

RESEARCH SUMMARY

The International Baccalaureate Primary Years Programme in Victorian Government primary schools, Australia



**Based on a research report prepared for the IB by:
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Background

The International Baccalaureate (IB) Primary Years Programme (PYP), a curriculum framework for students aged 3 to 12, focuses on the development of the whole child as an inquirer, both in the classroom and in the world outside. In Australia, there are currently 92 PYP schools, including the 13 Victorian Government primary schools that are the focus of this study.

The aim of this research study was to examine and document the impact of PYP implementation on student outcomes, pedagogical practice and school culture in the 13 Victorian Government primary schools that have been authorized to offer the PYP. The project also sought in-depth understanding of the factors that influence schools to implement the PYP and the extent to which perceived benefits of implementation are realized in practice.

Research design

The research design adopted by the RMIT team employed a mixed-methods approach to obtain and analyse both quantitative and qualitative data in order to address the study's key questions in a comprehensive manner. National Assessment Program – Literacy and Numeracy (NAPLAN) results from all 13 Victorian Government PYP schools were analysed in the study. To complement and extend this publically available data, the RMIT team developed principal (n=6), teacher (n=74) and student (n=567) surveys, which were administered in five public sector PYP schools. The survey, consisting of both open and closed questions, explored perceptions regarding the extent to which the PYP is influencing: student achievement; student motivation; perceptions of teacher effectiveness; school connectedness; teacher pedagogical beliefs and practices; teacher efficacy and engagement, and school culture and climate. The RMIT

researchers also analysed 2013 Department of Education and Early Childhood Development (DEECD) Parent Opinion Surveys (n=137) to examine parental feedback about schools.

In addition to quantitative data collection and analysis, three qualitative case studies were undertaken to provide an in-depth examination of the implementation and impact of the PYP in Victorian Government schools. This aspect of the research provided insight into each school and its context, changes in teaching practices and changes to the school climate and culture as viewed by key stakeholders (school leadership team, teachers and parents).

This summary focuses on three of the research questions addressed in the full report.

1. What is the impact of implementing the PYP on student outcomes?
2. What is the impact of implementing the PYP on schools?
3. What factors, goals and motives influence schools to implement the PYP?

Findings

The impact of the PYP on student outcomes

The impact of the PYP on student outcomes was assessed in part through an analysis of NAPLAN results for all 13 PYP Victorian Government schools. The NAPLAN results provided an indication of student performance on national testing and enabled comparison with "like schools"¹ and Australian schools in general.

¹ "Like schools" are schools serving students from statistically comparable backgrounds. Factors used to determine a group of similar schools are the socio-educational backgrounds of the students' parents, whether the school is remote, the proportion of indigenous students and the proportion of students from a language background other than English.

NAPLAN results

PYP student outcomes on the 2012 NAPLAN Year 3 and 5 reading and numeracy tests in the 13 schools were generally higher than the Australian average. More specifically the results indicated the following.

- Year 3 students at all 13 schools, on average, achieved higher levels than students at all Australian schools in numeracy (see figure 1 for numeracy results).
- Year 3 students at all 13 schools, on average, achieved higher scores than students at all Australian schools in reading.
- Year 5 students, at all but one school, achieved higher levels than students at all Australian schools in numeracy.
- Year 5 students at all 13 schools, on average, achieved higher scores than students at all Australian schools in reading.

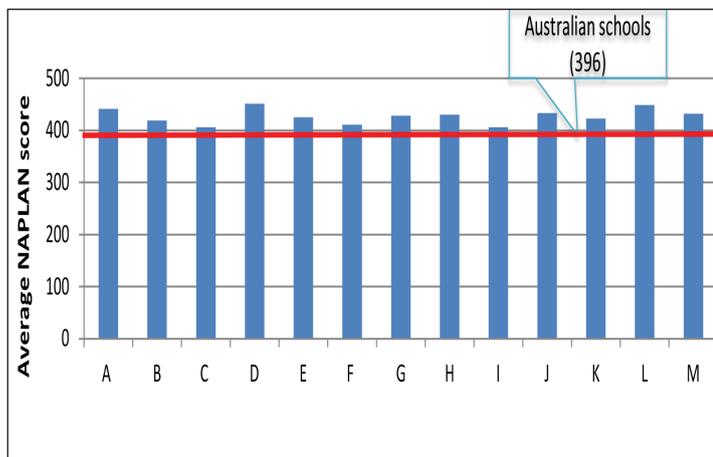


Figure 1. Average Year 3 NAPLAN scores for numeracy at the 13 PYP schools for 2012

Student progress at PYP schools from Years 3 and 5

To explore PYP student progression compared with students at other schools, NAPLAN reading and numeracy results for three cohorts of PYP students at Year 3 (2008, 2009, 2010) and then at Year 5 (2010, 2011, 2012) were contrasted with progression results for like schools and all Australian schools². This analysis showed that:

- PYP students achieved higher levels, on average, on both the reading and numeracy NAPLAN tests than the student results for all Australian schools and like schools at Year 3.

² That is, the first cohort is students in Year 3 in 2008 and Year 5 in 2010; the second is students in Year 3 in 2009 and in Year 5 in 2011 and the third is students in Year 3 in 2010 and in Year 5 in 2012.

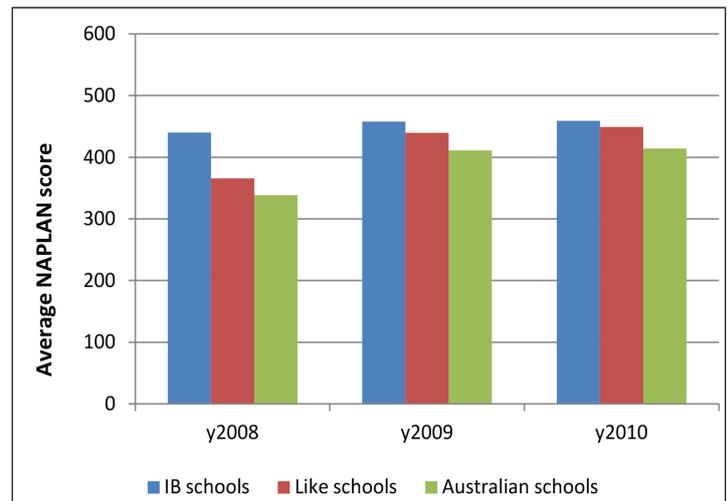


Figure 2. Average Year 3 NAPLAN reading scores for 2008, 2009 and 2010, including like school and national results

- PYP students also achieved higher levels, on average, than the student results for all Australian schools and like schools two years later at Year 5. However, the differences between IB student Year 5 results and those for like schools and Australian schools had narrowed over the two years.

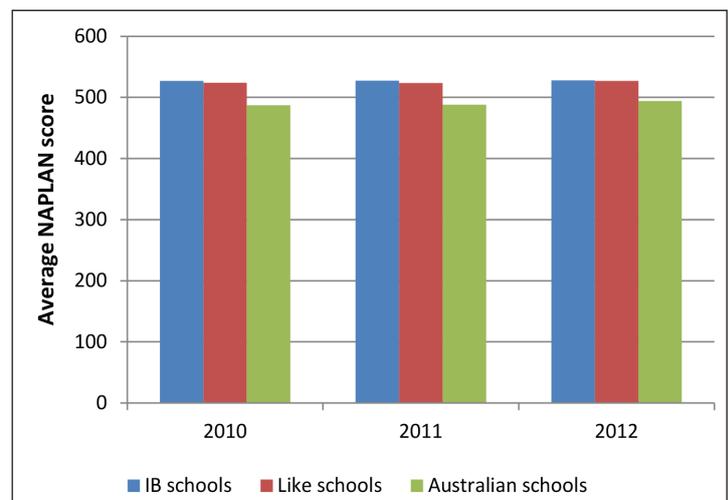


Figure 3. Average Year 5 NAPLAN reading scores for 2010, 2011 and 2012, including like school and national results

Growth in student achievement as measured by effect size

To further explore the progress of PYP students in reading and numeracy from Year 3 to Year 5, as compared with like schools and all Australian schools, student growth in achievement was measured by estimating effect size. Briefly, effect size can be used to understand learning gains achieved by a group of students or multiple groups of students over time. It is expected that over a one-year period the “natural” growth for learning should be around 0.4. This analysis showed that although students at PYP

Government schools are achieving higher levels in both reading and numeracy, when compared to like and Australian schools at Years 3 and 5, the effect size measurements indicate that the growth in achievement of IB students is slightly slower than the growth of the other cohorts. In part, this can be expected due to the statistical phenomenon known as “regression to the mean”.³

Survey results

The next portion of this summary provides results from the survey completed by principals, teachers and students at five PYP Government primary schools.

Principals’ perceptions of student outcomes

Principals in the participating schools were very supportive of the PYP and viewed the programme as offering a range of benefits for the school. Survey results showed an overall rating of 83 (out of a possible 100) by principals, which indicates that most believe the PYP has had a strong impact on student outcomes. In the open-ended responses, the principals commented that the PYP had a noticeable academic impact on students who appeared to display a deeper understanding of concepts and achieved improved student outcomes in AusVELS (the Victorian government Foundation to Year 10 curriculum). Both principals and teachers also reported the belief that the PYP has contributed substantially to student learning, particularly academic achievement, student development of learner profile attributes and student motivation.

Teachers’ perceptions of student outcomes

As can be seen in table 1, there were high levels of support from the teachers who believe that the PYP has improved student learning. The overall average rating for the five schools was 85.7 out of 100.

Schools	No.	Index (/100)	Standard Deviation	Standard Error
School A	25	80.1	23.41	2.51
School B	10	93.9	12.86	2.24
School C	2	90.5	15.06	5.69
School D	35	86.5	19.19	1.66
School E	2	95.8	11.02	3.90
Total	74	85.7	20.33	1.24

Table 1. Index for teachers’ views of student learning

³ This phenomenon occurs when a variable (in this case student achievement) is high on its first measurement; it will tend to be closer to the average (of all students) on its second measurement. In the case of the PYP schools, their results were high in Year 3 and tended to be closer to the average in Year 5.

Elaborating on how the PYP advances learning, teachers highlighted how the programme encourages inquiry-based learning, student development of a global perspective, real-life connections to curriculum, higher levels of student engagement and students taking responsibility for their own learning. As one teacher noted:

I have found that the children have a greater understanding of the world and the PYP has enabled them to become global citizens. The connection between the classroom and the world are greater and I have found that there are a lot of authentic links and inquiries that are student driven.

Teachers also responded positively to the question “To what extent does the PYP contribute to student development of learner profile attributes?”, with 98.6% reporting that the PYP makes a large or medium contribution. With regard to student motivation, 92.9% of teachers felt that the PYP had a large or medium impact. Many teachers commented that the PYP’s personalized and inquiry-based approach increased student motivation. As one teacher explained:

Students have a say in what they want to learn and can take control of their learning. Students are given the opportunity to take action and use their learning in real life situations at a local and global level.

Lastly, teachers reported that the PYP encourages student connectedness to the school, with 84.5% indicating the PYP had a large or medium impact.

Students’ perceptions of the impact of the PYP on their school experiences

The students’ responses were very positive on most items of the student survey, with particularly high ratings on questions related to the teacher’s impact on their learning: “The teacher encourages me to take responsibility for my own actions” (94.9%), “The teacher helps us work out ways of solving issues or problems” (93.8%), “The teacher gives me feedback and comments that help improve my learning” (92.7%), “The teacher encourages me to be creative” (90.9%), and “The things we do in class encourage us to think and ask questions” (90.1%). Students were similarly positive in the perception they held about their school: “I like the way my PYP school gives me opportunities to experience different things” (90.8%) and their engagement with their education: “I am interested and involved in my own learning” (92.8%).

The impact of the PYP on schools

Taken together, the survey responses suggest that the PYP has influenced notably many aspects of each school's culture and climate as well as teacher beliefs and practices. The principals in the study believed that PYP implementation has had a large impact on approaches to teaching, including increased time spent in team and collaborative planning. One principal reported the significant influence of collaborative planning on the school:

Teachers all work together for the benefit of the students and their learning. Teachers all plan in teams not as individuals.

Principals were unanimous that the PYP has had a large impact on teacher engagement in their schools. Furthermore, the principals commented on how the teachers at their schools now spoke a common (IB) language and shared a sense of heading in the same direction. Principals and teachers also agreed that there have been major positive impacts on the school environment, including school culture, school climate, staff connections with the school community and leadership in the school.

Motivations and challenges of PYP implementation

According to the survey results and case study findings, the decision to apply for PYP authorization was driven predominately by school leadership, but was subsequently endorsed by the staff and school community, including parents. The PYP curriculum was a strong influence on schools' decision to seek authorization, as it was seen as a viable and tested international curriculum that would engage and challenge students. The case study schools also suggested that the PYP was chosen to help differentiate them from other primary schools in the area.

Problems and challenges experienced by schools when implementing the PYP included financial issues (particularly associated with PYP professional development costs), staffing the school with appropriate personnel and managing different teaching abilities. One principal noted with regard to the costs of professional development:

We are happy with its growth in our school but wish professional development was less expensive to enable more training opportunities.

Staffing issues were also mentioned by teachers, but their major concerns included inconsistency in planning, access to professional development, alignment with

national curriculum requirements and teacher workload. Educators from the case study schools recommended that IB membership could be budgeted on a per student level rather than a per school basis and that perhaps more professional development could be held in Melbourne rather than interstate or overseas. Overall, however, principals and teachers were positive about the decision to implement the PYP in their schools because they could see the benefits for students and the school.

Summary

The findings from this study suggest that the PYP can support positive student outcomes in Government schools, including academic outcomes on national standardized tests. The study also contributes to the growing literature that reinforces the importance of school leadership support, recruitment of suitable teachers, providing teachers with appropriate professional development and supportive workload allocations for effective education program implementation.

This summary was developed by the IB Research department. A copy of the full report is available at <http://www.ibo.org/research>. For more information on this study or other IB research, please email research@ibo.org.

To cite the full report, please use the following:

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