate problem behaviour (Lewis, 2001). Consequently, the establishment of workable, positive and sustainable processes for dealing productively with student behaviour issues remains an educational challenge.

The DET WSR noted disparities across the region in the capacity of different schools, to deal effectively with student behaviours. Some schools have relied more on punishment and less on positive approaches and there has been inconsistencies in how and when punishment is applied. Consequently, DET WSR highlighted the need for schools and teachers to employ more effective behaviour management programs and emphasised the importance of adopting a consistent region-wide professional development program for behaviour management (NSW DET, 2006a).

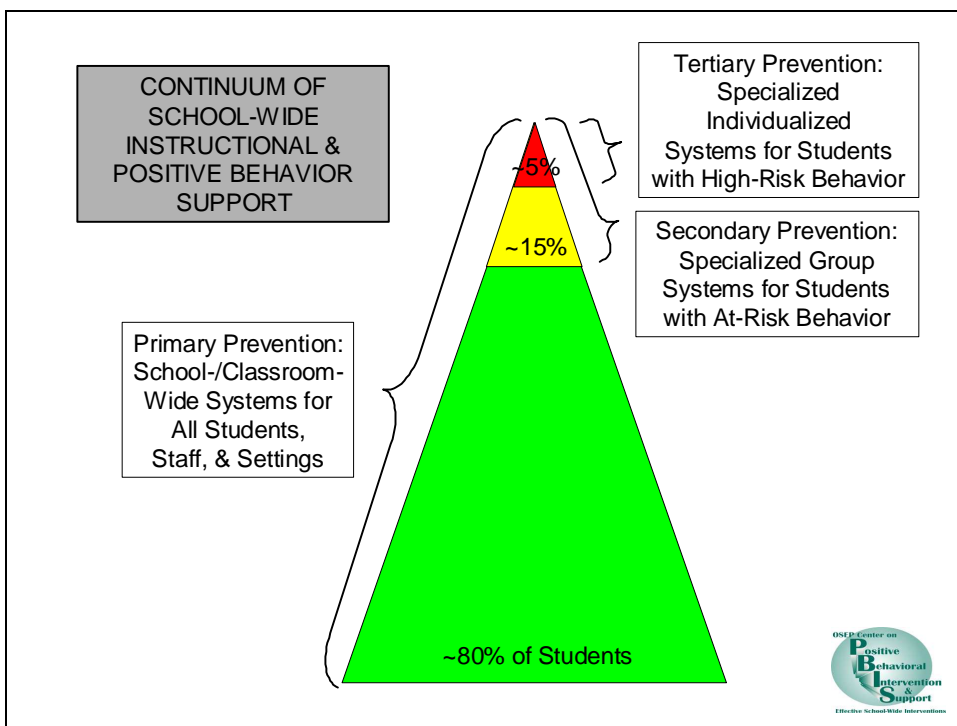
In NSW the DET recently revised its discipline policy guidelines to emphasise that 'quality learning environments' should provide 'an environment free from disruption, intimidation, harassment and discrimination. To achieve this, all schools are expected to maintain high standards of discipline' (NSW DET, 2006b). Responding to this policy guideline and calls for a more effective and consistent region-wide behaviour management program, DET WSR adapted an initiative derived from the United States, Positive Behaviour Interventions and Supports (PBIS). Over 7,000 schools in the United States (U.S.) have implemented PBIS (Bradley, Doolittle, Lopez, Smith, & Sugai, 2007). In the U.S., PBIS is supported by eight universities and four educational agencies, and has been used in over 30 states ([www.pbis.org/files/brochure.pdf](http://www.pbis.org/files/brochure.pdf)). There has also been considerable interest in Australia, with versions of the PBIS model being taken up in Queensland, Victoria, Tasmania and Western Australia in addition to NSW.

### ***Adapting PBIS in Western Sydney Region***

The DET WSR adapted PBIS and developed the Positive Behaviour for Learning (PBL) initiative. Consistent with PBIS, PBL emphasises positive behaviour using established and research-validated practices of

behaviour management. The approach aims to teach and reinforce identified target behaviours and minimise the use of punishment (Sulzer-Azaroff & Mayer, 1994). “Teaching behavioural expectations and rewarding students for following them is a much more positive approach than waiting for misbehavior to occur before responding. The purpose of school-wide PBIS is to establish a climate in which appropriate behaviour is the norm” (OSEP Center on PBIS, 2006). Thus, the PBIS model encourages schools to use data to inform the adoption of systems and practices that apply sound behavioural principles in their approach to managing student behaviour. It aims to equip schools to identify and teach behaviours that they have determined are appropriate for their students.

Instead of reacting to misbehaviour, PBL focuses on developing and maintaining primary (school-wide), secondary (classroom), and tertiary (individual) systems of support (Lewis & Sugai, 1999). The PBIS (and hence PBL) model extends the use of behavioural data to focus on observing patterns of behaviour in a range of school settings, for example, school-wide (school expectations for all), non-classroom (routines, procedures, playground, hallway assemblies, cafeteria), classroom (classroom management systems and learning environment and pedagogy) and individual (small proportion of the student population whose behaviours have a disproportionately high impact on school-wide, non-classroom and classroom systems) (Lewis & Sugai, 1999). These data are analysed by a team of school staff and are used to inform decisions as to whether changes need to be made to systems and/or practices. The aim is to make the smallest change that has the biggest impact. The team uses data to determine which behaviours need to be taught to students and which settings or locations need to be monitored for improvements (Lewis-Palmer, Sugai & Larson, 1999; Todd, Horner, Sugai & Sprague, 1999). Staff are involved in developing a matrix of up to five key behavioural expectations to be taught systematically to all students, with an emphasis on behaviours indicated for specific settings. This forms the basis of a universal-level intervention to prevention of problem behaviours, referred to in PBIS literature as universal prevention, which targets all students and staff in a school (OSEP, 2004). As shown in the Figure 1 below, the PBIS model acknowledges that universal prevention needs to be supplemented for approximately 20% of students by more specialised targeted interventions at targeted group interventions (5-15%) and intensive individual intervention levels (1-5%).



**Figure 1:** School-wide continuum of instructional and positive behaviour support

A noteworthy feature of the PBIS model is its systemic focus. This was explicit in the design of PBIS from its genesis, where the aim was to develop a means of changing school-wide discipline practices so as to achieve better support and reduce the risk for children with special education needs placed in mainstream settings (interview with Tim Lewis, 9/10/07). PBIS emphasises the need for schools to comprehensively monitor student behaviour as a basis for developing and applying school-wide and teacher-initiated behaviour management strategies. Furthermore, to address issues of sustainability, the PBIS model promotes an explicit,

structured, team-based, problem solving process for developing schools' capacities to assess and address behaviour issues (OSEP Center on PBIS, 2004).

*Study 1* of this paper examines how the implementation of PBL has influenced the *attitudes* of school staff, students and parents towards learning and behaviour. It draws on evidence gathered in surveys and interviews from staff, students and parents and considers how the attitudes and opinions revealed interact with the processes and intentions of the PBL initiative. It considers the distinctive features of PBL as well as its effects as a systemic process, its advocacy of positive support and reinforcement.

*Study 2* examines the effects of PBL on students' motivation and self-concept by comparing schools implementing PBL (experimental) with schools on a wait list (control). Study 2 explores how the cultural transfer of the U.S. model has resulted in improvements to students that could contribute to enhanced learning outcomes. Survey data from experimental and control groups were used to determine whether PBL made a difference to students' motivation and self-concept.

## Method

### Study 1: Attitudes to PBL

#### Participants

This paper reports on two studies. Study 1 presents the survey findings from 24 PBL schools and fieldwork analysis within 3 of these schools. Participants were from randomly selected government schools in the Western Sydney Region which represented different Phases of PBL implementation. For instances Phase 1 schools invited to participate in the research belonged to the first group of schools trained in PBL (November 2005) who had been implementing PBL for 18 months. Table 1 presents an overview of the staged implementation of PBL and the relevant phases from which the 24 schools in this study were invited to participate.

**Table 1: Phases of PBL schools – training and participation**

Schools	PBL Training	Length of participation
Phase 1 Schools	November 2005	18 months
Phase 3 Schools	September 2006	9 months
Phase 4 Schools	May-June 2007	1 month

The purpose of the surveys and fieldwork in Study 1 was to examine the attitudes of students, staff, and parents to the implementation of Positive Behaviour for Learning. The breakdown of the fieldwork participants are shown in Tables 2 and 3. Table 4 details the survey participants.

**Table 2: Fieldwork staff and parent participants (N= 55)**

	Staff		Parents		Leadership team		Coaches	
	Males	Females	Males	Females	Males	Females	Males	Females
<b>3 PBL Schools</b>								
Number	2	18	0	2	9	21	1	2
Percentage	10	90	0	100	30	70	33	67
Total	20		2		30		3	

**Table 3: Fieldwork student participants (N= 32)**

	Year 3		Year 5		Year 7		Year 9		Year 11	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
<b>3 PBL Schools</b>										
Number	4	6	4	6	3	1	3	1	3	1
Percentage	40	60	40	60	75	25	75	25	75	25
Total	10		10		4		4		4	

Parent data were obtained from 24 schools (N = 374). Of these parents, 81.6% were mothers, 13.1% were fathers, and the other 5.3% were grandparents, guardians, etc. Most of the respondents were female (84.5%). Their children's gender were reported to be 52.6% girls, which was reasonably consistent with the student data. Of these children, 5.9% were reported to be either disabled or having learning difficulty. In the present sample, 1.9% of the parents were Aboriginal. Most of these parents spoke English (59.4% always and 17.7% usually spoke English at home), but 32.8% also used languages other than English at home. Some of

these parents had lived in Australia for only a few months whereas some others have lived here for over 45 years, and more than 20% had lived in Australia for less than 10 years.

**Table 4: Satisfaction survey participants**

	<b>Students</b>		<b>staff</b>		<b>Parents</b>	
	Males	Females	Males	Females	Males	Females
<b>24 PBL Schools</b>						
Number	807	874	71	289	316	58
Percentage	48	52	20	80	84.6	15.4
Total	1681		360		374	

**Field work procedure**

Research procedures were conducted according to the approval conditions set by the Research Ethics Committee of the University of Western Sydney. Approval to conduct the research in the WSR schools was requested through the State Education Research Approvals Process (SERAP). On advice of the SERAP office, the application was assessed and approved through the regional research approval process. The schools remain anonymous and are identified as a number in this paper, for example, the two Phase 1 schools (i.e., they started the program from the beginning of the school year) are identified as Phase 1.1 and Phase 1.2 and Phase 3.1 refers to the primary Phase 3 school (i.e., this school started the program near the middle of the year). Of these three schools two were primary schools and the other was a high school. The fieldwork design followed a range of enquiry methods with a broad cross-section of people involved in PBL implementation in the DET WSR at both Regional and school levels. We conducted interviews and focus group discussions which were audio recorded with permission from the interviewees, observed Leadership Team meetings, attended school events and collected relevant artefacts and documents. A range of questions elicited contextualised responses about the changes in the school learning environment since the introduction of the PBL process. The following questions provide an example of the fieldwork approach:

- What changes have you noticed in your school’s approach to student discipline and welfare?
- What impacts has PBL had so far on learning and teaching?
- What has happened at your school to get people interested in PBL?
- How well has PBL engaged different cultural groups at your school?
- How have parents responded to the PBL initiative at your school?
- How have teachers helped students understand what behaviours they expect (since starting PBL)?
- What is the role of parents in planning for PBL?

Transcribed interviews and focus group sessions were analysed along with observation notes for key themes.

**Survey Procedure**

Student, staff, and parental involvement and satisfaction with PBL was investigated using a survey developed specifically for this project. The survey comprised well validated instruments including scales of self-efficacy, self-concept, motivation, engagement and it also comprised newly developed questions that focused on attitudes towards PBL. Student, staff and parent perceptions of PBL were examined by asking them to respond to the following three survey items on a six-point response scale (1 = disagree strongly to 6 = agree strongly):

- The PBL project in this school is useful.
- Overall, I’m satisfied with PBL operating in the school.
- I would recommend PBL to other students/staff/parents or community members.

Percentages were used to examine the degree to which students, staff and parents were satisfied with PBL. Further analyses involving MANOVA were conducted with the student sample. Group differences for usefulness, satisfaction, and recommendation were compared across the 3 Phases of PBL implementation for the students using MANOVA. The results and their discussion for the fieldwork are presented first, followed by the survey findings.

**Study 2: Effects of PBL on Students’ Motivation and Self-concept**

Whereas Study 1 examines the attitudes associated with the implementation of PBL, study 2 focuses on the effects PBL has on students’ motivation and self-concept. Participants in the study were 2723 primary and secondary school students in Years 3, 5, 7, 9 and 11. Table 5 presents the number and percentage of the male and female participants and their year level. The participants were from 31 randomly selected government

schools in the WSR which represented different phases of PBL implementation. For instance Phase 1 schools invited to participate in the research belonged to the first group of schools trained in PBL (November 2005) who had been implementing PBL for 18 months whereas the control group were 10 schools on the waiting list to implement PBL. Table 1 presents an overview of the staged implementation of PBL and the relevant Phases from which the schools in this study were invited to participate.

**Table 5: Student sample (N = 2723)**

	Year 3		Year 5		Year 7		Year 9		Year 11	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
<b>PBL Students</b>										
Number	188	176	193	179	293	305	286	306	133	199
Percentage	52	48	52	48	49	51	48	52	40	60
Total	364		372		598		592		332	
<b>Control Group</b>										
Number	22	21	20	21	79	84	56	61	39	60
Percentage	51.2	48.8	48.8	51.2	48.5	51.5	47.5	51.7	39	60
Total	43		41		163		118		100	

**Material and Procedure**

**Motivation**

Motivation can influence not only student achievement but also their enjoyment and interest in school and learning (Martin, 2001; 2002; Martin & Debus, 1998; Martin, Marsh & Debus, 2001). Additionally, students who are motivated by a high effort goal orientation tend to invest effort in the mastery of knowledge and skills in order to achieve academically (Yeung & McInerney, 2005). Motivation entails both attitudinal and behavioural dimensions that can be expected to predict improvements in academic outcomes. These were assessed using the Student Motivation and Engagement Scale (Martin 2001, 2003). Sample items from the Student Motivation and Engagement Scale (SMES) are presented in Table 6.

**Table 6: Sample items from the Student Motivation and Engagement Scale**

<b>Self-belief</b>	
	I try hard to make sure that I am good at my schoolwork
	I try hard at school because I am interested in my work
<b>Value of schooling</b>	
	If I try hard, I believe I can do my schoolwork well
	What I learn at school will be useful one day
<b>Learning focus</b>	
	I feel very happy with myself when I do well at school by working hard
	I feel very happy with myself when what I learn at school shows me how something works
<b>Planning and monitoring</b>	
	Before I start a project, I plan out how I am going to do it
	I usually stick to a homework plan
<b>Study management</b>	
	I usually do my homework in places where I can concentrate
	When I do homework, I get organised so I can do it well

<b>Persistence</b>	If I can't understand my schoolwork, I keep trying until I do I'll keep working at difficult schoolwork until I've worked it out
<b>Anxiety</b>	When I do tests I don't feel very good I worry about school and schoolwork
<b>Low control</b>	When I get a bad mark I don't know how to stop that happening next time I don't know how to get good marks at school
<b>Failure avoidance</b>	The main reason I try at school is because I don't want people to think that I'm dumb The main reason I try at school is because I don't want my teacher to think bad things about me
<b>Self-sabotage/self-handicapping</b>	I sometimes don't work very hard at school so I can have a reason if I don't do well I sometimes waste time the night before a test so I can have a reason if I don't do well
<b>Disengagement</b>	I don't really care about school anymore I've given up being interested in school

**Self-concept**

Students' self-concept regarding school and their schoolwork can significantly influence their academic achievement (Marsh & Yeung, 1997a, 1997b). The Self-Description Questionnaire (SDQ), developed by Marsh and validated in various cultural contexts (Skaalvik & Rankin, 1995; Yeung, Chow, Chow, Luk, & Wong, 2004; Yeung & Lee, 1999), assesses multiple dimensions of self-concept. The study assessed those subscales most relevant to school learning and positive behaviours: academic self-concept (including math, verbal and general school self-concept scales), emotional stability self-concept and parent relations self-concept. Table 7 provides a sample of these items. Based on suggestions by Marsh, Craven, and Debus (1999), the study also evaluated students' perception of their academic competency and affect as measured by the affect component of general school self-concept (Yeung et al., 2004). Whereas the component of competency refers to the students' perceptions of how good or how weak they are in schoolwork, the component of affect refers to the extent to which they like school. It was expected that at least for some students, the effects of PBL may not only improve the competency aspect, but also the affect component (i.e., they feel like going to school more than before).

**Table 7: Sample items from the Academic Self-Description Questionnaire**

<b>Maths self-concept</b>	I get good marks in maths classes. I have always done well in maths.
<b>English self-concept</b>	I get good marks in English classes I have always done well in English.
<b>School self-concept of competency</b>	I am good at most school subjects. I learn things quickly in most school subjects.
<b>Emotional stability self-concept</b>	I am usually pretty calm and relaxed.

	I worry a lot.
<i>Parent self-concept</i>	
	I get along well with my parents. My parents treat me fairly.
<i>School self-concept of affect</i>	
	Going to classes is enjoyable. I hate school.

Before conducting any between-group comparison analyses, the first step was to validate the measuring instruments. To determine whether the instruments provided sound psychometric properties, Confirmatory Factor Analysis using LISREL (Byrne, 1998; Joreskog & Sorborm, 1993) and Reliability Analyses using SPSS (Joreskog & Sorborm, 2003; Nie, 1994) were conducted. Results of these analyses are beyond the scope of the current paper but can be examined from earlier research (see for example: Mooney, Yeung, Dobia, Barker, Power, & Watson, 2008). These analyses revealed that the instruments provided reliable and valid measures, consequently comparative analyses were pursued.

## Study 1: Findings and Discussion

### Attitudes to PBL from the Fieldwork

#### *Influence on behaviour management practices and attitudes*

When schools implement PBL it begins to alter teachers' perceptions of behaviour and how behaviour problems are dealt with. The systemic, whole-school nature of PBL supports teachers dealing with behaviour in the classroom. The fieldwork schools viewed PBL as a system to promote consistency so that there would be a reduction in overall office referrals. The result is that teachers deal with minor behaviour problems instead of referring them.

At one school, this whole-school approach provided a mechanism for getting 'minor student offences off the principal's plate'. Sending only major cases for referral and consistency in office referrals was implemented at the school as part of the PBL process. Explicit and consistent approaches to behaviour prevention and using data to make decisions about these approaches provided a benchmark of good leadership practice in that classroom teachers managed minor behavioural issues themselves.

A proactive approach to behaviour management was demonstrated at Phase 3.1 School where there were major problems with social discipline in the toilet block. Students were throwing wet paper, squirting water, and using graffiti. The response of staff was to teach about the expectations of behaviour in the toilet block and have students make posters about appropriate behaviour in this setting. Teachers collaboratively decided to actively supervise the toilets whilst on playground duty. The views of the School PBL Team, teachers, principal and students corroborated the report of one teacher who said:

We were looking at safety and respect in the beginning, looking at whether they are showing safety in the playground and safety and respect in the toilets. After that we went back and looked at the data and found that overall behaviour had improved.

This example was used as a specific focus for PBL citing it as the main reason for improvement in behaviour in the toilets. In addition, PBL at this school had other observable effects. Students were seen to be more calm, settled and happy. This, in turn, 'made the teachers happier':

Yes, like I said it seems to have made a positive difference. Even in the playground children seem more settled. I think even the whole community – parents – might not have realised what the rules are. ... I think having the whole program has made everyone have a more positive experience (Teacher at Phase 3.1 School).

It has made a big difference actually. They are more settled also, because we have got posters in the room and also outside, everywhere reminding them of citizenship and there is one in the room right in front of where we sit so it is staring at them everyday. ... They are much more settled. And if they are happy and safe in the playground they are settled and then it doesn't put a damper on the classroom (Special Needs Teacher at Phase 3.1 School).

Schools typically implemented PBL in non-classroom settings, and apart from explicit teaching of behaviour, they have not systematically developed a classroom strategy for PBL. However Phase 1.2 School

had linked PBL to ‘Quality Teaching’ implying that some effect on classroom teaching was expected. In addition, there is some indication that teachers had taken the principles derived from the PBL approach into their classrooms, as discussed in chapter 5. Some examples are cited below:

I use it every time I have to reprimand a student. I always refer back to the sign and make them stop and say are you using any of those points, and I always refer to it. That is what my head teacher suggested I do and it has been really positive in my classroom (Teacher at Phase 1.1 School).

We have been looking at putting your hand up before speaking in the classroom, showing respect to the teacher and the other students. A role-play about someone calling out all the time and they are all talking over the top of each other. Then at the end we would stop and get the students to give their opinions, what to do and why this happens, and make the choices about their learning (Teacher at Phase 1.2 School).

From these responses it seems evident that teachers appreciate the benefits of PBL, and that it has changed their approach to dealing with children’s behaviour issues. There is ownership of the need to actively teach behavioural expectations and of showing children explicitly what these behaviours look like. This is highly consistent with the PBIS/PBL system and its underpinnings in Applied Behaviour Analysis (Carr et al, 2002). While the teachers quoted above were not asked about their previous orientations to behaviour management, it can be inferred from their comments that there has been a shift towards taking a more proactive and positive approach rather than simply administering punishment when misbehaviour occurs (OSEP, 2004).

### ***Perceived limits to impact of PBL***

Although an overall decrease in office referrals was reported staff in the fieldwork schools indicated that a small core group of students continue to be referred. A teacher at a Phase 1 school noted that:

There are fewer suspensions. This hasn’t flowed through to the work ethic yet and there is no effect on kids with major problems. There is an underlying group that is still there. PBL doesn’t seem to get to those kids.

A teacher at another fieldwork school made a similar observation:

Clearly this child was beyond the eighty percent level of universal prevention, and would most likely have been in the five percent – at the pointy end of the pyramid. It was apparent that PBL was not providing solutions for such kids.

These observations of the limits to what can be achieved at the universal level within PBL are consistent with the early stages of implementation. They underscore the need to continue the implementation by introducing procedures and actions appropriate to targeted group interventions (tier 2) and intensive individualised interventions (tier 3) (see Figure 1).

### ***Attitudes to learning***

While the findings outlined above speak to changes in teachers’ orientations to teaching behaviours, the connections between PBL and academic learning were understood to be implicit rather than explicit. One of the school’s coaches articulated the value of getting the basics of PBL in place as a means of establishing positive behaviours for classroom learning:

Providing they’ve got the basics there, where the language of PBL is already in all those outside settings, when it does come into the classroom, it’s just a natural transition. They’re already talking the language of PBL – the kids, the teachers, everyone has a clear understanding.

The Principal at Phase 1.1 School said:

I’ve always believed there is a firm link between good behaviour and good learning. If you have the two of them operating in the classroom you’re going to have greater success with kids. I suppose that’s the two sides of the plan coming together.

One principal cited a ‘glaring omission in the [school’s] expectations [prior to PBL implementation] – there was nothing about learning. It was all about safety and respect’. This school’s PBL matrix references the compliant work ethic of being a learner such as arriving on time for class, achieving their best and bringing equipment. These learner behaviours provide social support and student direction as a means to improve the quality of the learning environment, however, such teacher expectations do not address the kinds of teaching and learning required to enhance students’ intellectual and social engagement in classroom learning. In the same interview with the principal about learning there was a great deal of discussion about the school plans for

'raising the bar and closing the gap' by 'increasing the performance of our kids' but as yet, as one teacher at Phase 1.1 School described, the students' work ethic still warrants improvement:

We still use negative reinforcement for non-work. ... Kids don't make the connection between coming to school and work – school is for socialising, not for work – that's something that happens when you leave school.

It is a common misunderstanding of behavioural terminology that 'negative reinforcement' is incorrectly used to refer to punishment. Even substituting the correct term in this quote, the scenario needs to shift toward engaging children in learning. The evidence indicates that PBL has had an influence on the attitudes of teachers and students towards behaviour; however, on the basis of these comments from schools and on the limited evidence derived from the analysis of the survey material, the influence on attitudes to learning has so far been mixed.

At Phase 1.2 School the influence on learning has been most obvious. This is because strategies and attitudes for playground behaviour provided a conduit to classroom behaviour and to learning. A teacher from the school confirms:

It's the consistency. We are all talking the same language. ... A lot of teachers have adopted them [3 PBL rules] as their classroom rules ... It takes into consideration the style of how a child learns. In the past we would just verbalise it, but now in demonstrating it, visualising it, you can actually see that line at the canteen.

At another school, the Principal spoke about the school's academic gains and how these have been achieved:

We have been doing a fair bit of work to get that curriculum alignment. (The Deputy) talks a lot about curriculum alignment and he indicates that if you can get this happening you can move kids up a standard deviation. So we've been doing a lot of work on 'what are the verbs, how do we reflect these in assignments, how do we reflect these in programming.' That's been quite beneficial. Our image is a jigsaw puzzle because the pieces are inter-related and what you do in one area is going to impact on the other. Clearly for us, literacy is a huge issue – has become so in more recent time. Without literacy, kids won't be able to access or express the curriculum. With the boys, that leads into the behaviour.

The Principal reveals a developing connection between learning and behaviour. Behaviour is seen as affecting learning outcomes, including literacy as measured by state-wide testing. Then literacy is tied to behaviour outcomes, where boys particularly are not achieving. The Principal quotes figures about the improvements the school has made in academic performance in HSC exams, crediting PBL with this change:

I think what we're doing is, to use the terminology of our Regional Director, 'raising the bar and closing the gap.' So I can actually show you what we've been doing. In 2002-2004 we set ourselves the target of 50% of kids getting in the higher bands in the Higher School Certificate. We achieved 52%. This trimester we're aiming for 55% of kids and we're currently 55.5%. ... We're continually looking at our processes and improve what we're doing. PBL to me wasn't an add-on. This was a way to support the directions in which the school was already going.

The Principal clearly makes the point that this school has a focus on learning as demonstrated by improved exam targets and performance. Even though the setting of targets and employing strategies to meet academic targets was in place before PBL was implemented, it can be argued that the school is focused on improving academic results and is willing to work hard to support learning. Thus PBL has complemented a process already in place. This school has well developed plans to connect classroom learning to behaviour, rather than the other way around. They are employing a strategy of starting with an emphasis on learning and then incorporating behavioural strategies associated with PBL to complement and support an existing program. It can also be argued that this is consistent with the fidelity of PBL because PBL is meant to integrate and complement existing contexts.

In contrast, another of the fieldwork schools continued to place emphasis on non-classroom behaviour prevention. The school had mainly worked through playground issues and as such did not expect PBL outcomes in terms of classroom learning at this stage even though instruction of expected behaviours was undertaken as a classroom activity. Some teachers expressed a view that students were more on task because they were more settled in the classroom and the Principal concurred with this. One of the tensions of PBL is the perceived relationship between behaviour and learning and how that may be feeding into traditional teaching expectations that quiet, well-behaved students somehow promote learning. A Year 5 student noted that PBL has

made a difference in the classroom because 'it's a lot quieter'. Another student's response about classroom behaviour and learning was to say, "We just sit down and listen to what the teacher's saying."

### ***Effects on children's attitudes***

Within the schools, consistent application of the PBL expectations has begun to change children's behaviour. The following account from a Special Education Teacher at a primary school demonstrates the power of consistent, positive discipline practices in bringing about change in a child with learning and behavioural difficulties.

I just stuck to the language, 'You're not being safe, you're not being respectful, you're not being responsible'. So you would think a little six year old with some [learning] delays is not going to pick up on that. Within a week, I can say that child was responding to that language. I'd say, 'Is that being safe?' Because you'd go to help him and he'd kick, bite you and he'd say, 'I don't like you.' After two weeks after saying, 'Is that being respectful?' and he'd say, 'No'. It's been a gradual thing.

While the application of PBL appears to have provided a dramatic success for this child, it is less clear what the benefits may be for students whose behaviour is not at issue but whose learning may nonetheless benefit from a renewed learning focus.

### ***The meaning of 'positive'***

One of the objectives of the PBIS and in turn PBL is to create a positive classroom climate for learning. There is an emphasis on facilitating a shift from reactive approaches to managing problem behaviour to preventative and proactive approaches, which enable students to understand that 'positive behaviour leads to student success more effectively than problem behaviour' (Coach).

Schools have interpreted this view of 'positive' consistently with a high degree of congruence between what they say they are doing and the physical evidence observed in schools. For example, one of the schools developed a hands-off policy as a strategy for reducing playground referrals and there were posters around the school stating 'Keep your hands and feet to yourself'. Teachers spoke about the school posters and written material and how this is reinforcing 'positive' behaviour:

I have noticed that positive behaviour has been reinforced. More certificates are handed out and there is better attendance at school. There is a reward system for attendance ... there is better student behaviour overall.

More time is spent at assembly acknowledging various activities. Assembly is a good place to show student involvement and that has definitely increased.

A number of schools, but in particular the fieldwork schools, displayed posters and printed material about school-wide expectations around their schools. The printed material was evidence of a highly visible PBL presence and reinforced a view of 'positive' support.

When interviewed, a primary school student gave an example of a positive view that 'the teacher was nicer'. After a Year Three student explained the school's three PBL expectations to another student 'who wasn't thinking positively' she then interacted successfully in the classroom. Staff interviews at another school showed clearly that teachers did not consider 'positive' was being universally incorporated:

We have to try and be positive all the time. Some kids are so much of a challenge that it's hard to stay positive all the time.

There are fewer suspensions. This hasn't flowed through to the work ethic yet ... . The work ethic is still poor. We still use negative reinforcement for non-work.

The ramifications of this multiplicity of understandings of 'positive' are critical since the use of this term is fundamental to PBL's identity. If this 'driver' is operationalised in schools only at a surface level it risks student engagement and may impede schools' capacity to deal effectively with students' challenging behaviours. Overall, the evidence would suggest that 'positive' as a descriptor of the PBL process needs continual interrogation at the school level. At this stage of PBL implementation there are indicators of a surface interpretation of 'positive' such as just adding 'please' to demands of students and that a pedagogical and cultural shift by schools to a PBL framework emphasising shared values in a 'positive' learning environment may still need to be addressed.

### ***Communicating PBL to students, teachers and parents***

The students at the primary schools connected with PBL through their enthusiastic participation, and the

consistency and simplicity with which the staff applied their school's behaviour expectations. They knew about the PBL expectations and were keen to behave well, especially in the playground. The students thought making the posters about behaving well in the toilets was interesting and fun. However, as the students were not able to make connections with other teaching and wellbeing initiatives operating concurrently within the school, this could be evidence of the flexibility of PBL systems. The students at a high school knew about PBL but were not so enthusiastic about it. The older students at this school were more aware of PBL and made connections with the anti-bullying program and with Peer Support strategies. Most students knew that PBL promoted better behaviour. They said:

They're listening, not messing around and disturbing the class. ... We just sit down and listen to what the teacher's saying.

Overall, the students in all three schools were aware of the implementation of PBL in their school community. However, making connections between PBL processes and the purpose of PBL varied. Some Year Three students confided what PBL meant to them:

Be happy.

It's easy to remember. Not a whole list of rules.

All three schools had communicated the PBL program to parents. However, all schools were aware of the need for more parental involvement. This was confirmed by a teacher at one school who saw involving parents more in PBL was a challenge:

I think probably getting more parental involvement, I think because the parents tend not to be that involved. I don't know whether it's a cultural thing, or this school. I find we get the same parents ... it has given them an understanding of the program but I am not sure whether if we had another workshop ... a few [more] would come.

The PBL Team at another school thought that parents knew about PBL and those who were involved in its implementation were similarly committed to other school initiatives. A teacher at one of the primary schools speculated that some parents view any discipline program as authoritarian in nature, and that teachers are just 'getting at them', the students. The following exchange occurred between teachers about parental involvement in PBL:

Parents don't have as much understanding as to what they should know. ... Parents can't understand those three words; do they make sense together – 'Positive behaviour for learning'. It's not a sentence. ... I think there's still a lack of knowledge that positive behaviour can go with learning. (They think) they're two different things. How could one go with the other?

However, this school had parent membership of the school's PBL Leadership Team who actively contributed to the school change agenda. There were also comments by parents who said:

Parent 1: When I talked to other parents about it, 'Safety, Respect, Responsibility', they said, "I know what you're talking about". When I read about it in the newsletter the first few times it had an impact on me. ... Fantastic. SRR [Safety, Respect, Responsibility] is a great strategy for checking yourself, your behaviour.

Parent 2: Great values for life and everything you do.

This suggests that parents had an understanding of core expectations. However, despite many efforts to inform parents more fully, their understanding and interest was mixed. When this view was put to teachers the response was, 'that's difficult to answer because there is not a lot of contact with parents'. Support for cultivating positive relationships between schools and parents is not articulated in the PBIS blueprint. Yet positive parent-school partnerships have been consistently found to promote both social competence and academic achievement in children (e.g., Desforges & Abouchaar, 2003).

The effect of PBL on parents of students at a high school was summed up by teacher comments:

There are more parents sending their kids to this school – numbers are up so I suppose that says something. ... There's high attendance at assembly, which means they're (parents) showing more interest. There was high attendance (of parents) at the Year 12 assembly – more than in previous years.

The effect of implementing PBL on the school communities was generally positive. The survey data found consistent findings with the fieldwork analysis on the positive attitudes of parents and staff however mixed results for the students' attitudes.

## Study 1: Findings and Discussion

### Attitudes to PBL from the Surveys

#### *Parent satisfaction*

Current Australian national initiatives to support student behaviour and wellbeing (e.g., Commonwealth Dept of Health and Aged Care, 2000; Commonwealth of Australia, 2005; Commonwealth of Australia, 2006) emphasise the importance of active parental involvement as stakeholders in whole-school initiatives. This emphasis is also indicated in DET WSR's stated goals for PBL, which promote 'community processes' aimed at achieving 'shared responsibility' for student behaviour (NSW DET, 2006b). Additionally the regional PBL team advocates parent participation on school leadership teams during information sessions and universal prevention training. There is an emphasis in training on communication systems which include parents.

Recent research into the development of social competence and its contribution to wellbeing emphasises the interlacing influence of multiple contexts, and highlights the importance of recognising and resourcing shared responsibility between schools, families and communities in order to enhance behavioural, learning and wellbeing outcomes (Shean, Pike & Murphy, 2005).

A general indicator of the quality of output is the degree of satisfaction on the part of the customers (ACEA NSW & NSW DSE, 1996; Fornell, Johnson, Anderson, Cha, & Bryant, 1996; Ryan, Buzas, & Ramaswamy, 1995; Wong, Fung, & Yeung, 2000; Wong & Yeung, 2003). A typical example of a well-documented and validated measure of customer satisfaction is the American Customer Satisfaction Index (ACSI) that is used worldwide (Anderson & Fornell, 2000; Fornell et al., 1996). The ACSI uses a 0-100 scale with higher ratings reflection better customer satisfaction rate. The Federal U.S. Government, for example, had an overall rating of 68.6 in the year 1999 and again in 2000 (<http://www.theacsi.org/model.htm>). Thus, targeting a satisfaction rate of around 70% based on data from various services and products in the U.S. and many other countries, the U.S. Department of Education (2000) has used their 72.9% satisfaction rate as evidence of quality output in their student financial assistance service.

Table 8 displays the percentages of parents who agreed that PBL is useful and that they were satisfied with PBL and would recommend PBL to other parents. The results showed that parents with children in Phase 1 schools found the PBL program useful (84.5%), they were satisfied with the implementation (87.8%), and they would recommend the program to other students (88.1%). These percentages all exceed the generally accepted 70% criterion level reflecting quality output of educational programs (Anderson & Fornell, 2000; Fornell et al., 1996; U.S. Department of Education, 2000; Wong & Yeung, 2003). Parents in Phase 1 showed slightly higher overall satisfaction with PBL than parents in Phases 3 or 4. It could be argued that those who have been involved with PBL for the longest period of time rate the initiative more highly than those who have experienced less time with PBL. This argument however appears to be false if you consider that Phase 3 schools had poorer ratings for satisfaction and recommendation than Phase 4 schools. Nevertheless, parents of children in PBL schools rate the initiative highly.

**Table 8: Percentages of parents who agreed to the 3 items**

	Phase 1	Phase 3	Phase 4
	<i>N</i> = 172	<i>N</i> = 37	<i>N</i> = 50
Useful	84.70%	83.80%	82.00%
Satisfied	87.80%	78.40%	80.00%
Recommend	88.10%	75.00%	85.70%

*Note:* Because of missing data, for this analysis, total *N* = 259.

#### *Student satisfaction*

Data collected from students revealed a similar pattern of results to the parents. The percentages of favourable responses by students in three phases of PBL implementation are presented in Table 9. The results showed that students in Phase 1 schools found the PBL program useful (72.0%), they were satisfied with the implementation (73.5%), and they would recommend the program to other students (71.1%). These percentages all met the generally accepted 70% criterion level reflecting quality output of educational programs (Anderson & Fornell, 2000; Fornell et al., 1996; U.S. Department of Education, 2000; Wong & Yeung, 2003). Similar with the parents' results, the percentages for Phases 3 and 4 were much lower than for Phase 1 (all < 50%). Interestingly, students in Phases 3 and 4 were significantly lower than those reported by parents in the same phases.

The means and standard deviations in three phases are presented in Table 10. MANOVA results found that group differences were statistically significant for Useful,  $F(2, 1678) = 118.26$ ,  $MSE = 2.72$ ; Satisfied,  $F(2, 1678) = 117.77$ ,  $MSE = 2.52$ , Recommend,  $F(2, 1678) = 128.99$ ,  $MSE = 2.73$ . The results suggest that it may take time for students to find PBL useful, feel satisfied with the implementation and recommend it to other people.

**Table 9: Percentages of students who agreed to the 3 items**

	Phase 1	Phase 3	Phase 4
	$N = 1,145$	$N = 461$	$N = 75$
Useful	72.00%	37.30%	30.7%
Satisfied	73.50%	42.70%	34.7%
Recommend	71.10%	33.80%	32.0%

Note: Because of missing data, for this analysis, total  $N = 1,681$ .

**Table 10: Means and (Standard Deviations) of students' evaluation scores**

	Phase 1		Phase 3		Phase 4		$F(2,1678df)$	$MSE$
	$N = 1,145$		$N = 461$		$N = 75$			
Useful	4.24	(1.64)	2.94	(1.68)	2.76	(1.66)	118.26**	2.72
Satisfied	4.28	(1.56)	3.06	(1.66)	2.73	(1.55)	117.77**	2.52
Recommend	4.23	(1.66)	2.85	(1.64)	2.81	(1.59)	128.99**	2.73

Note: Because of missing data, for this analysis, total  $N = 1,681$ . \*  $p < .05$ . \*\*  $p < .001$ .

### Staff satisfaction

The percentages of favourable responses by staff in three phases of PBL implementation are presented in Table 11. The results showed that staff in Phase 1 schools found the PBL program useful (94.8%), they were satisfied with the implementation (86.0%), and they would recommend the program to other staff (92.4%). These percentages all exceed the generally accepted 70% criterion level reflecting quality output of educational programs (Anderson & Fornell, 2000; Fornell et al., 1996; U.S. Department of Education, 2000; Wong & Yeung, 2003). Interestingly, the percentages for Phases 3 were lower than for Phase 1 however, the percentages for Phase 4 were higher compared with Phase 1. Overall, staff who have implemented PBL believe the approach is worthwhile and would recommend it to others.

**Table 11: Percentages of staff who agreed to the 3 items**

	Phase 1	Phase 3	Phase 4
	$N = 173$	$N = 89$	$N = 40$
Useful	94.80%	89.90%	97.50%
Satisfied	86.00%	84.10%	86.50%
Recommend	92.40%	87.50%	97.40%

Note: Because of missing data, for this analysis, total  $N = 302$ .

## Study 2: Effects of PBL on students'

### Motivation

Another psychosocial determinant of academic success is students' motivation in learning. Students' motivation in learning was examined through Martin's (2003) SMES items in the student survey. MANOVA conducted with the student data revealed that the PBL program had a significant impact on students' motivation in a range of orientations.

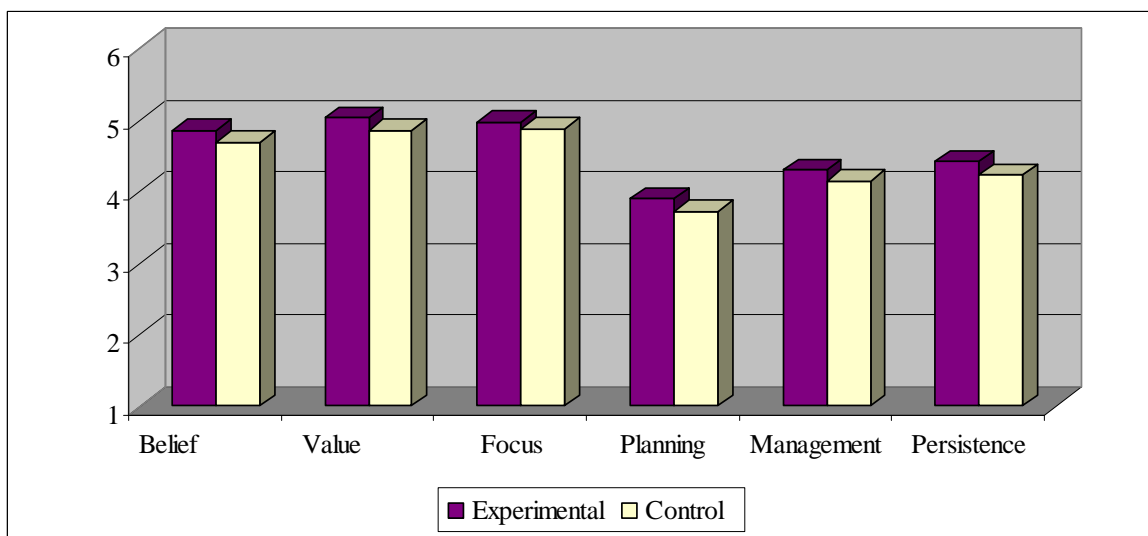
The means and standard deviations are presented in Table 12. The MANOVA results showed that for all the six positive motivation measures, the experimental group tended to have high scores than the control group. However, of the six measures, only five reached statistical significance ( $p < .05$ ). They were Belief, Value, Planning, Management and Persistence. For the negative motivation measures, the pattern of results was not so consistent. Of the five negative measures, one showed significant difference between groups, indicating that the experimental group had lower disengagement orientation than control students (see Figure 2).

In sum, those who were involved in the PBL program tended to have more positive beliefs and values about schooling, have higher planning and management orientations, be more persistent in learning, and had lower disengagement orientation than those who were not involved in PBL. Whereas there was support for the positive effects of PBL, nevertheless, these effects seemed to be rather small (effect sizes  $< .05$ ).

**Table 12: Means and (Standard Deviations) of students' SMES (Martin, 2003) scores**

	Experimental <i>N</i> = 1,799		Control <i>N</i> = 461		F (2,258 <i>df</i> )	<i>MSE</i>
Belief	4.85	0.93	4.69	0.91	11.16**	0.86
Value	5.03	0.86	4.86	0.84	14.96**	0.73
Focus	4.97	0.86	4.88	0.85	0.74	0.74
Planning	3.9	1.31	3.73	1.28	6.81*	1.69
Management	4.3	1.17	4.14	1.13	6.99*	1.36
Persistence	4.42	1.05	4.23	1.02	12.02**	1.09
Anxiety	3.6	1.15	3.64	1.02	0.46	1.26
Low Control	2.8	1.14	2.85	1.08	0.85	1.28
Avoidance	3.35	1.34	3.32	1.24	1.73	1.73
Self-sabotage	2.53	1.1	2.58	1.02	0.9	1.17
Disengagement	2.35	1.07	2.52	1.00	8.77*	1.12

Note: Because of missing data, for this analysis, total *N* = 2,264. \* *p* < .05. \*\* *p* < .001.



**Figure 2: SMES scores in 2 groups**

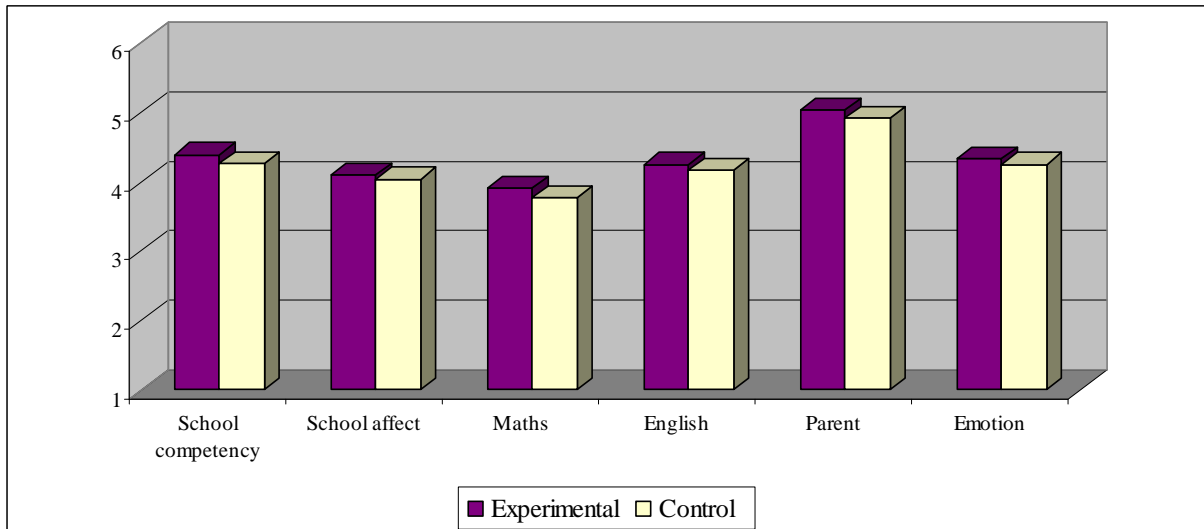
**Self-concept**

The most important concern of the present research is whether the potentially positive effects of PBL could be translated to enhancement of learning outcomes, including psychosocial outcomes such as academic self-concept and school motivation. First, a range of self-concept scales were compared between the experimental (PBL Schools) and control groups (Non-PBL Schools). The means and standard deviations are presented in Table 13. The MANOVA results showed that for all the self-concept measures, the experimental group tended to have high scores than the control group. However, of the six measures, only three reached statistical significance at the .05 level. They were self-concept of competency at school, mathematics self-concept, and parent relations self-concept (see Figure 3). Nevertheless, although there was support for positive effects of PBL on students' self-concept (especially academic self-concepts such as school competency and mathematics), these effects seemed to be rather small (effect sizes < .05).

**Table 13: Means and (Standard Deviations) of students' self-concepts**

	Experimental <i>N</i> = 1,799		Control <i>N</i> = 461		F (2,258 <i>df</i> )	<i>MSE</i>
School competency	4.39	(1.04)	4.27	(0.98)	4.59*	1.06
School affect	4.10	(1.28)	4.04	(1.13)	0.79	1.57
Maths	3.92	(1.35)	3.77	(1.35)	4.77*	1.82
English	4.25	(1.18)	4.16	(1.15)	2.50	1.37
Parent	5.04	(0.97)	4.92	(1.00)	5.86*	0.96
Emotion	4.33	(0.95)	4.25	(0.91)	2.80	0.88

Note: Because of missing data, for this analysis, total *N* = 2,681. \* *p* < .05. \*\* *p* < .001.



**Figure 3: Self-concept scores in 2 groups**

## Study 2: Findings and Discussion

Study 2 measured and compared students' motivation and self-concept between the experimental and control groups. As predicted, schools implementing PBL had favourable results in terms of students' motivation and self-concept compared with the control group schools. PBL impacted positively on students' motivation as significant differences favouring the experimental group were found for belief, value, planning, management and persistence orientations and lower levels of disengagement were reported by the experimental group. Students' reported higher self-concepts in all six facets compared to schools who have not implemented PBL (control group). Significantly higher self-concepts were found in two academic dimensions (School competency self-concept and mathematics self-concept) and one non-academic dimension (Parent relations self-concept). Students in PBL schools perceive themselves to be better at school and judged their abilities in mathematics more favourably than students attending non-PBL schools. Interestingly students attending PBL schools perceived having a more positive relationship with their parents than students attending non-PBL schools. These results are promising as high self-concepts can significantly influence academic achievement (Marsh & Yeung, 1997a, 1997b). Therefore self-concept is an important educational outcome in its own right.

## Conclusion

Study 1 discussed the influence of PBL on the attitudes of school staff, students and parents towards behaviour and learning. It drew on evidence from the three fieldwork schools and related this to findings from the survey analysis of twenty four schools that dealt with attitudes associated with the implementation of PBL.

PBL was shown to have an influence on student behaviour and learning and changes to school culture. This paper showed how implementing PBL in schools can help to shift teachers' perceptions of behaviour and lead to improved ways of dealing with student behaviours. Teachers showed high levels of satisfaction with PBL in responses to the survey and in the three fieldwork schools. This may be due to the fact that PBL is a whole-school response to managing behaviour and teachers feel supported by the systemic approach. Both teachers and students expressed ownership and consistency as a key feature of PBL. They also acknowledge the implicit link between good behaviour contributing effective learning environments and consequently resulting in academic gains. These features appear to contribute to the satisfaction ratings of PBL. Although PBL appears to be working effectively at the primary prevention level (i.e. 80%), schools are required contend with a small core group of students who continue to be referred. Consistent with other U.S. research on PBIS, overall, PBL does appear to reduce the amount of time and resources schools invest in managing behaviour problems (Horner, Sugai, Smalkowski, Eber, Nakasato, Todd & Esperanza, 2009).

Fundamental to the identity of PBL is the understanding of 'positive' and how it is operationalised in schools. Schools acknowledge the importance of being positive however this appears to be functioning at a surface level instead of being embedded in the schools' culture and teachers' pedagogy. A more comprehensive understanding of a 'positive' approach in schools could be developed through pedagogical and cultural shifts. Investing in pedagogical and cultural shifts will result in improvements to the students' social competence and academic outcomes (Horner et al., 2009).

Furthermore, there are concerns about the ways that PBL may be interpreted in some schools to reinforce

traditional expectations that quiet, well behaved students will learn. This paper suggested that there is a need to promote a more comprehensive understanding of the theoretical assumptions and underlying principles behind PBL.

Younger students tended to be more enthusiastic about participation in PBL while students in high school were less enthusiastic. Students did acknowledge positive changes in their school as a consequence of PBL. Interestingly students in the Phase 1 implementation of PBL were very satisfied with the initiative however subsequent implementations of PBL seem to be received with less satisfaction. These results were unexpected given that research on the initiative show that schools become more predictable, consistent, positive and safe (Horner et al., 2009).

Parental involvement in school contributes to higher parent and student satisfaction with school (Hiatt-Michael, 2001). Although PBL schools made efforts to communicate with parents concerning the implementation of PBL, there was consensus that communication could have been extended to involve high levels of participation. In spite of schools acknowledging the limitations of parent involvement, parents were still satisfied with the PBL initiative.

Study 2 found that student motivation was generally more favourable for PBL schools. Noteworthy differences were found in positive orientations including Belief, Value, Planning, Management, Persistence (relatively higher for PBL schools), and in Disengagement (a negative orientation which was found to be lower for PBL schools). Furthermore, student self-concept was generally more favourable for PBL schools. Noteworthy differences were found in two academic dimensions (School competency self-concept and mathematics self-concept) and one non-academic dimension (Parent relations self-concept). These results suggest that PBL has a positive impact on important psychosocial outcomes which influence student learning (Craven, Marsh, & Burnett, 2003; Martin, 2003)

In summary, PBL as a whole-school system of support has positively impacted the attitudes of staff and parents and to a lesser extent, students. The initiative has resulted in improvements to students' motivation and self-concept.

## References

- ACEA NSW & NSW DSE (1996). *Collaborative action research: Working together for improvement*. Australia: Australian Council for Educational Administration New South Wales Department of School Education.
- Anderson, E. W., & Fornell, C. (2000). Foundations of the American Customer Satisfaction Index. *Journal of Total Quality Measurement*, 11(7), S869-S882.
- Bradley, R., Doolittle, J., Lopez, F., Smith, J., & Sugai, G. (2007). Discipline: Improved understanding and implementation. OSEP Part B Regulations Regional Implementation Meeting: Building the Legacy IDEA 2004, Washington, DC.
- Carr, E. G., Dunlap, G., Horner, R. H., Koegel, R. L., Turnbull, A. P., Sailor, W., Anderson, J. L., Albin, R. W., Koegel L. K., & Fox, L. (2002). Positive behaviour support: Evolution of an applied Science. *Journal of Positive Behavior Interventions*, 4(1), 4-16, 20.
- Commonwealth Department of Health and Aged Care (2000). *Mind Matters: a mental health promotion resource for secondary schools*. Canberra: Commonwealth of Australia.
- Commonwealth of Australia (2005). *National Framework for Values Education in Australian Schools*. <http://www.valueseducation.edu.au/values/>
- Commonwealth of Australia (2006). *KidsMatter Implementation Manual, Pilot Phase 1*. Canberra: author.
- Desforges, C. & Abouchaar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement an adjustment: a literature review*. (Research Report RR433). London: Department of Education and Skills.
- Retrieved from <http://www.basicsskills.co.uk/researchandpolicy/family/detail.php?ResearchID=596764947>
- Edwards, C. H. & Watts, V. (2004). *Classroom Discipline & Management: An Australasian Perspective*. Milton, QLD: John Wiley & Sons.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18.
- Glasser, W. (1992) *The Quality School*. New York: Harper Collins.
- Hiatt-Michael, D. (2001). Preparing teachers to work with parents. ERIC DIFGES (ED460123)
- Horner, R.H., Sugai, G., Smalkowski, K., Eber, L., Nakasato, J., Todd, A.W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions*, 11, 3, p. 133-144.
- Howard, S. & Johnson, B. (2002). Resilient teachers: Resisting stress and burnout. *Proceedings of Australian Association for Research in Education conference*. Retrieved from <http://www.aare.edu.au/02pap/how02342.htm>
- Lewis, R. (1997). *The discipline dilemma*. (2<sup>nd</sup> ed.). Melbourne: The Australian Council for Educational Research.
- Lewis, R. (1999). Teachers coping with the stress of classroom discipline. *Social Psychology of Education*, 3, 1-17.
- Lewis, R. (2001). Classroom discipline and student responsibility: the students' view. *Teaching and Teacher Education*, 17, 307-319.
- Lewis, T. & Sugai, G. (1999). Effective behaviour support: a systems approach to proactive schoolwide management, *Focus on Exceptional Children*, 31(6), 1-24.
- Lewis-Palmer, T, Sugai, G. & Larson, S. (1999). Using data to guide decisions about program implementation and effectiveness, *Effective School Practices*, 17(4), 47-53.
- Marsh, H. W., & Yeung, A. S. (1997a). Causal effects of academic self-concept on academic achievement: Structural equation models of longitudinal data. *Journal of Educational Psychology*, 89, 41-54.
- Marsh, H. W., & Yeung, A. S. (1997b). Coursework selection: Relations to academic self-concept and achievement. *American Educational Research Journal*, 34, 691-720.
- Marsh, H. W., Craven, R., & Debus, R. (1999). Separation of competency and affect components of multiple dimensions of academic self-concept: A developmental perspective. *Merrill-Palmer Quarterly*, 45, 567-601.
- Martin, A. J. (2001). The student motivation scale: A tool for measuring and enhancing motivation. *Australian Journal of Guidance and Counselling*, 11, 1-20.
- Martin, A. J. (2003) The Student Motivation Scale: Further testing of an instrument that measures school students' motivation. *Australian Journal of Education*, 47(1), 88-106
- Martin, A. J. & Debus, R. L. (1998). Self-reports of mathematics self-concept and educational outcomes: the roles of ego-dimensions and self-consciousness. *British Journal of Educational Psychology*, 68, 517-535.
- Martin, A. J., Marsh, H. W., & Debus, R. L. (2001). Self-handicapping and defensive pessimism: exploring a model of predictors and outcomes from a self-protection perspective. *American Educational Research Journal*, 38, 583-610
- Mooney, M., Yeung, A., Dobia, B., Barker, K., Power, A., & Watson, K. (2008). *Positive Behaviours for Learning: Investigating the transfer of a United States system into the Department of Education Western Sydney Region schools*. Report to the Department of Education and Training, Western Sydney Region.

- NSW Department of Education & Training (2006b). *Western Sydney Region 2005 – 2009 Business unit plan: Positive behaviour for learning*.
- NSW Department of Education & Training (2006a). *Student Discipline in Government Schools*. Retrieved on 12 September, 2006 from [https://www.det.nsw.edu.au/policies/student\\_serv/discipline/stu\\_discip\\_gov/PD20060316\\_print.shtml](https://www.det.nsw.edu.au/policies/student_serv/discipline/stu_discip_gov/PD20060316_print.shtml)
- OSEP Center on PBIS (2004). *School-wide Positive Behaviour Support implementers' blueprint and self-assessment*. Eugene OR: University of Oregon. Retrieved on 28 January, 2008, from <http://www.pbis.org/tools.htm>
- OSEP Center on Positive Behavioral Interventions and Supports (2006). *What is School-Wide PBIS?* Eugene OR: University of Oregon. Retrieved on 28 January, 2008, from <http://www.pbis.org>
- Porter, L. (2000). *Student behaviour: theory and practice for teachers*. (2<sup>nd</sup> ed.). St Leonards, N.S.W.: Allen & Unwin.
- Rogers, B. (1998). *You Know the Fair Rule*. (2<sup>nd</sup> ed.). Melbourne: ACER.
- Ryan, M. J., Buzas, T., & Ramaswamy, V. (1995). Making CSM a power tool. Composite indices boost the value of satisfaction measures for decision making. *Marketing Research*, 7(3), 11-16.
- Shean, M. B., Pike, L. T. & Murphy, P. T. (2005). The acquisition of social competence: An examination of factors influencing children's level of social competence. *The Australian Educational and Developmental Psychologist*, 22, 2, 29-46.
- Skaalvik, E. M., & Rankin, R. J. (1995). A test of the internal/external frame of reference model at different levels of Math and Verbal self-perception. *American Educational Research Journal*, 32, 161-184.
- Stephenson, J., Linfoot, K. & Martin, A. (2000). Behaviours of concern to teachers in the early years of school. *International Journal of Disability, Development and Education*, 47, 3, 225-35.
- Sulzer-Azaroff, B., & Mayer, G. R. (1994). *Achieving educational excellence: Behavior analysis for achieving classroom and schoolwide behavior change*. San Marcos, CA: Western Image.
- Todd, A. W., Horner, R. H., Sugai, G. & Sprague, J. R. (1999). Effective behaviour support: strengthening school-wide systems through a team-based approach, *Effective School Practices*, 17(4), 23-37.
- Tschannen-Moran, M. & Woolfolk Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805.
- US Department of Education (2000). *Performance plan: Progress report 4<sup>th</sup> quarter fiscal year 2000. Student financial assistance*. Washington, DC: Office of Student Financial Assistance (ED). ERIC Document Reproduction Service No. ED453768).
- Woolfolk, A. & Margetts, K. (2007). *Educational psychology*. Sydney: Pearson
- Wong, E. K. P., Fung, W. Y. W., & Yeung, A. S. (2000, November). *Professional education programs for education reforms in Hong Kong: Does participant satisfaction guarantee course recommendation?* Paper presented at the 2000 HKERA 17<sup>th</sup> Annual Conference: Education Reform in Hong Kong: Prospects and Possibilities, Hong Kong.
- Wong, E. K. P., & Yeung, A. S. (2003). Evaluation of teacher development programs: Participant satisfaction and recommendation. *Studies in Educational Evaluation*, 29, 57-66.
- Yeung, A. S., & Lee, F. L. M. (1999). Self-concept of high school students in China: Confirmatory factor analysis of longitudinal data. *Educational and Psychological Measurement*, 59, 431-450.
- Yeung, A. S., & McInerney, D. M. (2005). Students' school motivation and aspiration over high school years. *Educational Psychology*, 25(5), 537-554.
- Yeung, A. S., Chow, A. P. Y., Chow, P. C. W., Luk, F., & Wong, E. K. P. (2004). Academic self-concept of gifted students: When the big fish becomes small. *Gifted and Talented International*, 19(2), 91-97.