A Mixed Method Case Study of International Baccalaureate Primary Year Programmes in Four Colombian Schools

October 2014

Prepared by

Jessica Nina Lester, Ph.D.
Assistant Professor, Inquiry Methodology
Department of Counseling & Educational Psychology
Indiana University, School of Education

Chad R. Lochmiller, Ph.D.
Assistant Research Scientist
Center for Evaluation & Education Policy
Indiana University, School of Education

With the assistance of

Steven Williamson, M.A.
Jennifer St. Germain, M.A.
Center for Evaluation & Education Policy

Executive Summary

The International Baccalaureate (IB) has significantly expanded its presence in Latin American countries. Today, IB is affiliated with more than 400 schools throughout Latin America, of which 33 are located in Colombia. In 2013, IB contracted with Drs. Jessica Lester and Chad Lochmiller from Indiana University's School of Education to design and carry out a mixed methods case study in four Colombian schools. The study focused specifically on schools implementing the Primary Years Programme (PYP), the newest IB program serving students who are between five and 10 years of age.

Following approval from the IB, the researchers completed the study between September 1, 2013 and August 31, 2014. Data collection involved an intensive two-week field visit to the four schools studied. While on-site, the researchers interviewed administrators and classroom teachers, conducted focus groups with students, observed classroom instruction, collected school-level documents, and administered a survey to students enrolled in the PYP. This study was guided by the following, overarching research questions:

- *How do students, teachers, and administrators describe the PYP?*
- *What characteristics or qualities do students, teachers, and administrators associate with the PYP and to what extent are these aligned with the IB Learner Profile?*
- *What do students, teachers, and administrators suggest are the strengths of the PYP?*
- *What challenges do students, teachers, and administrators suggest they have with the PYP?*
- *What resources do teachers and administrators describe as essential to their work?*

Additionally, the following research questions guided the development of the survey instrument and interpretation of its results:

- *What do students perceive as the greatest aspects of the PYP in their school?*
- *Which aspects of the IB Learner Profile do students identify as part of their educational experience?*
- *How do student perceptions of the IB program vary by age, gender, and school location?*

Findings

The findings indicate that students, teachers, and administrators generally perceive the PYP positively and have successfully implemented it in the schools we studied. However, much of the previous research has indicated that PYP implementation is impacted by a multitude of factors; we found this to be the case in Colombia as well. Administrators across the schools we studied noted the significant influence that the Colombian social and educational context had on the operation of the schools, as well as the significant impact that each schools' governance structure had on the operation of the PYP. Administrators at each of the schools also perceived that it was difficult to find teachers who could teach the PYP. A central critique of the administrators was that many local teacher education programs were unable to prepare candidates for teaching positions, thereby leaving them little choice but to invest heavily in teacher professional

development or recruit teachers internationally. Administrators noted that issues with teacher quality also prompted the development of differentiated teacher supervision systems, which included many aspects of teacher supervision found in American schools.

Teachers perceived that it was difficult to transition to the PYP from traditional elementary instruction and that successful transition required ongoing support from the school. Teachers across the schools noted the intersecting challenges of PYP implementation and bilingual education. Teachers indicated that there were too few resources provided by IB that illustrate how the PYP can be implemented in a fully-bilingual setting. Relatedly, some teachers also perceived resources to support teacher professional development to be lacking and instructional resources needed to effectively deliver the PYP as limited. Teachers across the schools noted that limited instructional resources (e.g., instructional materials for units of inquiry) influenced how they approached the delivery of the PYP curriculum, as well as how they planned and implemented in-class instructional activities.

For their part, students appeared unaware of the resource constraints that were impacting their teachers. Students were generally positive about their school experiences and acknowledged the primary role of their teachers in the learning process. Students overwhelmingly acknowledged the IB Learner Profile and saw the attributes it described as a relevant to their daily lives. For their part, students did perceive that instructional resources were important to their learning. In particular, students highlighted the importance of instructional technology (e.g., laptops, iPads, etc.), as well as the school library. Survey results generally confirmed the findings we obtained through the analysis of the student focus group data.

Conclusions

While data from this study indicates that the four schools were successfully implementing the PYP, we note three important conclusions. First, implementation of the PYP in Colombia and other Latin American countries could be improved through the development of additional guidance and resources related to effective bilingual instruction. These resources should provide suggestions to teachers to help them understand how to operationalize aspects of the IB Learner Profile and attributes in their bilingual classrooms.

Second and relatedly, we found that much of the existing research about the PYP has focused on the curriculum and not specifically considered the types of instructional activities that are occurring in schools and classrooms. Based on data obtained in this study, we see continued research about instructional practices in IB schools as a particularly fruitful area.

Third, we noted that the implementation of the PYP varied across schools and depended on the support of the school's owners (or foundation). The IB would be well-served to assess how governance arrangements (particularly when the school is owned by a single family) may impact the implementation of its programs.

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Introduction

The International Baccalaureate (IB) has expanded its presence in Latin American countries significantly. Today, the IB is affiliated with more than 400 schools throughout Latin America, serving students from 5 to 18 years of age. In Colombia, there are currently 33 schools affiliated with the IB, including 10 that offer the Primary Years Programme (PYP).[1] Recognizing the growing presence of the IB in Colombia, the International Baccalaureate contracted with faculty from Indiana University's School of Education and the Center for Evaluation & Education Policy in August 2013 to conduct a mixed methods case study of four schools in Colombia. To date, little research has investigated the perceptions of students, teachers, and administrators working in IB-PYP schools in Colombia, South America. Indeed, there is a dearth of research about education in Colombia generally. Thus, the purpose of this study was to explore these perceptions, taking note of the ways in which those working and learning within IB-PYP schools in Colombia make sense of their daily work and learning experiences.

Approach to the Study and Research Questions

The researchers completed the study between September 2013 and July 2014, including an intensive two-week field visit to Colombia in February 2014. During this site visit, the research team conducted interviews, observed classrooms and school facilities, collected documents, and administered a paper survey to a convenience sample of students aged 10 to 12. . The results of the study indicate that across the four schools we studied, students, teachers, and administrators perceived the PYP as a valuable instructional program. This study was guided by the following, overarching research questions:

- How do students, teachers, and administrators describe the PYP?

[1] Statistics regarding the number of IB schools in Latin America were obtained on September 8, 2014 from http://ibo.org/facts/schoolstats/progsbycountry.cfm. These figures are subject to change as new schools affiliate with IB.

- What characteristics or qualities do students, teachers, and administrators associate with the PYP and to what extent are these aligned with the IB Learner Profile?
- What do students, teachers, and administrators suggest are the strengths of the PYP?
- What challenges do students, teachers, and administrators suggest they have with the PYP?
- What resources do teachers and administrators describe as essential to their work?

Additionally, the following research questions guided the development of the survey instrument and interpretation of its results:

- What do students perceive as the greatest aspects of the PYP in their school?
- Which aspects of the IB Learner Profile do students identify as part of their educational experience?
- How do student perceptions of the IB program vary by gender and age?
- Which factor(s) explain the variation in student perceptions as reported on the survey?

Organization of this Report

This report is organized into five broad sections. The first section provides an introduction to the study and summarizes the research questions that informed the research presented. The second section reviews existing, empirical research about the IB and the PYP, more specifically. The third section describes the methods used to complete the research. The fourth section presents the findings from this analysis, which begins by describing each of the four school sites that were studied. The final section discusses the findings and presents our conclusions.

Relevant Literature

This literature review considers the published literature specific to the PYP. In particular, we focused our review on peer-reviewed publications, while including some reports published by university-based research centers. We also make linkages between the relatively modest PYP literature and the more established literature around school wide reform models. To provide context, we first provide a brief overview of the International Baccalaureate and Primary Years Programme.

Overview of the International Baccalaureate and Primary Year Programme

The IB was founded in 1968 and currently operates programs in more than 140 countries. The mission of IB is to "…develop inquiring, knowledgeable, and caring young people who help to create a better and more peaceful world through intercultural understanding and respect" (International Baccalaureate, n.d). The IB provides rigorous, educational experience to students aged 3 to 19. The IB includes four programs: Primary Years, which serves students aged 3 to 12; Middle Years, which serves students aged 11 to 16; the Diploma Program, which serves students aged 16 to 19; and the IB Career-related Certificate for students aged 16 to 19.

In this discussion, we focus specifically on the IB's Primary Years Programme (PYP), which offers a curricular framework aimed at supporting a child in their development as an inquirer. The PYP, which is inherently inquiry-based, was established in 1997. As described in IB's program materials (n.d.):

> The PYP is designed for students aged 3 to 12. It focuses on the development of the whole child as an inquirer, both in the classroom and in the world outside. It is framework guided by six transdisciplinary themes of global significance, explored

> using knowledge and skills derived from six subject areas, as well as transdisciplinary skills, with a powerful emphasis on inquiry. (p. 1)

In the account of the history of the PYP (2013), an "enduring" aspect of the PYP curriculum model is described as the focus a synergistic relationship between the: 1) written curriculum ("what do we want the students to learn?", 2) the target curriculum ("how best will they learn?"), and 3) learned curriculum (how will we know what they've learned?") (p. 10). Further, the PYP student profile is thought to capture student outcomes that reflect "international-mindedness" (p. 27), which both students and teachers are envisioned as embodying. Bartlett (1997) noted that these outcomes should also be central in shaping a school's culture. In 2006, the PYP's student profile became part of IB more generally and is now referred to as the IB Learner Profile. The IB Learner Profile is integral to all of the IB programs and centers on 10 attributes that are designed to "develop internationally minded people who, recognizing their common humanity and shared guardianship of the plant, help to create a better and more peaceful world" (IB, 2013, np). The 10 attributes, as listed in Box 1.1, are an integral part of the culture of a PYP school, pervading even the way the students and teachers converse.

Box 1. Attributes of the IB Learner Profile

Inquirers: We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

Knowledgeable: We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

Communicators: We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

Principled: We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

Open-Minded: We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

Caring: We show empathy, compassion, and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

Risk-Takers: We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

Balanced: We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

Reflective: We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

Beyond the IB Learner Profile, the PYP curricular framework aims to promote a set of attitudes, including appreciation, commitment, confidence, cooperation, creativity, curiosity, empathy, enthusiasm, independence, integrity, respect, and tolerance (IB, 2009). These attitudes are central to the learning environment, with a PYP classroom being described as a "community" and context wherein these attitudes and the attributes noted in Box 1.1 are promoted.

More specifically, the PYP focuses on aspects of students' academic, social, and emotional development with a key objective being that each students who completes the PYP "… develop independence and to take responsibility for their own learning" (IB, n.d., p. 1). According to IB (2009), one of the central, overarching beliefs of the PYP is a belief that:

> …student learning is best done when it is authentic—relevant to the "real" world; and transdisciplinary—where the learning is not confined within the boundaries of traditional subject areas but is supported and enriched by them. It is a programme that each student will engage with in ways that are developmentally appropriate and it is intended that schools will implement the programme in an inclusive manner. (p. 1)

Students who complete the program should "…gain understanding of the work and to function comfortably within it" (p. 1). Last, the program aims to "help students establish

personal values as a foundation upon which international-mindedness will develop and flourish" (p. 1). The program is thus aligned with six transdisciplinary curricular themes, including: who we are; where we are in place and time; how we express ourselves; how the world works; how we organize ourselves; and sharing the planet (see Box 1.3 for additional information about these themes). Students who are aged four or five complete four of the six themes each year while students aged six to thirteen complete all six.

Box 2. Primary Years Programme Transdisciplinary Themes

- **Who we are:** Inquiry into the nature of the self; beliefs and values; person, physical, mental, social and spiritual health; human relationships including families, friends, communities, and cultures; rights and responsibilities; what it means to be human.
- **Where we are in place and time:** Inquiry into orientation in place and time; personal histories; homes and journeys; the discoveries, explorations and migrations of humankind; the relationship between and the interconnectedness of individuals and civilizations, from local and global perspectives.
- **How we express ourselves:** Inquiry into the ways in which we discover and express ideas, feelings, nature, culture, beliefs and values; the ways in which we reflect on, extend and enjoy our creativity; our appreciation of the aesthetic.
- **How the world works:** Inquiry into the natural world and its laws, the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.
- **How we organize ourselves:** Inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.
- **Sharing the planet:** Inquiry into rights and responsibilities in the struggle to share finite resources with other people and other living things; communities and the relationship within and between them; access to equal opportunities; peace and conflict resolution.

Broadly, research suggests that the PYP is "… based on a constructivist view of learning and is concept-led, with concepts comprising one of the five essential elements underpinning the curriculum framework" (Eaude, 2013, p. 11). This requires classroom teachers to adopt constructivist teaching practices, which assert that students should be afforded instructional opportunities to evaluate knowledge and arrive at their own conclusions (Scheurman, 1998). As

described by IB, this approach requires classroom teachers to be "… a thoughtful participant in, and monitor of, the ongoing explorations and investigations" of students in PYP classrooms (IBO, 2009, p. 4).

Previous Research on the Primary Year Programme

Our review of the existing empirical research found relatively few studies that have specifically focused on the PYP. Furthermore, most of the existing research exists in sources that have not undergone rigorous, peer review. These include many dissertations and theses written about the PYP, internal research documents prepared by IB, and marketing materials that highlight different aspects of the PYP. Mills (2013) noted that, "there are very few studies reporting on the PYP" (p. 9). Given the program has been in place since 1997, we find the absence of empirically-reviewed research striking and one that highlights the need for additional empirically grounded research.

In one of the few studies to specifically consider the implementation of the PYP, researchers at the University of Georgia's Education Policy and Evaluation Center collected data in three elementary schools in Georgia to determine how the PYP was implemented (Hall, Elder, Thompson, & Pollack, 2009). The study determined that six strategies were essential to successful PYP implementation: whole-school immersion, collaborative planning, continuous training, availability of resources, community involvement strategies, and supportive school leadership (Hall et al., 2009). These strategies are similar to those required for successful implementation of any education reform (REF). Indeed, previous research focused on whole school (WS) or comprehensive school reform (CSR) models implemented in the United States signals that these supports are critical for the successful implementation of WS or CSR models (McChesney, 1998; RAND, 1998).

Relatedly, a study (Alford, Rollins, Stillisano, & Waxman, 2013; Stillisano, Waxman, Hostrup, & Rollins, 2011) examining the impact of the PYP and MYP in Texas classrooms found no significant difference between IB schools and non-IB comparison schools on math and reading achievement. However, structured classroom observations highlighted that positive instructional and student practices occurred in IB classroom when compared to non-IB classrooms. Findings from individual case studies of the schools highlighted how the implementation of the PYP and MYP resulted in greater collaboration amongst teachers, increased uses of authentic assessment and increases in students' motivation, critical thinking abilities, and cultural awareness. Findings from the individual case studies also pointed to challenges, including difficulties in recruiting and retaining staff and sustaining a balance between IB program expectations and district-wide mandates.

Another study, focused on the implementation of the PYP in a low-income school in the United States, discovered that in addition to district and school administrative support, successful implementation of the PYP also depends on support provided to classroom teachers (Mills, 2013). This reflects findings from another research study, which found that participation in site-embedded professional development was key to ensuring the successful implementation of the PYP (Burton, 2012).

Research focused on administrator and teacher perspectives of the PYP is growing and suggests that perspectives toward the PYP are generally favorable. Administrators offer support for the program model but acknowledge that the PYP, like many IB programs, requires both sustained investment and faculty commitment to be successfully adopted. Teachers who work in IB programs view the program favorably and tend believe that the program presses them to

improve their teaching through the use of inquiry-based strategies (Culross & Tarver, 2011; Goodman, 2013).

Defining the PYP Colombian Education Context

Not surprisingly, there has been very little research focused on the PYP within a Colombian education context. Our review of the literature identified only one study that specifically considered the PYP (Cowie de Arroyo, 2011). This action research study focused on the transition that students experience as they move from the PYP to MYP. This is a particularly important topic to explore, as "transitional problems" across the IB programs have been noted by researchers (e.g., Hallinger & Walker, 2011). Cowie de Arroyo suggested that IB schools can support students in transitioning between PYP and MYP programs by adopting a holistic approach. Such an approach was described as attending to the academic, procedures, and social aspects of the programmatic transition.

More generally, there has been relatively little empirical research focused on education in Colombia. With previous research highlighting how context shapes the implementation of the PYP (Kauffman, 2005), it remains crucial to examine how PYP is perceived in contextualized ways. As such, this study sought to explicitly examine PYP within the context of Colombia, thereby adding to the literature base related to PYP and education in Colombia more generally. Specifically, Colombia, a country of approximately 47 million people, has experienced ongoing political turmoil, with class differences impacting access to education. Education in Colombia includes both public or government schools and private schools, with Article 41 of Colombia's Constitution highlighting the State's responsibility for education and the "supreme inspection and vigilance of teaching institutions, both public and private" (as cited in Renner, 1968, p. 55). Historically, Colombian education was linked to the Roman Catholic Church (Renner, 1968),

and, like other countries, has been inextricably connected to one's social standing in society. Related to this study, the first Colombian IB school was authorized in 1977, with all Colombian IB schools being classified as "private schools". At present, there are 33 IB schools in Colombia, which offer one or more of the IB programs. Ten schools offer the PYP, nine offer the MYP, and 31 offer the DP.

Methods

We used a mixed-methods, multi-sited case study (Green, Caracelli, & Graham, 1989) design, with a case study being our overarching research design. A case study can best be described as "an empirical inquiry about a contemporary phenomenon (e.g., a "case"), set within its real-world context" (Yin, 2009, p. 18). Case study methodology is particularly useful when researchers are focused on a detailed study of one or more cases within a bounded system, as was true of our study (Yin, 2012). In our study, we positioned the four schools as the cases or bounded systems, wherein we were particularly interested in exploring the individual parts of the cases and the relationships between them. This methodology was particularly useful as we studied four IB-PYP schools located in Colombia (see descriptions below), and sought to explore the contextual differences in the IB-PYP at the school sites, as well as the perceptions of the students, teachers, and administrators studying and working at the four sites. Further, this multi-sited case design allowed us to complete an across-case analysis.

We also framed this study as an embedded mixed-methods research design, as the quantitative strand (student surveys) was added to the qualitatively designed case study to enhance the overall design. A mixed-methods, multi-sited case study design allowed us to further validate our qualitative research findings, generate a more complete understanding of the individual perceptions (particularly the students' perceptions), and acquire an expanded student sample (Bryman, 2006). Further, such a research design served to bridge IB's needs for specific, case based information about the PYP at each of the schools, as well as comparative information obtained from participants across the schools.

Research Setting and Participants

This study took place in four IB-PYP schools located in major city in Colombia, South America. All of the participating schools were private, and had established IB-PYPs. See the findings section for the individual details of each school. Table 1 offers the basic demographics of each school site.

Table 1. Demographics of Colombian school sites in this study

	School A	School B	School C	School D
Total Student Enrollment	514	1,851	1,800	671
Number of Students Enrolled in PYP	309	942	1,107	367
Number of PYP Classroom Teachers	34	44	73 [a]	88[a]
Percentage of Students who are Colombian	95%	91%	90%	86%
Percentage of students who are not Colombian	5%	9%	10%	14%

Note: [a] Information for teachers in PYP was not provided, schoolwide totals are presented instead

Across the four school sites, four school administrators, four PYP coordinators, two Preschool heads/coordinators, 19 teachers, and 28 PYP students participated in interviews or focus groups. Table 2 provides a participant list based on their role and the school site. Recognizing that a relatively small number of individuals participated in each school, we only provide the most pertinent details of the participating teachers, PYP coordinators, administrators, and students.

Table 2. Research participants by school site and participant group

	Directors & PYP Coordinators	PYP Teachers	PYP Students	PYP Student Surveys
School A	3	4 *(5-10 years exp)*	6 (4^{th} grade)	60
School B	4	6 *(2-20 years exp)*	8 *(ages 10-11)*	123
School C	1	5 *(1-8 years exp)*	9 *(ages 10-11)*	62
School D	2	4 *(2-22 years exp)*	5 *(ages 10-12)*	64
Study Total	10	19	28	309

Data Collection

During a two week site visit in Colombia, we collected the following qualitative data: 1) individual interviews with 14 IB-PYP teachers; 2) one focus group with five IB-PYP teachers at School B; 3) interviews with the four PYP Coordinators at each of the school sites; 4) interviews with two Preschool Coordinator/Directors at two of the school sites (School A and School B); 5) four interviews with administrators and/or school directors at three of the four school sites; 6) four focus groups with 28 students, aged 10 to 11, across the four school sites; 7) 28 observations PYP classrooms across the four school sites; 8) relevant teaching, administrative, and student learning documents. No data was collected until Institutional Review Board approval was acquired.

Interviews and Focus Groups

Across all of the interviews and focus groups, a Spanish translator was present, with only three of the interviewees requesting for her to translate the questions into Spanish and their responses into English. When conducting the interviews with teachers and administrators and focus groups with students, we used semi-structure protocols (see Appendix C and Appendix A).

We conducted one 30-minute focus group with participating students at each of the schools. In total, 28 students aged 10 to 12 participated in the focus groups across the school sites. It is important to note that while all of the students who participated in the focus group identified Spanish as their first language, they explicitly requested that the focus group take place in English.

The interviews with the PYP teachers ranged from 16 minutes to 33 minutes, averaging 28 minutes. While the majority of teachers participated in individual interviews, the five

participating teachers at School B requested a focus group due to scheduling needs. This focus group lasted 30 minutes, with the teacher interview protocol (see Appendix C) being used.

All of the PYP coordinators participated in multiple interviews, ranging from two to five interviews per coordinator. The interviews with PYP coordinators ranged from 41 minutes to 93 minutes, averaging 63 minutes. Each PYP coordinator participated in a sit down interview during which time we asked questions listed in the protocol (see Appendix B). Each coordinator also participated in a series of walking interviewing, during which time they 'walked and talked'. Walking interviews are particularly useful when researchers seek to make sense of participants' everyday practices in context (Clark & Emmel, 2009). Clark and Emmel (2010) noted this particular method affords "participants a greater degree of control over the research process, deciding where to take the research" and that the environment itself "…can be used in an elicitation process to prompt more discussion or encourage further questioning that may not occur in room-based" interviews (p. 2). Thus, as the coordinators showed us the school space, we followed their lead, allowing them to make relevant those spaces and places that were of significance to their work. For instance, at School C, the PYP coordinator wanted to show us the "special needs department," stating:

> *Okay, so let me show you, this is our special needs department. So what we do here is we help students that have any special needs. Teachers either pull them out or they walk into the classroom and help them out, so we have – they provide help for math, Spanish and English…we're very proud of our – we like to call it learning support more than special education.*

We asked follow-up questions related to how students were identified for special education and how the program was funded. As such, the walking interviews provided information that was not elicited via the semi-structured protocols, but was essential to the everyday workings of the school.

We also interviewed four administrators across three of the research sites, using a semi-structured protocol (see Appendix A). These interviews ranged from 37 to 80 minutes, averaging 64 minutes. At School A, we interviewed the school director. At School B, we interviewed the school director and the PYP headmaster. The school director at School C was not available during our site visit. Finally, at School D, we interviewed the school director/owner of the school.

Observations

In total, we spent two full schools days in each of the schools, typically beginning the day no later than 8 am and ending the day between 2:30 pm and 4:30 pm. During this time, we carried out observations of classroom instruction and the everyday activities of the school. At School A, we observed four classrooms. At School B, we observed nine classrooms, as well as one observation of a mini-exhibition. At School C, we observed seven classrooms. At School D, we observed seven classrooms. At each of the schools, we also observed student play areas, lunchrooms, and central administrative offices. During these observations, we maintained comprehensive field notes, structuring the notes in relation to the IB Learner Profile and the research questions, while also using a structured protocol for each of the classroom observations (see Appendix E).

We also maintained observational notes pertinent to the many spontaneous face-to-face interactions we had with the participants. These notes contained what Merriam (1998) referred to as observer commentary, defined as that which includes "the researcher's feelings, reactions, hunches, initial interpretations, and working hypotheses" (p. 106). As we entered the research site and brokered relationships with the key site gatekeepers and participants, we positioned

ourselves as observers, while at the same time engaging relationally with the participants as the research unfolded.

Documents

Relevant school-based documents were also collected from each of the schools, including protocols used to observe classroom instruction, class schedules, and curricular plans. We also gathered numerous photos of student work and evidence of the ways in which the IB Learner Profile was integrated into the design of the school (e.g., hallway displayed of various attributes).

Survey Development

Consistent with a mixed-methods, embedded design (Creswell & Plano Clark, 2011), we developed a survey to extend upon our qualitative research activities. The survey was designed to capture student perspectives regarding their participation in and thoughts about the PYP at each of the schools (see Appendix F for survey instrument). A cross-site survey was used to assess differences in the perspectives of students enrolled in the PYP as they related to the IB Learner Profile (see above for specific research questions).

In developing the survey instrument, we collaborated with the Global Research Manager at IB to obtain relevant survey models. We received two models from the IB, which were integrated into the instrument we designed. Remaining consistent with Dillman, Smyth, and Christian (2014), we developed a paper survey instrument that minimized participant fatigue and increased accuracy in participant responses. This was particularly important as the survey was administered to children who were between nine to 12 years of age. The instrument was piloted with a group of students at a Colombian school that was not affiliated with the IB. The purpose of piloting was to identify whether the survey instrument was correctly translated (both English and Spanish survey instruments were available to all participants) and that the questions were

presented in an accessible manner. Following the pilot, we revised the survey instrument slightly to make questions clearer and also to correct minor translation issues.

The final survey instrument (see Appendix F) consisted of 10 questions. The first three survey questions obtained descriptive information from students (e.g., their gender, age, and home language). Question 4 obtained information about the student's perceptions of themselves as a student. The survey items were drawn from existing literature about student development and perceptions of learning. Question 5 asked the students about their teachers, in particular what instructional or pedagogical strategies were commonly used in PYP classrooms at their schools. Question 6 asked the students about their preferred learning activities. Questions 7 through 9 asked the students to explain the extent to which the students felt successful in Mathematics, English, and Science. Question 10 asked students how frequently they engaged in specific learning activities (e.g., watching teachers do experiments, asking questions about books they've read, writing about historical events, etc.). All survey questions related to the frequency of in class activities and were based on a three-point Likert-scale ranging from "never" to "always." Given the age and English proficiency level of the survey respondents, we opted for a simplified scale.

Survey respondents

The survey sample was drawn from the population of students enrolled in each of the schools. The sample included students aged nine to 12, as they were most likely to provide consistent and valuable information using a survey format. Of the 309 responses we received, 60 (19.4%) were received from students at School A, 123 (39.8%) were received from students at School B, 62 (20.1%) were received from students at School C, and 64 (20.7%) were received from students in School D. While the number of responses received from School B was more

than double the number at the other schools, this was purposeful as the PYP at School B was nearly twice as large as the other programs we studied. The survey collected responses from 133 (43.0%) boys and 176 (57.0%) girls. Less than one quarter (21.0%) of students were 10 years of age. About a quarter (23.3%) of students were 12 years of age. More than half (54.4%) were 11 years of age. The survey also included four responses from students who were 9 years of age. Eighty-nine percent (89.6%) of survey respondents indicated that English was "almost always" or "sometimes" spoken at home. Less than 10% (6.8%) indicated that English was "never" spoken at home. Representing the bilingual nature of the survey sample, less than 5.0% of the students who completed the survey indicated that English was "always" spoken at home.

Table 3. Characteristics of survey respondents

	All students		**School A**		**School B**		**School C**		**School D**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Total Students	309	-	60	-	123	-	62	-	64	-
Gender										
Boy	133	43.0%	25	41.7%	54	43.9%	17	27.4%	37	57.8%
Girl	176	57.0%	35	58.3%	69	56.1%	45	72.6%	27	42.2%
Birth Year										
2002 (12 years)	72	23.3%	4	6.7%	23	18.7%	19	30.6%	26	40.6%
2003 (11 years)	168	54.4%	30	50.0%	62	50.4%	43	69.4%	33	51.6%
2004 (10 years)	65	21.0%	26	43.3%	38	30.9%	0	0.0%	1	1.6%
2005 (9 years)	4	1.3%	-	-	-	-	0	0.0%	4	6.3%
English spoken at home										
Always	11	3.6%	4	6.7%	2	1.6%	2	3.2%	3	4.7%
Almost always	93	30.1%	24	40.0%	32	26.0%	16	25.8%	21	32.8%
Sometimes	184	59.5%	29	48.3%	73	59.3%	42	67.7%	40	62.5%
Never	21	6.8%	3	5.0%	16	13.0%	2	3.2%	0	0.0%

Data Analysis

We conducted both a qualitative analysis (of interview, focus group, and document data) and quantitative analysis (of survey data), with both analyses informing each other. We describe each analytical approach in detail below.

Qualitative data analysis

We conducted a thematic analysis (Saldaña, 2009) of the qualitative dataset, carrying out eleven broad phases of data analysis: 1) intensive listening and/or viewing of the recorded interviews, focus groups, documents, and observational notes; 2) transcription and accuracy check of transcribed interviews and focus groups, with the three interviews conducted in Spanish also being checked for accurate translation; 3) repeated readings of the interview transcripts and observational notes sensitized by the research questions; 4) selection and identification of key patterns across the data; 5) organization of patterns via development of a coding scheme using in-vivo and sociologically-constructed codes; 6) coding across the data set; 7) development of themes for individual school sites; 8) development of descriptive reports of individual school cases; 9) conduct comparative analysis of themes across school sites; 10) share initial interpretations with some of the participants for the purposes of member-checking; 11) developed finalized description of findings.

Throughout our qualitative analysis processes, we used ATLAS.ti 7 (Muhr, 2004), a software package commonly used to the support the analysis of qualitative data. Taking advantage of the features available within ATLAS.ti 7, we systematically annotated the data, constructing detailed theoretical and analytical memos as we worked across the data set and using the coding features and coding families to move to more abstract levels of analysis.

Throughout our analysis process, we also took several measures to verify the authenticity

and trustworthiness of our qualitative findings. First, we intentionally sought out the perspectives of the participants, inviting them to participate in responding to our initial descriptions of the findings in a member-checking process. Second, we sought to triangulate our findings, using the multiple sources of data to confirm the emerging themes. Specifically, we pursue researcher triangulation and data triangulation (Denzin, 1979), as our perspectives converged around particular patterns (researcher triangulation) and multiple data sources allowed for a convergence of understanding across time and space (data triangulation). Third, we also took seriously the call to publically disclose the qualitative data analysis process (Anfara, Brown, & Mangione, 2002), and therefore maintained a coding map that highlighted the way in which we moved across the various levels of the coding process, moving from micro-codes to more abstract themes. Finally, through memoing individually and collectively, we sought to generate an audit trail of our decision-making process (Creswell & Miller, 2000). Finally, we preserved our dataset in ATLAS.ti 7 in such a way that it could conceivably be made available for outsiders to verify that that "data exist...and that the interpretations have been made in ways consistent with the available data" (Guba, 1981, p. 88).

Quantitative data analysis

We completed our quantitative data analysis using both descriptive and inferential statistics. We began our quantitative analysis by entering all survey responses into an SPSS data file. Each survey was tagged with a uniquely assigned number and two letter codes to identify which school and which survey instrument responses were drawn from. Next, we ran simple descriptive statistics for each survey item to identify missing or out-of-range values. Out-of-range values were corrected by entering the correct value as determined by referring to the original, paper survey instrument. Missing values were handled on a pair-wise basis (e.g.,

missing values were removed only from the analyses where the missing value was applicable), which resulted in slight differences in the number of responses across survey items.

Once we determined the extent to which the dataset was complete and values were within range, we calculated frequencies and percentages for each survey item to identify overall patterns in the survey responses. We then calculated cross-tabulations to compare survey responses by school, gender, age, and English status at home. We summarized the results in tables. Finally, we generated t-tests and one-way ANOVA's to determine whether there were statistically significant differences between responses on survey items. Responses with less than a .05 alpha-level were deemed statistically significant. Although we performed multiple ANOVAs, we did not use a Bonferroni adjustment as our analyses were not testing hypotheses but were simply used to highlight statistically significant differences.

Limitations

While the study provided robust access to the sites and included numerous data points, we did encounter a few significant limitations. First, while our site visits provided ample opportunities to observe the PYP at each of the school sites, we acknowledge that two days is not sufficient to understand in detail how the programs were being implemented. At best, these two day visits provided a "snapshot" that allowed us to describe the programs as we observed them on the days we visited. We attempted to offset these limitations by employing a Colombia-based research assistant who helped secure entry to the research sites, brokered site relations, and provided assistance with translation. The Colombia-based research assistant also assisted before and during our field visit. She assisted with developing a comprehensive, two-day schedule for each of the schools we visited. She also worked with school staff to secure permissions from

parents and teachers prior to our arrival. This assistance allowed us to maximize our time at each of the school sites.

Second, each of the sites operated independently and none had a standardized information system. Thus, despite our requests, we were unable to collect standardized quantitative information about the schools, students, and teachers. The schools provided information from the sources that they had available. Additionally, we requested detailed information about the students enrolled in the PYP (e.g., age, race/ethnicity, gender, parent status, etc.). We were unable to secure student level data linked to the study's participants. Similarly, the schools were unable to provide detailed personnel data, but did share information that they typically report as part of their IB self-study. If these standardized forms of data had been consistently available across the sites, it would have enabled the research team to assess the extent to which student and teacher characteristics explained differences in student achievement outcomes across the programs we studied. Given the difficulty securing standardized information from the schools, we developed a survey instrument that collected some baseline descriptive information about the students at the schools we studied. The survey instrument specifically asked the students about their age, gender, and whether English was the primary language spoken at home. While this information was useful, it bears noting that even this information did not provide a complete picture of the students enrolled in the PYP, as the survey was not administered to all students but rather to a convenience sample. The criteria we used were two-fold. First, students must be enrolled in the PYP at the school. Second, the students must be between 9 and 12 years of age. The PYP Coordinator at each school worked with the research team to invite students to participate. Most students participated at lunch or between instructional periods so as not to disrupt learning.

Findings

This section begins with four descriptions that characterize the broad features of the schools we studied. We focus specifically on the differences in the governance structures, the instructional program, and type of students served. Next, we review findings from each of the participant groups we interacted with. We begin by noting the perspectives of administrators, who include school directors, principal, and PYP coordinators. We then discuss the perspectives of classroom teachers. We conclude by discussing the perspectives of students. We begin by noting the results from our qualitative analysis and then discuss the results we obtained through our survey.

Throughout this section, we use pseudonyms extensively to protect the identity of individual participants and school sites. Given there are a relatively small number of schools in Colombia offering the PYP, participants at each of the sites expressed considerable concern about being identified. To honor their request and to comply with Indiana University's Institutional Review Board regulations, we identify the schools by letter and note more generally the roles (e.g., administrators, teachers, and students) as opposed to identifying individuals more specifically.

Description of the School Sites

Before presenting our findings related to the schools, we begin by discussing the schools broadly. These descriptions contextualize the schools we studied. In each description, we note the characteristics of the school, in particular: the ownership structure, key features of school, the type of students served, and the primary characteristics of the PYP. It is important to note that the level of detail provided at each school site was variable and often depended on the level of

access granted to school administration – particularly the school director. As such, the descriptions presented below are not of consistent detail.

Description of school A

School A was privately owned by a single family and the governance consisted of the director and the owner. The school was founded as an IB school, thus the director indicated the school has not experienced significant difficulties adopting the IB program as it has always been an IB school. The school began with the DP and then added the PYP. It also now has the MYP. The school began with approximately 50-60 students and has grown steadily since. The director noted that the school hopes to increase access for parents/families of local children to an IB education. At the time of this study, the school primarily served mostly professionals and Colombian families. The 2013-14 tuition was described as being approximately $750 per student, per month enrolled in the PYP. Students received a discount when their parent worked at the school, reducing tuition to approximately $325 per student, per month.

The instructional program was bilingual (English/Spanish). The director described the three characteristics of the school as: (1) bilingual instruction in English and Spanish; (2) a secular educational philosophy; and (3) designed to serve local Colombians. The director explained that the school informs parents that the academic program will not include Catholic/Christian teaching. The school does allow some religious education (e.g., first communion) to occur (as is a practice in Colombian schools), however these activities are coordinated by parents/families and do not involve the school staff. The school offered art, music, physical education, electives, and other activities. However, the school did not provide a robust afterschool elective program. Instead, they did provide some afterschool programming on

certain days. The librarian was positioned as central to the school by the majority of the teachers and the director.

The director had been at the school since it opened 11 years ago. Prior to her arrival, she was the head of the Diploma Programme at another IB school. The school was opened with the intent serving families living in the Central City, Colombia. The PYP is led by the PYP Coordinator who reports to the school director. The PYP Coordinator was hired by the director and had been at the school for approximately eight years. The staff was described as "local educators and Colombians." Because of the cost of recruiting teachers internationally, the school director noted that she preferred to hire "local teachers," noting that local teachers tend to remain at the school and that it is important that the school provides work for local Colombians.

The PYP Coordinator oversaw all of the teachers in the PYP. She observed new teachers within one to two months of their start date. She observed all teachers at least two times per year. She used a formal observation protocol designed to focus on key attributes of the IB instructional approach (e.g., inquiry-based instruction, use of the Profile, etc.). She also coordinates professional development for the teachers in the program. Each year, approximately $30,000 was allocated for professional development.

A current, significant challenge for the school was described as being the minimal school space available. The school was located on a small parcel of land adjacent to another school (owned by the same family, but not affiliated with School A). The director indicated that it would cost $5 million to purchase the amount of land needed to expand the facility to an adequate size. She said that this was impossible. Instead, the owner of the school was investing in the facility and expansion was planned. Two new science labs were recently put in for the high school and middle school. They were state of the art in regards to equipment.

Description of school B

At the time of this study, School B was considered one of the oldest schools in Colombia, and was founded in 1956 by a group of Colombian and British people. The school is considered bilingual. It was a private school, which has a foundation that included a Board of Trustees and a Board of Governors. The Board of Trustees was in charge of evaluating the school director who directly reported to the board. The Director described the board as not intervening in the day to day life of the school, thereby allowing for autonomy. The school was described by staff at School A and School C as being one of the most established PYP and IB schools more generally. School B has the PYP, MYP and DP, and also maintains several associations with other international certifying bodies (e.g., Round Circle, Council for International Schools, etc.).

The majority of the students enrolled come from affluent families, many of whom are national government leaders. The Director indicated that the students describe themselves as the future leaders, as their parents are the current leaders of the country. The tuition for the PYP is $1100/month/student and tuition for the DP program is approximately $600/month/student. Admissions into the school take about 6 months. The three types of students are given priority for admission: 1) those with British citizenship, 2) those who already have a sibling at the school, and 3) those whose parents are alumni.

The school includes several hundred employees (approximately 600) that run things like security, bussing, cafeteria, cleaning, technology, etc. The director had been at the school for 11 years, in a variety of roles. The director has made an effort to employ people with disabilities, and the school began an inclusion program after one of the family's who already had a child at the school birthed a child with Down Syndrome. They also have several children with learning disorders/disabilities attending the school. This was described as being rare in Colombia, as the

majority of children with disabilities would be sent to a special school for people with disabilities. The school employs an occupational therapist in the primary years and also has an English, Spanish, and Math resource teacher who works with children. On one of our mornings there, we saw an English Resource Teacher tutoring a child one-on-one prior to the start of school. There are multiple local and international teachers, with most of the early grades having a full time assistant as well.

The school has undergone major renovations over the last few years, with a new, "state of the art" primary years building being built over the next two years. The high school and middle school were all located in fairly new buildings with "state of the art" equipment and software. The majority of the PYP had smart boards and the fourth grade classrooms (of which there are 6) all had iPads for every student. The school is hoping to make a major push to increase technologies over the next 5 years.

There was also a robust afterschool program which ran every day and also prior to the start of the school day (e.g., dance class). There were multiple electives offered throughout the school day. In addition, there was a "Mother's as Readers" group in which the mothers come into the preschool and read books with them on a daily basis.

Description of school C

School C was a private, bilingual school run by a foundation that included parents, which was described as the primary administrative mechanism of the school. The foundation made all budgetary decisions and also evaluated the head mistress. The budget was described as centralized to the headmistress and school board. The school tuition was approximately 1000

dollars for PYP, including bus transport and food. The admissions process involved parent and child school visitation, and a play date.

The school was located on a large piece of property in the city, which is becoming less common for schools. On the property, there were multiple buildings and structures that were relatively new and up to date. Last year, the school board put 1 million dollars towards technology, becoming the first MAC computer school in Colombia. The school had "state of the art" technology, with technology support staff available as well.

The school requires that the headmistress is from the Commonwealth. They seem to have gone several headmistress changes in the last few years; however, the current headmistress has indicated that she will stay longer. The headmistress' vision was described as what shapes the direction of the school. The PYP coordinator was previously employed at a different IB school; however, she was recruited by School C. The teaching staff includes both international teachers and local, Colombian teachers. Teachers receive an 85% discount for their children to attend school and they receive free meals for lunch, as does all of the school staff.

The school used to have a transition program from 4th to 5th grade (similar to School B) but that program was eliminated by the board. The PYP Coordinator expressed a desire to bring that program back, as student still struggle with the transition. School C had a special education inclusion program, and a robust afterschool program, which many children participated in.

Description of school D

School D was a private school founded 30 years ago by its current owner. The owner of the school decided to open a school so that she "could put into practice what she knew". The principal's daughters both graduated from her school. The owner was also considered the principal of the school.

The school was located on a large piece of land located outside of the city. This was the school's second location, as they moved in the 1990s. It was one of the first schools to receive a quality certification, which is an international standard that certifies the rigor and transparency of administrative and academic procedures. The school's tuition was described as ranging from 500 to 750 dollars. Families and children attending the school were described as "high class families".

At School D, the PYP was a relatively new program, and was described as becoming more functional after the arrival of the PYP coordinator 1.5 years ago. The PYP coordinator is a "pedagogical consultant" and worked three days/week at the school. She does this so she can consult with other schools. The PYP described as being in place for a few years informally. The school was considered bilingual, teaching both English and Spanish. In addition, there was a French language program. School D, had offered the IB DP program for a longer period of time.

In general, the school had a strong alliance with the school values, as defined by the owner/principal, as well as a program named "The Leader in Me". At the time of this study, the school was seeking certification as a The Leader in Me school. Several of the staff and students described the school as a "Catholic school", but open to all religions. Further**,** the school was described as being previously "traditional" and experiencing a "struggle" when they transitioned to the PYP philosophy.

Administrators' Perceptions

We identified four themes from our cross-case, qualitative analysis of the administrator interviews. First, we noted the significant influence that the Colombian context had on the schools we studied. Administrators across the schools described the influence of the Colombian social structure, accountability policies, and governmental reporting requirements as significant

in shaping both how they administered the PYP as well as how the PYP was presented within the schools. Second, we noted that each of the schools' governance structures also influenced the administrators' perspectives on the PYP and potentially impacted how the schools implemented the PYP. We found it particularly noteworthy that schools with a more "detached" ownership interest tended to invest more robustly in the PYP than schools which had a more engaged owner. Third, across the schools, we noted that administrators collectively expressed difficulty finding qualified teachers to teach the PYP. Administrators noted that teachers who were prepared in Colombian schools of education were not adequately equipped with the skills needed to effectively teach in the PYP. Finally, across the schools, we noted administrative interest in creating distributed models of teacher supervision. PYP coordinators, in particular, were actively engaged in supervising and evaluating classroom teachers. For teachers who were struggling, we also noted significant efforts to provide support, particularly in those schools managed by a foundation or with a detached owner. We discuss each of these findings below.

Theme One: Recognizing the Influence of the Colombian Context

Across our interviews with the school administrators, we noted references to the significant influence of the Colombian educational context in the schools. Like many developing nations, Colombia is undergoing continuous change and the social, political, and economic realities of the nation clearly influence how schools operate. It bears noting that the directors commonly referenced the social context as a factor that influenced not only how the school operated but also the perspectives of the students the school serves. The schools we studied were among the most affluent in the nation, serving students from wealthy and well-connected families. This wealth was demonstrated in several ways. For example, all of the schools had private security, with many of the students being brought to school by chauffeurs and nannies in

armored cars. School directors were especially aware that this privileged social status presented the schools with unique challenges. Given the PYP's emphasis on engaging students in the broader social community, the directors saw the program as a powerful learning opportunity for students to develop social consciousness and a broader sense of justice. The directors also saw the IB program as a way to encourage students to explore the context and country that surrounded them. As one director explained,

> *… the school was looking for was a program that would engage kids in the world, in the world around them. Colombia as a county is a very diverse place, an very interesting place, but a place with quite a lot of problems obviously. What the school wanted was that its kind of its graduates were very much engaged in what happening both in the country and in the world. That's what we've been trying to do with the program really.*

Part of the value of the IB program is its ability to support students in understanding the social structure that exists in Colombia. As one director commented, "*Colombia is a stratified society and many, many families wouldn't want their son or daughter bumping into a nasty, lower-strata person, or maybe even a black person. That would really, really screw up the family."* His comments reflected the reality that students who attended the school were conditioned in a stratified society and that these biases were often challenged as the students interacted in the schools. As the director noted, the opportunity to explore the social setting provided by the IB program allowed students who attended the school to "stop and look" at the population. As the director noted, "You look at the population of this school, and then you stop outside and look at the population of north Bogota, and then you go south and look at the population of Colombia. This is one of the least mobile – sorry, let me correct that – it is the least socially mobile country in Latin America…Colombia, unfortunately, has now won the crown of the least socially mobile country and most divided country – the worst Gini coefficient."

One of the directors we interviewed observed that children who participated in the PYP often took the values that are espoused by the program and enacted them in their daily lives. This, from her perspective, was evidence of the students' participation in the program shaping how they made sense of the world in which they lived. The director offered two specific examples. First, she noted the way in which a child quickly learned to apply what was being learned at school to the outside world. She shared.

> *Recently, a little girl that had started whose mother was working here in school and who was a Colombian who'd lived in the United States for a long time and they'd just come back to Colombia, and the daughter was five. So Mommy was here in school with her daughter. They left and there was a car crash on the way going south. Their taxi crashed with another car. So of course, there were all these – both guys get out of the car and screaming and complaining and swearing at each other, and the little girl is sitting there like this in the car, and the mother came, she said, "I couldn't believe this. My child has been in this school for two and half months, and she turns around to me and she says, 'Mommy, this gentleman, he's not being very tolerant, is he? And he's not listening to what the other man is saying. He's not reflecting about what's happened here because neither of them is listening to what the other says and, you know, this is not being'" – this is the – I can't remember the words they used, but she was using all these words out of the Learner Profile.*

She then shared a story of how the students went about evaluating their teachers in relationship to the PYP philosophy, noting:

> *Then we had another case very recently…We had a new teacher come in this year. She's very, very good, but she comes from a very traditional type of Colombian school and she's got – she's a tough woman and she has a sort of tough face and she talks quite strongly to the kids. So one of the first grade, seven-year-olds…she goes to the PYP coordinator and she says, "Miss, can I talk to you?" The coordinator says, "Yeah, of course." "Miss, you know our teacher." "Yes, yes." "She's very good, Miss." Because they know exactly whether the teachers are very good or not. "She's a very good teacher, Miss, but you know, she's new to our school and we want to ask you," she says we, but she went on her own to talk to her, and she said, "we want to ask you a favor to talk to her because she doesn't know how she's supposed to teach us, and so she gets mad sometimes and she gets angry with us and this doesn't fit…it doesn't make us feel good, but she's a very good teacher, so can you talk to her, Miss?" This child had it perfectly clear that this is a woman who doesn't know the PYP, she*

> *doesn't know how it's taught, she doesn't know how you do it, and this little kid who's been through preschool only, could catch that immediately.*

Directors and coordinators also observed that it was difficult to help parents understand the PYP. Many parents who enrolled their son or daughter in the PYP expected their child to be taught in a very traditional way. School directors referred to conversations with parents in which they were question about the lack of textbooks and lectures. Directors thus noted that parental expectations were part of the boarder Colombian social context that influenced the ways the schools developed. As one director commented, "getting your parents to accept that this is the way it's going to be done" is difficult when they have come to expect that school is to be done in a certain way.

The directors were also clear that the Colombian legal context influenced their schools, particularly the ways in which it operated. The directors perceived that the Colombian legal controls on schools were manifest in terms of the accountability expectations that the school faced. As one director explained, "There is another issue here which has to do with Colombian legal controls on schools. Colombian schools have to comply with local education ministry laws." The director added that this compliance culture was not the same in other nations. He referred to Venezuela and Brazil as examples.

> *There are schools in Venezuela which have nothing to do with Venezuelan government and they have a high school diploma, for example, from the United States. There's two big American schools in Caracas. This is not the case in Brazil, where there are Brazilian schools who are not required to comply with all the legal requirements.*

In contrast, the Colombian government requires that all schools (regardless of their affiliation or private status) must comply with all of the nation's laws. As the director noted, "Here in Columbia, if there is a law that comes out saying that school is from, as of now, from 8:00 to 5:00 in the afternoon with the intention of the public schools giving more education to the

children, we have to comply with it too." What is also interesting is the degree to which other directors echoed their frustration with the Colombian legal context. As one director quipped, "I love Colombia, but boy oh boy, they love their laws. They constantly scan the world – "Oh, they've got a law. We're gonna have that law." As this comment highlights, the directors perceived that some of the laws they were subject to were not part of an intentional strategy but rather part of a larger proliferation of regulatory requirements that impacted the work in their schools.

The directors provided numerous examples of the impact that the regulations imposed by the Colombian government had on their schools. The impact was both on the school's business practices as well as its instructional practices. In relation to the business practices, one director noted that Colombia had recently required that all schools adopt standard, international accounting procedures for business activities. As the director explained, "The new law is declaring business accounts in an internationally accepted format." The director noted that. "It's gonna cost us a lot, but basically, it's reformulating our accounts so that they are in line internationally." Interestingly, the change had little to do with educational service delivery. As the director noted, "It's part of Colombia's attempt to improve its ease of doing business." We found this comment significant as it illustrated the extent to which the government's implementation of laws (regardless of their focus) impacted schools. The impact was cross-cutting and often required schools to take steps (and invest resources) in order to comply with procedures that were not directly linked to instructional delivery. This pressure creates a challenge for school directors as they must not only decide where to invest in their instructional program as well as how to balance those investments against regulatory requirements from the Colombian government.

We also noted the extent to which the Colombian government's regularly expectations impacted the academic organization of the schools we studied. Much like any school in Colombia, the IB schools we studied were required to conform to Colombian requirements for instructional delivery. One of these requirements stipulates that IB schools produce a document that describes the instructional program at the school. As one PYP coordinator explained,

> *Also we have in Colombia, by law, something called Projecto Educativo Institucional, and we review that every year to make sure any changes are reflected in that document because it's the legal document that says who we are as a school. And for example, last year, the IB changed the diagrams of the programs, so that had to go into that document.*

As this comment illustrates, when a school affiliates with IB, they are required to update their Projecto Educativo Institucional, a governing document which describes the instructional program at the school and the specific educational experiences that students who attend will participate in. While this document does not preclude from schools from creating an IB program, it does require that schools describe the program in a way that fits within the Colombian educational context. Curriculum maps, units of inquiry, and other IB-specific elements would need to be included in this document.

Theme Two: Recognizing the Influence of School's Governance Structure

A by-product of the Colombian educational context also relates to the variety of governance structures we observed in the schools we studied. Prior research has described changes in governance arrangements in most developed nations (e.g., Beare & Boyd, 1993), yet we noted that schools in Colombia often operated under vastly different governance arrangements that were primarily determined by the school's ownership structure. Schools in Colombia can be held by a private family or single owners much like a private business. Two of the schools we studied were, in fact, solely owned by private families. In other schools, a

foundation serves as the owner of the school. The foundations direct the broader policy concerns of the school, hire the director, and also set strategic priorities. Two of the schools we studied were directed by foundations. These arrangements significantly impact the ways in which the school developed its PYP, in particular it shaped how resources were allocated to support classroom teachers, what supports were provided to students, and how broader school initiatives were prioritized – sometimes at the expense of the PYP implementation. As one of the directors described,

> *The school is owned, basically, by one member of a family...He has three sisters. They all own the other school, but this school was owned by him. So we have what we would call a Board of Directors. This is made up of him and me, and then I – I'm now called the Director General because I'm usually, when I can manage it, not here every day. I have a rectora, which is like a principal, who runs the school on a day-to-day basis. She has done for the last three years now...But until then, until she arrived, I handled 99 percent of everything in this school. I didn't even have an administrator. I did everything, and I was burnt out. And so it got to the point where I said either I get some help or I can't go on doing this. So I now have a fantastic administrator and a great school principal and so my life is much more comfortable than it was a few years ago, apart from these couple of weeks that we'll get through somehow.*

The director's comments highlight that the school's governing body consists of the owner and her. The day-to-day operations of the school, however, were delegated to a principal who oversees the school. In this school, the single owner structure did not appear to adversely impact the implementation of the PYP. We found evidence that the school was allocating significant resources to build up teacher capacity, provide supports for students, and enhancing the quality of the facilities available to students.

In contrast, we also found a school in which the owner served as the "general director" of the school, charged with making decisions about the educational program, teacher support, and controlling how resources were allocated. In her capacity as "general director," the owner oversaw all aspects of the school's academic, financial, and organizational development. As the

owner/director explained, “I am the leader of the school, but I have participation of different teachers of the school, and we have a strategic committee.” As this comment illustrates, while the governing board consisted of the owner, the owner engaged teachers in the direction and leadership of the school through a strategic committee. This committee consisted of teachers, program leaders, and the school’s business officer. As one teacher explained, “She takes care of everything, but everything that I have need by now, she have given the resources.” We noted that this structure directly and significantly impacted the implementation of the PYP. For example, the general director appointed a part-time PYP coordinator to oversee the implementation of the program. Similarly, we found that the owner of the school clearly prioritized an educational program that was not directly related to the IB. During our site visit, we observed significant advertising, promotion, and other evidence which we did not observe in classrooms where the PYP was being provided. Taken together, we see this as the influence of the ownership structure on the implementation of the program.

The other schools we studied were both overseen by and owned by a foundation board. The foundation board was comprised of parents and other stakeholders. The board was primarily charged with setting broad policies and hiring the director. These arrangements appeared to empower administrators and teachers to implement the PYP at the schools and make key decisions about the allocation of resources and provision of support. As one director explained,

> *Okay, well, we’ve got a very hands-off board. The Board, in itself, is not the norm for Colombia. There are other schools where there’ll be a lot of board involvement. No. We’re left to run the school; they’re very, very clear. So our Board basically show good governance. They deal with finance, governance through policy – they’re getting very good at knowing what a policy is and the level of generality that you need for policy and so forth – and evaluating data. That’s restricted to their role. The senior management team is the main, main managing group of the school. That’s composed of myself, the three heads of the academic sections...We then have head of finances, head of human resources,*

> *head of administration that runs infrastructure and all of the peripheral services and so forth. Then we have some school-wide coordinator areas... I've got head of educational support that will deal with both ends of the educational support spectrum. We have a gifted and talented program; we have a challenged learner or alternative learner, whatever the terminology is for it now. We have school-wide technology...We have a school-wide environment...Psychology is managed in a little bit of an odd way. Half of it, I directly manage. The other half of it is tied in with educational support, so those are other key school-wide divisions. Then we have a few other – not so much school-wide, but program coordinators...and in parallel, there's the whole non-educational element. So the finance director has her account and her treasury and so forth, the accounts receivable and so forth. We then have the whole admin structure. We run a whole bus fleet. We run a huge cafeteria. We run big security teams. So all of that has its own structure. We have a social responsibility foundation...We have a Round Square international organization structure, Round Square ideals and so forth...We have two parent associations – one legal association, one voluntary association of the foundation. We have an ex-student association. We have a staff association for [the school]. That's it.*

The director's description of the school's governance structure lays out a multi-level hierarchy through which different stakeholders are provided with voice and representation. While the board sets broad precedent for the school, it is clear that the administration is charged with overseeing the school. The director's comments effectively describe schools where the academic program is distinct from the operations of the school. This appeared to ensure that the academic priorities of the school took priority to the Board's interests and financial considerations. This distinction was important as in the schools with a board structure, we noted teachers referring to increased investment in professional development, wider availability of instructional technology, and more emphasis on student learning. We also noted that this structure was widely understood by the school staff. As one PYP coordinator indicated,

> *The highest hierarchy, as I was telling you yesterday, is a Board, which is composed by members of the community, basically parents. And they invite the headmistress as the head of the academic part of the school, and then we have an administrator who is in charge of, you know, the budget and all the rest that is non-academic, okay. So they are in the same hierarchy. You can say it like that. Then we have the one that...deals with everything that is related with Ministry of*

> *Education. He signs papers. He's actually representing the school legally. If there is any legal issue, he will be not only responsible for sorting this out, but you know, his responsibility goes beyond, for example, the duties of the headmistress in turn, so if legal issues, okay. Then we have three heads of section – a preschool head of section, primary head of section and middle and upper school has the same head of section with a deputy head. And then we have the heads of international programs, head of PYP, head of MYP and diploma program. Okay, and then we have heads of departments. So we have heads of departments for the PYP section, English, Spanish, math and science. And then in middle and high school, they have their own heads of department. Then we have the heads which are in charge of five level – grades. They have a – part of the responsibility deals with academics, following the curriculum and responsibilities with assessment or discipline, okay. We have the same structure from preschool up to 11th grade. And then we have the tutors, or the mentors in middle and high school, which are, you know, responsible for a specific group. And then we have specialist teachers and all the rest of the staff.*

Much like the director's comments we noted previously, the comments offered by the PYP coordinator indicate the extent to which the administration of the school is geared toward the academic functions of the school. Her reference to the "academic part of the school" was in clear contrast to the comments offered by administrators in the schools with a single or family-based ownership structure. We also noted that the schools with a foundation structure prioritized the IB in a way that the school where the owner was also the school district did not.

Theme Three: Finding Teachers' Who Can Teach the PYP

Three of the schools we studied noted that one of their primary difficulties was finding classroom teachers with the skills (particularly language skills) needed to teach effectively in an IB program. Much like administrators in other nations, we found the directors' at three of the schools critiquing the local teacher preparation programs. They indicated that these programs did not prepare teachers with the skills needed to teach effectively in a bilingual, inquiry-based program. As one director noted, "If you have a bilingual school in Columbia, you need your teachers to be able to teach in English, but the national teaching university doesn't teach English. Their teachers are all in Spanish. So you can't find qualified teachers that can teach in English –

or very few." Another director remarked that teachers trained in Colombian schools of education are trained to think "in a different way", with this way being described as tradition teacher-centered instruction. This poses significant challenges for schools which "does not import teachers" but instead relies on locally trained teachers to implement the PYP. As the director observed, "We have to try and find the best qualified and experienced teachers we can who have very good English, then we have to train them how you teach in the PYP, and then we train them internally and we also train them externally. We send them to workshops and things. But even then some of them do not always function." Finally, another director noted, "locally, the quality of teacher training is low on the whole...At entry, teacher training tends to be very theoretical, not very practice based…they've not had the solid grounding in what basic teaching looks like to be able to step up. So I have been much more challenged finding that kind of teacher in the local market." As both directors' comments indicate, the implementation of the PYP is largely dependent on the teachers who are available to teach in the program. As one director commented, "If you get good teachers with some basic resources, you can do an awful lot of good stuff."

Woven into the directors' comments about the difficulty they had finding teachers to teach the PYP was also the inherent challenge finding teachers who could teach in a transdisciplinary manner and also model the attributes of the PYP. Directors saw the availability of teachers with these attributes as one of the core challenges to successful program implementation. Indeed, as one director observed, "Personally, I think that the Primary Years Programme is the most difficult program to introduce because it requires changing the mentality totally of the way your teachers teach." Another director offered a more expansive explanation,

noting the differences that are required for classroom teachers to fully implement the PYP. As the director observed,

> *We're looking for people that are more interested in connecting with students in a more broad sense, that genuinely, basically, are interested in developing attitudes and values and so forth. Difficult to discern sometimes because people can talk a good talk, you know, but essentially, flexible learners that are looking for a little bit of something different, that basically see their role extended beyond just a subject teacher, which is a problem in Colombia 'cause there's not much of a tradition of teachers extending beyond... many of these so-called top schools here, basically, they can define things a little bit narrowly, so we're kind of hoping to broaden out from that, but there's no culture here of teachers really being involved in the full breadth of the students' life. In the true international schools I've worked in around the world, it's a norm that every teacher is involved in some element of something else, and that's something we are trying to develop in this school, but it's a bit alien to the culture here.*

As the director's comments highlight, the teacher culture in Colombia views the engagement of teachers in students' lives as "alien" and that teachers tend to view their work from the perspective of a "subject teacher." Both views run counter to the kind of teachers that the schools we studied sought to hire and which administrators perceived as being central to the delivery of the PYP. As one administrator noted, "...getting teachers to shift into that kind of methodology where kids are being asked to find their own routes to solutions to problems, where there is more freedom for students to investigate things that is of their interest. Kind of developing learning experiences from different disciplines that generate questions towards a central idea and letting kids go with that is a big challenge." Collectively, then, the administrators' comments indicate the extent to which their schools were struggling finding appropriately trained, bilingual teachers who could engage students using an inquiry-based instructional approach. Indeed, this appears to be a significant challenge for the four schools implementing the PYP in Colombia. While administrators generally recognize that teachers are important for the program, the Colombian

context – particularly the Colombian market for teachers – make it difficult to find teachers who can help them implement the program with fidelity.

Theme Four: Distributing Supervision of PYP Teachers

Given the difficulties the directors observed with regard to finding qualified classroom teachers, we also noted that each of the schools we studied were investing significant time developing US-styled teacher evaluation procedures. Each of the schools were using or developing observation and evaluation protocols that described best practices for teachers using the PYP. In two of the schools, we noted that the evaluation procedure was aligned with the IB Learner Profile. Teacher supervision appeared to be delegated to the PYP coordinator in the schools we studied. As one director noted, "What goes on in the classroom is the PYP Coordinator's area, and exactly, you know, how you do it, what you do, how you set it up." The PYP coordinator at one of the schools explained the evaluation system that was being employed in the school, noting:

> *Track A are all the new teachers, and basically we have, you know, they have a self-assessment on what we call the School B Educator Standards, and they basically have to do with the IB Learner Profile, have to do with the qualities that we would expect to see in a teacher, so they start by self-assessment. Then, we have a series of formal and informal class observations. We also have a meeting with the line manager, which in the case of Track A teachers or new teachers is usually the head of section. And then they – we have feedback and then another observation, so the process lasts one year. It's a very kind of intensive follow-up process trying to help and give feedback and organize classes and plan and all that. Then, Track B is the regular teachers that are doing a good job, that we are very confident that they are progressing very nicely, and we basically follow up, but we have either a student or a parent questionnaire every year – no, every three years. It's a rotation system. Every year we have people being interviewed, but not everybody is interviewed every year. For the primary and preschool parents, we have a teacher survey. And from that, we have some data and we look at the results and areas for improvement and we discuss and it's, like, a three-year process. And we set some goals and the teachers set some goals. It could be a personal goal, like, I'm gonna finish my Master's degree, which the school supports as well. Or I will work on inquiry-based. I'm gonna work on formative assessment. An area that either the teacher selects or, at times, we can negotiate,*

> *look, from what I've observed, you really need to work on this area. Why don't you look at this and – yeah, and they also have some group goals. For example, the prekinder teachers, they have decided to work on portfolio and how to improve portfolio, so for example, I ordered a couple of books for them, and I support them and that sort of thing. And then we have Track C teachers, which gladly we don't have any at this time now, which are the teachers that we are concerned with. So if you are in Track C, it means that we will keep a close eye and follow up and either you comply and you change and you modify and you improve in certain areas that we have highlighted in need of improvement, or your contract will not be renewed.*

As evidenced, the evaluation system includes multiple rankings and performance levels which are characterized in terms of "track A," "track B," or "track C." Moreover, the evaluation system includes parental feedback as well as evidence of student work provided in the form of a portfolio. A PYP coordinator at another school highlighted the extent to which their school was trying to provide differentiated support for teachers given their professional goals and their current performance ratings. Further, she noted specifically that the system is "very British" in that teachers are ranked on three levels. As the PYP coordinated shared,

> *… we have a very formal process of teacher assessment... I think it is very British, but teachers are either in A, B or C. If they are in A, it's that they are new teachers to the school. If they are in B, it's because they fulfill all the expectations we have. If they are in C, it means that their teaching strategies are probably not working, their ethics or there's something, and we also invite them to write their SMART targets. So I'm the line manager for all the new teachers and the heads of year and the heads of department are the line managers of other teachers. So we have a preconference, an observation and a post-conference in which we give them feedback, and this happens two times formally in the year, but we have pop-ins all the time, either from heads of year, heads of department, myself, and we promote a lot of peer observation.*

Both coordinators' comments describe a very sophisticated teacher evaluation system that employs multiple levels of performance ratings, pre-conferences, teacher performance goals (i.e., SMART targets), classroom observations, walk-through's (i.e., learning-walks), and differentiated supervision. While these two schools had the most developed teacher evaluation system we observed, other schools integrated other components which were similar.

Related to their evaluation of classroom teachers, the directors and PYP Coordinators we interviewed also stressed the importance of providing professional development to teachers to help them transition into the PYP. Consistent across the schools we studied was an emphasis on providing professional development to teachers. Some schools provided more than others, but an effort was made by each of the schools to help teachers acquire the skills they need to be successful. As one Coordinator noted, "all IB workshops are fully covered by the school, and we also have another initiative which is training our teachers to know about issues with second language learners, you know, bilingual education and everything. So the school sent some teachers to get trained." Another coordinator noted that, "professional development is something that we really encourage and a huge amount of our budget goes for professional development. Its over 3 percent of our entire payroll is professional development, so it's very generous." These funds provided opportunities for teachers to attend conferences and trainings in Colombia as well as internationally. Much of the professional development, for example, was received from US-based professional development providers.

Data also indicated that the PYP Coordinators provided professional development to teachers. We noted that the Coordinators often engaged in classroom-based modeling and instructional coaching with teachers to help them understand various aspects of the PYP. As one Coordinator described, "I coach the planning with the teachers, especially with the primary ones – sometimes with the preschoolers if they have some issues or problems trying to fit their unit of inquiry, well, I work with them also, but I check them out also. So I have to check all the units of inquiry, all the planning, make all the corrections, and also make the attainments in order to achieve the PYP and also achieve the Colombian standards." We noted this comment as it not only described the ways in which the Coordinator was supporting the teachers in the school but

also highlighted the influence that Colombian educational policy had on the school. Another coordinator offered similar statements, indicating that "every Wednesday, we stay here in school from 3:30 to 5:00 in professional development, collaborative planning, and sometimes, workshops, not only held by me, but only for teachers. Some of them have attended different IB workshops, so they prepare something to show with the other teachers." At its core, however, the professional development provided to teachers was not only about equipping teachers with the skills to be successful but also to ensure that "we are implementing the program."

Teachers' Perceptions

We identified four themes from our cross-case, qualitative analysis of the teacher interviews. First, we found that the teachers identified the transition from a "traditional school" model to a PYP model as requiring time, effort, and teacher and administrator buy-in. This transition was described as "difficult" and "challenging", but something that the teachers' "believed in" or "with time I will understand it better". In School D, the shift was described as "big" and one that resulted in conceiving of teacher roles differently. Second, all of the teachers pointed to the importance and value of having access to professional support inside and outside of the classroom. This support included coaching from the PYP Coordinator, professional development opportunities, updated curriculum, and instructional technology. The teachers highlighted the importance of a school "investing" in their abilities and also noted the need for additional, ongoing supports that many of the schools did not provide. We noted the difficulties of providing additional resources and supports in the interviews we conducted with the school directors and administration. Third, across the school sites, the teachers identified one of the primary challenges to the PYP implementation as being the teaching of English Language Learners (ELL). The realities of "teaching English and PYP" concurrently were described as

"difficult" and something that required additional programs and teaching approaches to assure that students "understand things fully." This particular finding that was echoed in the PYP-Coordinator interviews, impacting the types of professional development that teachers desired and were provided by administrators. For instance, professional development courses on teaching English were described by some teachers as central to their work and a "necessity", with many teachers identifying this as something that they required further attention and support. Fourth, all of the teachers described resources as essential to PYP implementation. Teachers indicated that the most important resources were well-developed libraries, instructional technology, curricular materials that were up-to-date. Without these resources, the teachers found teaching in an inquiry-based way difficult, if not impossible. Across the schools, teacher's spoke of how resources were allocated, noting the degree to which administrators responded to their requests. We discuss each of these themes in detail below.

Theme One: Transitioning to the PYP Philosophy from a Traditional School Model

We found that many of the teachers perceived transitioning away from traditional school model as being difficult, albeit worth the energy and time required. While the teachers across the school sites mentioned this challenge to some extent at an individual or school level, School D's teachers spoke about it the most. We found this to be particularly significant, as many of the teachers at School D were teaching at the school prior to the PYP implementation. Further, students at School D who participated in the focus group also spoke of this transition as being something that was both visible and "significant," as we note in the student findings below. For teachers at School D, the move away from a traditional school model was described as entailing a "complete" overhaul, wherein "everything…changed," as noted by one teacher who stated:

> *At the beginning, this school was completely traditional. The teacher was in front of the board; the students were in perfect lines. They were listening to you. You*

> *have all the knowledge and they are listening. Their memory was very important...The classrooms now are different. We have teams. We start the year with special evaluation to understand and to identify the learning styles, if they have any special needs, and how they interact with each other, what subjects they like; what subjects they don't like. We try to inquire to know what math is not their subject that he or she likes. Why – because maybe it happens because they had a bad experience with math or a bad experience with English. So we try to change that...The teacher is not in the middle of the class, is not in front of the board...now walking around solving questions, maybe asking them in order to – that they recognize that they can do the exercise, that they can understand instructions, that they can create...So everything has changed.*

In the above quote, the teacher pointed to the shift in pedagogy, with the teacher no longer being "in front of the board" now; rather, the teacher is "walking around…asking". Across the dataset, teacher linked the challenge of this transition to moving to self-contained classrooms, wherein the teacher is required to teach multiple subjects within the context of units of inquiry. A teacher at School D compared this approach with what teachers used to do, noting:

> *Teachers used to teach their discipline…When I was in first grade – first grade has always been one teacher, homeroom teacher. But from second grade up, it was one teacher per discipline. The one who was in charge of science would teach science, and would get [inaudible] science, and, well, my work, my planning, my everything science. And although we have good communication and we're trying to work in team, it was not the same. But suddenly the idea, IB teacher says that we have to be – to have a holistic approach and that we have to be in charge of everything to sure that the units of inquiry are given in the right way to see if we need to teach the students to see the world as a whole, or teachers needed to start like that. It was a big change. It was not easy. Well, we have done it and now we know, and teachers have got in a custom that they will have mainly one teacher in primary school, with some exceptions, for example in math.*

The above quote illustrates the felt tension between teaching within one's discipline and "a holistic approach" – a tension that many of the teachers noted as requiring "time" to learn how to do well. Here, also, the teacher noted that there were some "exceptions" – in this case "math." Mathematics instruction was something that teachers spoke about across the school sites as being challenging to teach within this "holistic approach", with some schools even adopting additional

math curriculum (e.g., Singapore math at School C) to address concerns related to mathematics instruction.

The transition to a PYP philosophy was perceived as requiring a 1) willingness to make the transition, that is teacher buy-in; and 2) a recognition that this shift in teaching would require time. At School A, for instance, many of the teachers talked about the need to be "open-minded" as essential for those who commit to learning the "PYP way." One teacher at School A noted:

> *First of all, well, you have to be open-minded. If you're not open-minded working here, it's difficult. We – or I think that not every place is for every teacher, and like not every school is for every student. And here, you need to change your mind in many ways because, as I told you, you have to learn all the time. You are not there standing and like teaching all the time.*

While many teachers noted that teaching in a "PYP way" required you to "learn all the time" and essentially embrace a paradigm shift, there was a common acknowledgement that this shift required time, as experience was needed. One teacher at School C spoke of her questions regarding the value of the IB profile, wondering whether students really understand what they are being taught. Yet, she paused and reframed her perception, noting that as a first year PYP teacher her experience was lacking and perhaps with time these things would become more meaningful to her as a teacher/learner. She shared:

> *But how meaningful they [attributes and attitudes] are to them [students], I don't know because I don't know how meaningful they are to me. Maybe it could be my fault that I'm not – I don't know that I've had enough experience with it and it's not as innate as it should be for me, so maybe that's part of it.*

The above quote highlights the importance of teacher buy-in, something echoed across our dataset. Teachers appeared to be less apt to make the transition to PYP if they found little personal value in the underlying philosophy and approach to instruction.

Further, teachers noted the need for experience with the PYP, particularly experience working in the classroom. Some teachers even offered examples of how they needed "five, six,

or seven" years of experience before they began to understand the nuances of the PYP. One teacher at School A shared:

> *I have taken some workshops to understand the program better. But I think that working in the classroom is the best way to learn, to apply what you know because you can read and recite, like the documents…when you are in the class, is when you understand how it works, how it really works.*

Understanding how "it really works", then, was something that was perceived as being about more than book knowledge, particularly in that many of the teachers described the PYP philosophy as "very different" from how they were taught when they were primary students and trained to teach as teaching students. One teacher noted that "new teachers" often think "I don't know how to do this", but learning the program is a "long process…like five, six years." A teacher at School D shared:

> *Well, they asked me if I was ready for facing the challenge of being a self-contained teacher. I was a little scared at the beginning, but I thought I could make it because there were basic contents and that wouldn't be that hard. And that's how it was. I could make it. I had to explore a lot at the beginning. I had to get used to many things I wasn't used to, like stopping teaching things for kids to write something down and memorize it and then answer what I said, but exploring things on their own and giving their ideas and construct it pretty much. So that is something I discovered then, and I kept on practicing year after year. And I learn something every year.*

The above quote highlighted how learning to teach in a different way was both challenging and time consuming – something which took practice "year after year". Overall, the teachers perceived the transition from a traditional school model to understanding how the PYP "really works" as requiring time and experience, as well as ongoing professional supports.

Theme Two: Ongoing Need for Professional Support and Investment in Teaching

Across the school sites participants described varying levels of investment in professional development, all of the participating teachers cited examples of 1) professional supports, such as professional literature or workshops, and/or 2) why they needed additional support. Many

teachers cited that challenges of teaching the "PYP way" as a prime reason for having ongoing support. An experienced teacher at School B linked the need for professional development with the early challenges of transitioning from a traditional school model to a PYP philosophy, sharing:

> *It is hard at the beginning. It's not difficult. It is hard. And I think that's where the – well, I have to say the school has been really good in providing for professional development that will help teachers that come new to this program and really get the hang of it, like let's say instead of just throwing them the unit of inquiry and just throwing our planners to them and say, okay, this is it. This is what we're gonna do. So it is hard. It is something that is – that you have to plan more of. It's not already set in stone, but it's – again, we have a good way of helping each other and cooperating together so that our units of inquiry do come alive.*

The above quote highlights the importance of schools providing new PYP teachers with adequate support and reinforcing that support is critical as the transition to PYP is perceived as "difficult" by many of the teachers. Relatedly, many of the teachers perceived the school as making an "investment" in them as professionals, with this "investment" being described as necessary to ensure the success of the PYP, particularly as many teachers described feeling overwhelmed when first learning the PYP. One teacher at School A noted that:

> *…the school, they have like an investment in you, and the idea that when you learn something, you try to apply it in the school where you're working. So it represents a big change in your mind. For some people, it is difficult. As I told you, it was difficult for me at the beginning, especially because the curriculum has a lot of things. They provide the attitudes, the skills, and the planner. They are many components, and at the beginning, I was overwhelmed. For like the six months or the first year, they were like, "You have to do these." It's like what's that? But now, I feel a lot more comfortable with all the things you have to do because you are – I mean you have to be working all the time. But it's a good thing for someone, for a teacher like me.*

Teachers at School B, C, and D also noted the challenge of learning to teach the PYP, with many describing it as "overwhelming". One teacher at School B shared:

> *I think the fact that it's a lot of things at the same time, the fact that in a unit of inquiry class that you have, you have to do 100 things at the same time. You're worried about the - the previous knowledge, the connections…You got all of this going on and then, oh, the Learner Profile. I forgot about that. Okay, so are we curious about it? [Teachers Laugh] What are we doing? So it is kind of tough because you're overwhelmed with so much to do.*

Similarly, a teacher at School C stated:

> *The truth is, I didn't understand something at the beginning, I – you know, there are too many things, like profile, attitudes, interdisciplinary skills, like you feel a little bit overwhelmed sometimes. But I think that it was step by step. Like they gave me tons of support. Then the articles helped me a lot to understand everything. And right now, if I'm honest, I'm still working on different things that I need to work, you know; like I'm trying to implement different thinking routines that I never used before. So I think that the support is very big.*

Similarly, one teacher at School D noted how learning the various components of the PYP is initially "difficult":

> *I think it's difficult for the teacher first to get used to the attributes, the attitudes. Everything that you have to teach them and to make them work at, you first have to understand. In my opinion for me, that part was difficult because it was new.*

While common across the teacher data was a feeling of being overwhelmed with the various components of the PYP, all of the teachers pointed to the value of professional supports, such as classroom observations or team meetings. These professional supports were described as being central to their transition from viewing the PYP as "difficult" to "doable". Specifically, the teachers spoke about the value of having mentoring and coaching supports regardless of the number of years they have been a PYP teacher, noting that they are "always learning" and the "units of inquiry" require constant re-tooling. A teacher at School D noted the central role of the PYP Coordinator in providing this ongoing support, sharing:

> *We started without workshops at first, but as we were working we started having all the workshops. Our PYP Coordinator still gives workshops every week on differentiation of how to teach and everything. Once we start working on it, the workshops start making more sense. Workshops are everything that you learn because they do – when before we started they did give me some workshops on*

> *making the PYP happen and reading some documents, but if you were not doing it, it was not the same for me. So as I started working on it and the workshops repeat themselves so that we can understand them better. It was easier for me to start using all the concepts in my classes, and still every workshop that we have, I think it's a different perspective of how to use it again.*

The quote above is from a teacher with several years of experience, and therefore highlights the need for weekly support as central to the success of the teacher and the PYP more generally regardless of whether they are considered a new or experienced teacher.

Across the dataset, we noted that even the most experienced teachers spoke about the need for additional professional support, with workshops and seminars noted as valuable by many, but weekly team meetings and gatherings with the PYP Coordinators described as central supports. Generally, across the school sites, the role of the PYP Coordinator was noted as being central to the degree to which the teachers felt supported. A teacher at School C noted that:

> *Well, since I – you know I'm a new teacher in the PYP. I feel that the coordinator give us tons of support. She gives us not only the workshops, but also she gave us information at the beginning we should read too. We also have the Web page. We can have access to that one and we can learn…We have access to that website. And we actually have a user name and password for that. I know the school pays a monthly payment for that, so we are able to use the different resources they have in there. Also we have a level coordinator, and that level coordinator is in charge of trying to see if we have questions, if we need information for what we are doing during the different units. So I think that we have tons of support, and I have felt that myself. I think that it is not only for the point of view of the primary coordinator, but also I have support from the head of the year, like the grade, the head of the third grade head. And I think that they help us a lot, and they guide us a lot when we have questions, when we don't understand something. I think that that is something that is available. Not in all the schools you find a person who's able and who's available for you when you want to ask something.*

The above quote highlights the varied levels of support that many teachers experienced, noting the extensive investment in teachers needed when implementing the PYP. While the PYP Coordinator was frequently perceived as the central element in the professional support system, there was an acknowledgement that multiple individuals were involved. This was particularly

true at Schools A, B, and C, where teachers most often spoke about professional development as including supports from their PYP Coordinator, workshops and seminars, and team/collaborative meetings.

While the teachers we interviewed consistently expressed the need for additional support to implement the PYP and learn how to teach skillfully in an inquiry-based manner, the amount of support provided to teachers at these schools was likely far more than teachers received at other Colombian schools. Thus, it is important to keep in mind that even in the most affluent schools in the nation (which these were) the level of investment in teacher professional learning and the resources available to classroom teachers are still much less than you might find in a developed nation. This context is important given it directly shapes the working conditions of teachers in IB schools.

Theme Three: Intersecting Challenges of PYP Implementation and Bilingual Education

While the teachers noted the challenges of moving from a traditional school model to a PYP philosophy, and the necessity of having professional support throughout their individual transition, they also noted the difficulty they experienced teaching the PYP within the context of a bilingual program. Many teachers viewed teaching with a PYP philosophy while also assuring that students become fluent English speakers as a serious implementation challenge. Many of the teachers spoke about the importance of accessing additional resources, outside of the PYP, to better understand how to support students learning English, with PYP Coordinators being positioned as key sources of useful information related to language instruction. A teacher at School C who had experience teaching ELL in the United Stated, noted:

> *I think that there is still something to work on that. I have had the experience to work with second language learners in the United States, and I think that I learned a lot. But still I think there is – there has to be more work on that, on second language learners. The IB program does a great job with teaching and*

> *reinforcing how the IB works and how the IB program works, the profile, everything. But I think that part of the second language learners is…not really working.*

The above quote was echoed in many of the teacher comments, with teachers highlighting the need for continued discussions around how to balance the need for more a greater focus on language acquisition and the value of inquiry-based teaching. Teachers noted that the IB provided too few resources in regard to bilingual education and also noted that they were frequently forced to augment materials for a bilingual program that were not directly aligned with the IB. Teachers perceived that this was often content-area specific. For example, some of the teachers we interviewed noted the feeling that the IB philosophy conflicted with the students' need to acquire basic skills through direct instruction. At School A, one teacher noted that:

> *Sometimes it's a little bit difficult to choose what you'd rather do. Either the grammar and the vocabulary and the spelling because since we teach the second language, they don't have it. They do not have the vocabulary to do it. It's not the same thing as English and it's in Spanish. So I think that that is something that's quite, like the hardest part. Anyway, you have to demand from those students that they have a proper spelling, a proper grammar, they have to write properly. They have to read properly. But sometimes it's not that easy to teach them how to do it because it goes against the program...That's the hardest part.*

In the above quote, the teacher perceives that a choice must be made between teaching the "program" and teaching "the second language" with an explicit focus on "vocabulary", "proper spelling…grammar", and writing. How to teach ELL within the context of PYP was something that many teachers viewed as "hard", with some teachers describing the idea that all things can be taught in a unit of inquiry as "idealistic". A teacher at School C noted:

> *Like it's really nice and kind of ideal to think that it can all be incorporated into the unit, and it's all like inclusive. I think there are cases where that is possible, but it also needs to be quite specific sometimes. And I'm teaching you how to write and you need to know that that's what you're learning, or I'm teaching you possessive pronoun rules or whatever, and you need to know what you're doing.*

Similarly, a teacher at School A described how teaching the PYP and teaching English make it "difficult," with two teachers responding to her comments with "yeah" and "there it is, yes".

> *…this [English] is the second language. It makes it even more difficult. You have to break it really down to very simple words, like even using pictures. Like, oh, let's take a photograph of someone where they're being caring. Let's take a photograph of someone where they're being knowledgeable, so to really make it very visible for them what that words means. And I know that in the Spanish department also used the words a lot, so they do understand the words in Spanish, but then to translate that into English and to get the children using it in English and understanding what they mean instead of just really kind of barking at you, "Oh, I'm a risk taker." What does that mean? Because that could be quite difficult for them then to really explain what they mean.*

The above quote also pointed to the challenge of teaching the IB Learner Profile in what for most children is their second language – English. Further, many of the non-Colombian teachers at School B and School C spoke of the challenges of not being able to explain things in Spanish, as they were not Spanish speakers. This further highlighted the perceived difficulties, which were located at the intersection of teaching with a PYP mindset and addressing the unique needs of ELL. In our interviews with the teachers, some pointed to the need to more explicitly examine strategies for teaching English, as a teacher at School C highlighted:

> *I would suggest probably having some workshops about reading – learning strategies for second language learners. Basically, I will tell you why. Basically, because there are many native teachers here in Colombia, native speakers. And sometimes I see that they are teaching the language, but they don't see that they are teaching that language to students whose first language is not English. So the students are learning, yes. Some of them are having – or many of them are having a great pronunciation. Their speaking skills are great. But when you're talking about reading and writing and probably problem solving analysis, they are having some trouble. Not because of the concept, but because of the language. That is kind of something that is not I think still related.*

As this teacher's comments illustrate, the language barriers encountered by teachers impacted students at a deeper level than simply being able to communicate. As the teacher notes, students have "great pronunciation" and "are learning" but struggle when they begin trying to understand

concepts through reading, writing, and problem-solving. The difficulty teaching PYP in a bilingual setting appeared to impact both native and non-native teachers equally. Difficulties teaching in this setting were inter-related with challenges teaching basic skills in a problem-based program as well as trying to reach students who have had varying degrees of exposure to English. It appears that teachers collectively indicated that IB should provide additional support for bilingual instruction and that the current support is inadequate.

Theme Four: School-Based Resources as Central to PYP Implementation

Across the teacher interviews, resources were positioned as central to the implementing the PYP, improving teacher practice, and supporting student learning. While many teachers noted that "a successful teacher is successful always even though you don't have like a lot of resources" (a teacher at School D), there was an equal emphasis upon the need for resources that supported the inquiry-based approach to teaching as well as learning how to teach within the context of the PYP. We noted that resources were described in various ways by the teachers we interviewed, with some taking the form of traditional professional development while other supports proved more surprising. For instance, at School A, the library was frequently described as central to instruction and as an essential component of the program. One teacher noted:

> *Well, something that is good in this type of school, I know that there others that have Smart Boards and things like that, well, it's very important that we have the library. For us, the library is something really, really important. And the librarian here, she plays a very important role.*

Comments from other teachers indicated that the librarian was essential to the PYP as she provided resources, understood the curriculum, and offered guidance to teachers about formulating projects to fit the units of inquiry. Another teacher at School A noted the way in which the library, as a school resource, sustained the inquiry-based approach, using the topic of "energy" as an example:

> *Thank god, this is a school that is always opened to what we need. Resources, we have like a classroom library. These are books that we choose from the library. Sometimes are just we decide what to have in that library. So we bring things from the school library like dictionaries, like encyclopedia, like CDs, and something, reading books in English and Spanish, or books for the unit; self-inquiry. And the school is always like open to tell us, okay, what do you need? We don't have many materials for working with, I don't know, energy. Okay. These are the catalogs, so you choose and they buy everything we need. We have databases...This is with EBSCO. And all the kids know the user names and the passwords, so they can use them here or at home.*

In the above two quotes, the teachers point to the centrality of human resources (the librarian), as well as other resources, such as the library, access to EBSCO, books, etc. Among the school sites, these types of resources, while variable, were described as central to teaching units of inquiry. For example, while teachers at School B acknowledged that they have far more resources than the average Colombian school, they described how not having adequate resources negatively impacted the way they carried out the PYP. They noted:

> *Teacher 1:* *Depends a bit on the unit as well, and what you have for resources as well.*
>
> *Teacher 2:* *Yeah.*
>
> *Teacher 1:* *Sometimes we struggle. We're still not up there with the resources sometimes that we'd like, and then even when you're looking at the construction [of new buildings]. So for a while we didn't have computers for a long time, and then a lot of the computers are working sometimes, so that makes a difference on kind of what activities you're doing as well.*

The teachers at School B went on to describe the challenges of sharing "one box" of teaching materials amongst multiple teachers for a unit of inquiry. Many of the participating teachers at School B had taught at other PYP schools in other countries, and felt that comparatively they had access to far fewer resources.

While overall, there was a consistent focus on the centrality of resources for implementation of PYP, there was a sense of competing perspectives of how to allocate

resources, particularly at School B, C, and D. At School A, there was far more discussion of resource allocation being something that was driven by teacher requests. However, at School C, in particular, there was a great deal of focus on discussing the impact, for good and bad, of how the school governing bodies determined to spend money. For instance, one teacher noted:

> *So we've had a lot of money put into the kind of technology and that kind of thing. But I would say, personally, that, yeah, resources are lacking. For example, like we have – we've got some math resources and we got given – I think it was five clocks, just as an example, per classroom. Well, I need 25 clocks, like each kid needs a clock. So it's nice that we got given a few clocks, but we didn't get 25 each. So just stuff like that. Like really little things – especially for math because math is hard to – they need stuff like that, especially in the lower grades. So yeah, I just think like every classroom should be kind of a shared thing. Like even for example, I had to do the language order and I ordered a new phonics system for preschool, and I could only order one box.*

In contrast to this, at School B, many of the teachers noted the need for a greater investment in technology, and suggested resources were being allocated to develop new buildings. At School D, many teachers spoke about "good teachers being resourceful", while at the same time noting that one of the challenges was implementing a program that calls for particular resources that may or may not be available. For instance, one teacher at School D noted the challenge of teaching within the confines of small classrooms, sharing:

> *Maybe I think that right now because of a problem of space, we are not having; for example, all the workshops, or most of the workshops that our PYP Program Coordinator gives us are about differentiation and how to give a better differentiated instruction to the children. So we were talking a lot about how we can organize our classrooms for that and because of space we haven't been able to do that 100 percent as we would have liked for because of that. So I would say that space right now is not letting us accomplish 100 percent what we have to, but we try with what we have.*

As this teacher's comments illustrate, in additional to human and instructional resources, physical space was also a significant limitation at some of the schools. In this school, in particular, teachers taught in small classrooms with between 25-35 students each. These

classrooms were not conducive to the kinds of problem-based or inquiry-based learning activities. During our visit to the school, we noted teachers frequently used outside spaces to facilitate these kinds of learning activities. For example, during a walking tour of the school, we noted that teachers were using a grassy area outside classrooms to demonstrate various concepts from physical science and physics. Further, the descriptions of resource allocation at School D were strikingly different than the other three school sites, with teachers describing the allocation of resources as being controlled by administration, specifically the school owner/principal. In contrast, at the other three school sites, resources allocation was described as being more dispersed, with multiple leaders and levels of leadership being involved in the decision-making process around where resources would be allocated.

Taken together, the teachers' descriptions of school-level resources provide important insights into the needs that these schools had in relation to implementing the PYP. Moreover, their comments also highlight that many resources were not directly located in their classroom. The importance of a library and librarian, for example, was a resource that was shared across the schools, and was something which teachers felt helped them implement the program and provide meaningful learning activities for students.

Students' Perceptions

Across our data, we identified three themes from our cross-case, qualitative analysis. First, we noted that the students oriented to their teachers as primary to their learning, positioning the teachers' pedagogical practices and ways of being inside and outside of the classroom as central to what made their schools unique. Many of the students described their learning as being "fun" and "challenging," with the teacher characterized as driving this learning environment. Second and relatedly, the students viewed the IB Learner Profile as an important

part of their school life. Across the four focus school sites, the students spoke at length about how the IB Learner Profile and inquiry-based nature of the PYP positively shaped their learning experiences. They provided multiple examples of how their teachers taught them about what it means to be a successful learner and thinker, as well as caring citizen, in relation to the PYP. Third, the students described various resources as being foundational to their learning, with technology being emphasized by many students. Students at two of the school sites (School A and School C) emphasized technology the most, positioning it as one thing that makes their school "special" and their learning possible. Other resources students mentioned included the "library," "fieldtrips," "expert speakers," and language learning opportunities (e.g., "French class"). We describe each of the individual themes in detail next.

Theme One: The Primary Role of Teachers in the Learning Process

Across the data, the students who participated in the focus groups described their schools as "unique" and "special," with students at School B even positioning themselves as "privileged" and therefore desiring to share with others who were "less fortunate." We found that students spoke about their teachers as the primary driver behind their positive schooling experiences, with teachers frequently described as "fun," "smart," and "encouraging." A student at School B described how her "fun" teacher gave her the "energy" to learn, noting:

> *My teacher like she's serious but funny at the same time. Like she acts serious so that like we can – like we are concentrated. But, at the same time, she - we have fun and she laughs too, so that gives us energy to keep doing it.*

Interestingly, across the schools the students positioned their teachers' way of teaching as "different" and presumably the reason behind their success as learners. One student at School D captured this well, stating.

> *My favorite thing about this school are the classes and the way people teach us, because it's not a very strict way, and [it] is a way that we can share and say our*

ideas to others, and make friends.

The idea of "sharing" and being able to "say…ideas to others" was common across the student data, with all of the participating students viewing their school environment as a space in which their perspectives were valued and elicited. This finding was further verified in our classroom observations, as we noted that the teachers frequently asked students to share their ideas and/or produce work that reflected their perspectives. Beyond being able to share their perspectives, students also provided multiple examples of learning activities that they found useful for their learning. Across all of the school sites, we found that students identified real-world applications as the most meaningful for their learning. A student at School A offered an example from a math class, linking the activity with why she liked her teacher. She noted:

> *I also like that the teachers, when we are in math especially, they do analogies for the things we're working on. For example, today, we were working with perimeter and area, and the teacher told us that the perimeter was like a cup of glass with water, and that the water is like the area and the glass, the water of the glass, is the perimeter. So I like it, like when we do multiplications and answers, the ingredients of a cake are ingredients, the batter, and the answer is a cake. So I like it very much because it helps us understand a lot what are we learning.*

This student highlighted how "learning" and understanding were tightly connected to the classroom activities and the approach that the teacher took. Relatedly, students often pointed to the PYP exhibitions, mini-exhibitions, and units of inquiry as positively impacting their learning. One student at School A stated:

> *I also like that in our classes that it doesn't matter what class it is – music, art – in not all the classes, but in some moments, they always relate the class with a unit of inquiry that we are learning, but other points of view. Like in art, we are learning about civilizations and they [show] the relationship to like the cave art and all of that, so always is a relationship between all the classes and the unit [of inquiry]*.

In this way, the students implicitly highlighted how the underlying philosophy of PYP was felt in the classroom, and, more specifically, how they experienced the PYP as a student. Relatedly, at

all of the school sites, many of the students emphasized the importance of being granted freedom to learn in a way that was best for them, often describing this as including some kind of consideration of their "interests" or "learning style". When their interests were not considered, they described such classes and/or teachers as "boring" and "pointless." For instance, a student at School A highlighted the value of having choice around what she read, stating:

> *Well, I like that the teachers don't tell us the book we have to read. They give us different choices and we can choose the one that is more interesting for us, and that's very cool because we search about the topic that we like, so we're interested about it.*

The impact of having learning choices was frequently described by the students as "helpful" and, as the student above noted, something that resulted in learning being "more interesting" than a traditional approach to teaching and learning. In fact, at School D, wherein the PYP was relatively new, the students described their current learning environment as being radically different from the way they used to learn at the school – which was cast as "traditional". One student at School D shared:

> *I have been here in this school seven years, and it has changed very much because, before, it was like the traditional way, so they – it was only that we learned and no more. So the teachers didn't know if we really learned. But now with these [Leader in Me and PYP] programs, we can be sure that we learn, and we really learn.*

The idea of a teacher "knowing if we really learned" was echoed in other student comments, particularly in relation to how students' learning was assessed. For instance, at School A, a student described formal evaluations as being "fair," noting that:

> *…I like very much that the teachers give us formative evaluations, and depending on the results of them, they put the summative evaluation. Because if we are bad, they give us another formative until we have very good knowledge about it. So that's very fair.*

Such formal descriptions of the evaluation process were not unusual across the dataset, as the

students frequently evoked the language of PYP and more general inquiry-based approaches to learning when describing their teachers and what worked best for them as learners.

Beyond these tangible examples of meaningful learning, many of the students described their teachers more generally as being "motivating leaders" and "believing" in their abilities. This particular description was one that many of the students emphasized as being what made their school "special." A student at School B spoke about what she liked about her teacher, noting:

> *I really like my teacher – that she thinks that we can do it. So she doesn't say the answer, and she helps us to develop the answer. So she doesn't think for us, so that we think. So that's how like two ways that we learn. She does that and she teaches us like that everything is possible, that you can do it, and that she teaches what we are supposed to do.*

Here, the student connected the process of learning with being connected to a teacher who "doesn't think for us"; rather, the teacher was positioned as creating a learning environment wherein the students believed in their abilities and recognized their potential. This was something that was spoken about most often at School B, with many of School B's participating children pointing to the value of being "challenged" and even suggesting they would like to experience greater challenges in the future.

While the reach of the PYP teachers' influence was frequently described in relationship to what took place in the classroom, many of the students also pointed to their interactions with teachers outside of the classroom walls as being important. For instance, students at School B shared how they learned about "leadership skills and the IB profile" when participating in a camp event with their teachers. One student at School D described the influence of her teachers as being not simply located within the classroom, but extending to the playground, lunchroom, and other non-classroom spaces. She shared:

> *From the teachers I like very much that they – on all of the breaks they are walking around the school for people who need them or need to ask them something, because someone falls in the park or they can help you go to see the nurse. I like [this] very much because – like very much because they help you to learn and they make us learn in a different way with not only writing, but explaining to us and giving us examples.*

The idea of the PYP teachers being a living example of learning was not unique to School D, but something described in varying ways at all of the school sites. In fact, at School C, all of the participating focus group students went to great lengths to describe how much they learned from simply observing their school's PYP coordinator. They gave multiple examples of how she "lives the IB profile" and "helps us solve problems." As one student described:

> *She's a very nice person and she understands everyone. She solves lots of problems…I think she's a great leader for primary because she's a very kind person and we can solve problems with her very quickly, and also she takes in account our opinions about primary and what should we do to improve some stuff.*

In the above quote, the student explicitly linked the positive characteristics of the PYP coordinator with "good" leadership, highlighting how many of the students positioned the teachers, PYP coordinators, and school administrators as being both teachers and leaders inside and outside of the classroom.

The centrality of the school staff to the teaching and learning environment was apparent across the student data, highlighting the continued need for consistent pedagogical practices and familiarity with the PYP's underlying philosophy. Beyond familiarity with the PYP, however, there was also evidence of the teachers' skillful execution in the students' descriptions, with their learning experiences contingent upon how learning opportunities were delivered.

Theme Two: The IB Learner Profile as Integral to School Life

Across the student dataset, as well as during the classroom observations, we noted the ways in which the IB Learner Profile was integrated in the everyday practices of the school.

Across all of the schools, particularly School A and School D, the students mentioned specific attributes from the IB Learner Profile that they positioned as being part of their school life and more generally life as learners. In fact, many of the participating students requested to list out the 10 attributes and then offered examples of how they were introduced to the IB Learner Profile in the classroom. While students at School A and School D spent far more time talking explicitly about the IB Learner Profile, more generally students at all of the participating school sites mentioned something related to the PYP. Most often, descriptions related to the PYP, and the IB Learner Profile more specifically, were closely linked to teacher behaviors, as illustrated by one student's comment at School D.

> *My favorite thing about every teacher in a school, not only my teacher, but all, is that they teach the things right from the first time. And whenever we do something wrong, they're always saying like, "You can do it better. You have to be a leader. That's why we are here, to teach you how to use the IB Profile and the leader in me throughout your life."*

In the above quote, the students made an explicit link to the IB Profile, noting that her teachers taught her how to use it not just in the classroom, but "throughout[her] life". Comments from students at School C focused on how the PYP Coordinator embodies the IB Learner Profile, noting:

> *Miss Coordinator always speaks about the attributes and the attitudes of the profile, but instead of apart from [just] speaking, she has all of them because she's always like honest and she is a great leader and she's always with us and help us to solve problems.*

Like the above quote, across the data we found that students often spoke about the IB Learner Profile as being far more than simply a set of discrete concepts. Rather, they often described the profile as something that their teachers and the PYP Coordinators "live" and "are."

Furthermore, the IB attitudes and IB Profile's attributes were perceived as improving learning and behaving in and outside of school. For example, a student at School A shared that

she and her classmates "*use the attitudes and attributes because it help us respect each other, and that's good.*" Agreeing, one of her classmates added, "*like she says, the attributes…can help the school to have harmony and not always be having conflicts with each other*". While many students emphasized how the IB Profile positively impacted the school environment, other students described how the attitudes and attributes shaped their academic life. A student at School D illustrated this well, stating:

> *I think that just because with all the attitudes and the attributes of they provide, I have they have guided me so I could be better. So I mean simple ones, that I didn't work like very good academically. But since the school started these [PYP and Leader in Me] programs, I started getting better academically.*

In the above quote, the student's description offers evidence of how the PYP was perceived as improving learning. We found that all of the students at School D, like the student above, spoke about both the Leader in Me program and PYP, while students at the other school sites solely discussed the PYP. Yet, when asked to share more about their experienced with the IB Learner Profile and the PYP more generally, students at School D offered a multitude of examples, as illustrated in the following interchange:

> *Student 1:* *I think it's a better way to understand other people and to be a better person each day, because when you apply the IB profile skills in your daily life, you can notice a difference with your family and your friends.*
>
> *Student 2:* *I think the IB profile are skills that give you encouragement for doing the things of life and help you to be a better leader every day.*
>
> *Student 3:* *To me, the IB profile is to be a good leader every day, so when we are working in groups or with anyone, we can work by our self or in teams so we can get a good way to be our self or with others, so we get better each day to learn with others.*
>
> *Student 4:* *For me, the PYP is a guide for life because there are a series of skills and attributes and attitudes that make us get ready for our*

daily life and be more prepared for the challenges that will be on our way.

Student 5: *I think the IB profile is something that it can always help us to improve, and we can use it in our lives to improve them and make them better.*

In the above interchange, the students made clear that they perceived the IB Learner Profile and PYP more generally as being more than a classroom-based experience, describing the PYP as "a guide for life" and "IB profile" as making a "difference with your family and friends." In this way, the students located the impact of the PYP beyond the school, viewing it as something that they experienced as having lasting effects. Further, in the above quote highlights the focus on leadership, as students describe the IB profile as something that helps them to be a "good leader every day." We found that this emphasis on leadership occurred more often at School B and School D. Students at School B, who all identified as being part of the student leadership team, offered examples of how the PYP was infused into their leadership training.

Student 1: *Well, ah, that we prefects [i.e., school leaders] sometimes have a PYP workshops with some teachers.*

Students 2: *Oh, yes.*

Interviewer: *Oh, you do?*

Student 2: *They're fun.*

Student 1: *Yeah, and they teach us about the PYP attributes and attitudes.*

Student 2: *Like how to be a leader.*

Beyond this focus on leadership, we found that students across the school sites emphasized the impact PYP had on their lives and therefore would presumably have on the lives of other students. More specifically, some of the students provided examples of how the PYP influenced them as both students and community members, highlighting their desire to "give

back" and share what they have learned. For instance, students at School B described the PYP as being something that "everybody" should have access to, as illustrated in the following interchange:

> *Student 1:* *The PYP skills tell you how to be caring and tell you like you have to be caring because this school has a PYP system…it's like really nice to have the PYP because it helps you in everything.*
>
> *Student 2:* *Like being a better person.*
>
> *Student 1:* *Everybody should know that. Everybody.*

As illustrated, the students viewed the PYP as something that should not just be confined to their school, but shared more generally. This desire to share with others was frequently grounded in descriptions of how the PYP, and more specifically the IB Learner Profile, positively influences both learning inside and outside of school spaces.

Overall, students viewed the IB Learner Profile as positively impacting their academic learning and everyday lives. Quite often, descriptions of the IB Learner Profile and PYP more generally were based in conversations about their teachers and/or PYP Coordinators, highlighting again how the PYP was fueled by the efforts of the school staff. Further, and perhaps surprisingly, the degree to which students spoke about the IB Learner Profile was not dependent upon the amount of time their school had been a PYP, with students at the newest PYP school (School D) talking in the greatest details about the IB Learner Profile and PYP.

Theme Three: The Centrality of School Resources to Learning

Across the student focus groups, the students mentioned a variety of resources that they viewed as central to their learning, with the majority of students emphasizing technology as central to their learning. In response to the question, "What is the best way for you to learn something new?", the majority of students provided examples of how technology supports them

when learning something new. For example, students at School A linked the use of technology with learning "visually". She noted:

> *Student 1: I suppose the best learn – way to learn in our classroom, most of us learn better visually than verbally.*
>
> *Interviewer: So can you give an example of what might happen in your classroom because of that?*
>
> *Student 1: Like how can I –*
>
> *Student 2: The smart board.*
>
> *Student 1: Yes, the smart board. If we have any doubt about any reading texts, that it has no – I mean the teacher gives us some clues on the board instead of saying verbally.*

In the above quote, the students pointed to technology as being a key resource for their learning. We found that the students frequently located technology as an integral part of their teachers' pedagogy. At School B, for instance, students shared examples of useful learning activities, linking many of them to technology use. One student at School B described making "a movie with the iPad" as being a useful and meaningful learning opportunity. Students at School C, which had recently made a major investment in purchasing new technologies, viewed technology and "a lot of resources" as being what made the school "good". One student's comments highlighted this well:

> *It is a good school because they not only think about like you need to learn this, but they try to do fun activities and to take a lot of resources to do that. Like for example, 9th, 10th, and 11 graders, they are using iPads and they don't use no books so they can have all things in the iPads and they have lots of apps in there so they can understand things better and play things so they can learn.*

Our classroom observations at School C affirmed that technology was being integrated into classroom instruction and was a central part of the school life. A student at School A offered an explicit example of how technology was infused within everyday instruction, sharing:

> *Something about the teacher is that in every classroom, you have a TV, and the teachers can show us videos so we can learn, and also, the school have tablets, and we learn – the teacher give us some pages so we can – it depends on the topic, and we can search about it, but like that pages are not like Wikipedia and that, like in the level of kids. Like if we are learning mathematics, they give us a page of games of mathematics and that things, and they also take us to the library so we can read some books and search in the computers about it.*

The above quote highlights how learning was tightly coupled with the teachers' incorporation of technology. Yet, it is important to note that students described technology in varying ways across the school sites. Overall, students at School A and School C emphasized the centrality of technology far more than students who attended School B and School D. This was perhaps explained by recent investments School A's and School C's in technology, with School C being described as the "first certified Mac school in Colombia." Yet, regardless of the level of investment, students at all school sites noted the need for technology.

At School D, which comparatively had the fewest technology resources, students spoke of the value of investing in more technology in the future. In response to the question, "What is something you would like to learn more about?", one student noted:

> *I'd like to learn more about history, also about science and some about technology because, you know, in the future most of the things are going to be made up of technology or those things. So we need to learn how to use it before those times.*

In the above quote, technology was linked to the student's "future", and presumably his future success in a technological world. Thus, across the student dataset, students perceived technology as a key resource, directly linked to their ability to learn well and their future success.

Yet, some students also pointed to other resources available in the school, including the "library" and "programs." At School A and School C, the "library" was described as a key resource by the students, with students at School A even viewing it as where some of their most important learning opportunities were found with tools such as "EBSCO" and "ThinkCentral"

supporting their learning. A student at School C discussed her school resources as encompassing a variety of things, sharing:

> *I like that the school offers us many resources to learn…We also have a great library. And it's not always like learning the things, but we have some new activities and we have fun in the class.*

In the above quote, the student connected resources with having "fun in the class", illuminating the tight connection between successful learning and having access to learning tools (i.e., resources). Across the schools, the students would often encourage us to visit certain spaces in the school thereby highlighting those resources they viewed as most pertinent to their learning. While students at School D had fewer technology-based resources, they were quick to encourage us to visit their classrooms in order to see how various resources were being employed. Two students pointed us to visit their classrooms, noting:

> *Student 3:* *I think you can go and visit my classroom because we have a wall of our talents, of what we think that we are good at – at doing something or a special skill.*
>
> *Student 4:* *I think you can go and visit my classroom too, because we still have some students which provide more the IB profile skills, and each time a student shows his – he shows that he knows about one skill, we put like a tick for we to know that student is caring and those things.*

These less obvious resources (e.g., classroom walls) were often sites at which we found clear evidence of PYP at work. As Student 4 highlighted, teachers and students used what was available to execute the PYP – be it technology or a chart with "a tick" mark. Regardless of the type of resource described, the students at all four sites made evident the importance of having access to resources, with some students (particularly at School B) noting that they had far more resources than the average Colombian student.

Student Survey Results

The study survey provided an opportunity to expand upon our interpretation of the qualitative data we obtained through student focus groups. In particular, the survey provided an opportunity to assess student perceptions of the school, themselves as learners, and their perspectives regarding their classroom teachers. In addition, the survey responses allowed us to compare student perspectives across schools and by student gender to determine whether there were statistically significant differences between students at the schools we studied.

Student Perceptions of the School

Students from each of the schools which participated in the study strongly indicated that they were not only enjoying their experience as a student at the school attended but were also proud to be a student at these schools. An overwhelming majority, 89.3 percent, of students indicated that they enjoyed being a student at the school. Similarly, more than 90 percent of students indicated that they were proud to be a student at their school. Taken together, these indicate high levels of satisfaction with the PYP and the IB schools included in the study.

While we found a high level of support for the PYP and IB schools, we noted that male and female students expressed support at slightly different levels regarding the extent to which they enjoyed being a student at their school. For example, across the four schools we studied, a larger proportion of female students enjoyed the school than male students. Differences were particularly pronounced at two of the schools. At School B, for example, 92.6 percent of female students enjoyed being at the school compared to 86.5 percent of male students. At School D,

94.3 percent of female students compared with 80.0 percent of male students. None of the differences we observed were statistically significant, however.[2]

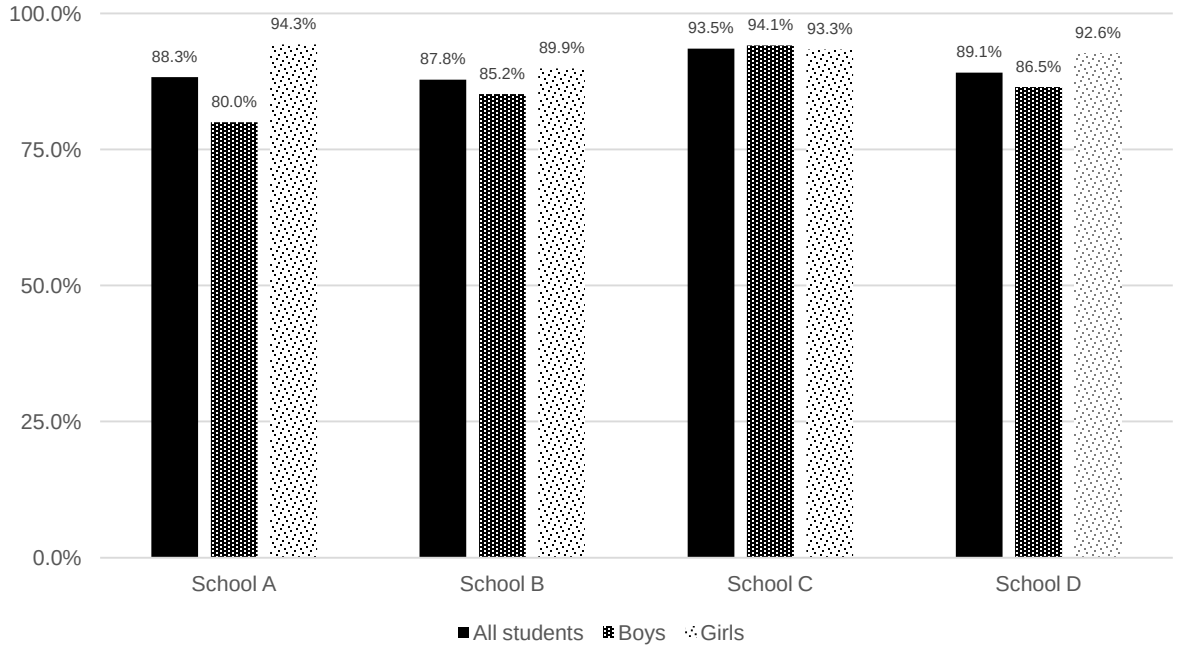

Figure 1. Percentage of students who indicated that they "enjoyed the school" by school location and student gender

Student Perceptions of Themselves as Learners

Students generally perceived that they were successful academically. More than 60 percent (63.1 percent) of students agreed with the statement, 'I am successful as a student." Moreover, the students generally perceived that their success was partly conditioned on hard work. More than 80 percent (84.1 percent) of students agreed with the statement, "I will always be successful if I work hard." Students also appeared to be committed to improving their scores or grades, with 86.7 percent of students agreeing with the statement, "I am always trying to improve my scores/grades." Collectively, these responses indicate that students perceived their

[2] [2]Claims of statistical significance are based on the results of an Independent Samples T-Test. Statistically significant differences are those with p-value less than .05. In this analysis, p-values for each survey item were calculated. The p-values ranged from .332 to .901.

abilities as learners positively as well as understood that their success as a student was conditioned upon hard work and dedication.

Table 4. Student perceptions of themselves as learners

	I agree a lot…		I agree a little…		I disagree…	
	#	%	#	%	#	%
I am successful as a student.	195	63.1	111	35.9	3	1.0
I will always be successful if I work hard.	260	84.1	44	14.2	5	1.6
I am always trying to improve my scores/grades.	268	86.7	36	11.7	5	1.6

Student Perceptions of their Teachers

Students were asked to describe their teachers' behaviors, in particular the actions that their teachers took to support them as individual learners. A majority of students (89.6 percent) indicated their teachers encourage them to learn new things and had high expectations for their work (85.4 percent). A smaller proportion (78.3 percent) indicated that their teachers provided help when they needed it, encouraged students to share their ideas (69.6 percent), and encouraged them to ask questions (60.8 percent). Nearly three-quarters (74.8 percent) of students indicated that their teacher helped them achieve their personal goals while a much small proportion (59.2 percent) indicated that their teacher actually helped them set personal goals. Less than half of the students (42.1 percent) indicated that their teachers asked them how they were doing in school.

Table 5. Student perceptions of teacher support

	#	%
My teachers encourage me to learn new things.	277	89.6
My teachers have high expectations for my work.	264	85.4
My teachers give me help when I need it.	242	78.3
My teachers help me achieve my goals.	231	74.8
My teachers encourage me to share my ideas.	215	69.6
My teachers encourage me to ask questions.	188	60.8
My teachers help me set personal goals.	183	59.2
My teachers ask how I am doing in school.	130	42.1

Male and female students appeared to have slightly different views regarding their classroom teachers. For example, both male and female students perceived that their teachers encouraged them to learn new things (88.0 percent compared to 90.9 percent). However, female students were more likely to perceive that their teachers had high expectations for their work than male students (88.1 percent compared to 82.0 percent). Female students were more likely than male students to perceive that their teachers would provide help when they needed it (80.1 percent compared to 75.9 percent) and they were more likely than male students to perceive that teachers encouraged them to share their ideas (71.0 percent compared to 67.7 percent), ask questions (63.1 percent compared to 57.9 percent), and ask how they were doing in school (44.3 percent compared to 39.1 percent). While we did not find these differences to be statistically significant,[3] they do suggest descriptive differences in the ways that students perceive teachers at the schools they attend.

[3] Claims of statistical significance are based on the results of an Independent Samples T-Test. Statistically significant differences are those with p-value less than .05. In this analysis, p-values for each survey item were calculated. The p-values ranged from .332 to .901.

Table 6. Student perceptions of teacher support by student gender

	Boys (N=133)		Girls (N=176)	
	#	%	#	%
My teachers encourage me to learn new things.	117	88.0	160	90.9
My teachers have high expectations for my work.	109	82.0	155	88.1
My teachers give me help when I need it.	101	75.9	141	80.1
My teachers help me achieve my goals.	101	75.9	130	73.9
My teachers encourage me to share my ideas.	90	67.7	125	71.0
My teachers encourage me to ask questions.	77	57.9	111	63.1
My teachers help me set personal goals.	81	60.9	102	58.0
My teachers ask how I am doing in school.	52	39.1	78	44.3

Student Perceptions of the Classroom Environment

Students were asked to describe the instructional activities that they completed in their classes. Survey responses suggest that students did not perceive that teachers were using common inquiry based instructional strategies recommended by the PYP. Rather, the students' responses suggest that they perceived that teachers were relying primarily on traditional instructional activities. Nearly 80 percent of students indicated that instruction in their classes primarily involved "Listening to the teacher talk." Less than a third of students surveyed (29.8 percent) indicated that they worked on projects in their class that they initiated or completed independent, creative writing assignments (31.4 percent). Only a quarter of students (25.2 percent) indicated that their teachers used experiments or other demonstrations in their classrooms as an instructional strategy. Instead, student responses suggest that teachers tended to rely on cooperative learning activities (56.6 percent) or reflective writing assignments based on pre-selected texts (34.3 percent).

Table 7. In-class instructional activities

	Overall		School A		School B		School C		School D	
	#	%	#	%	#	%	#	%	#	%
Listening to the teacher talk	244	78.9	52	86.7	91	73.9	53	85.5	48	75.0
Teacher-led experiments	78	25.2	15	24.2	24	19.5	18	28.1	21	35.0
Student-led projects	92	29.8	11	17.7	34	27.6	22	34.4	25	41.7
Reflective writing assignments	106	34.3	18	29.0	38	30.9	27	42.2	23	38.3
Creative writing assignments	97	31.4	17	27.4	34	27.6	27	42.2	19	31.7
Cooperative learning activities	175	56.6	35	56.5	59	48.0	44	68.8	37	61.7

These responses align closely with classroom observational data we collected during two-day site visits at each school. Of the 28 classrooms we observed, we noted that teachers were engaged in lectures or presentations in 12 of the 28 classrooms we observed, representing 42.9 percent of the observations we completed. This finding differs from what students reported on the survey. Further, we observed that students were engaged in some form of group work or cooperative learning in 17 of the 28 classrooms we observed representing 60.7 percent of the observations we completed.

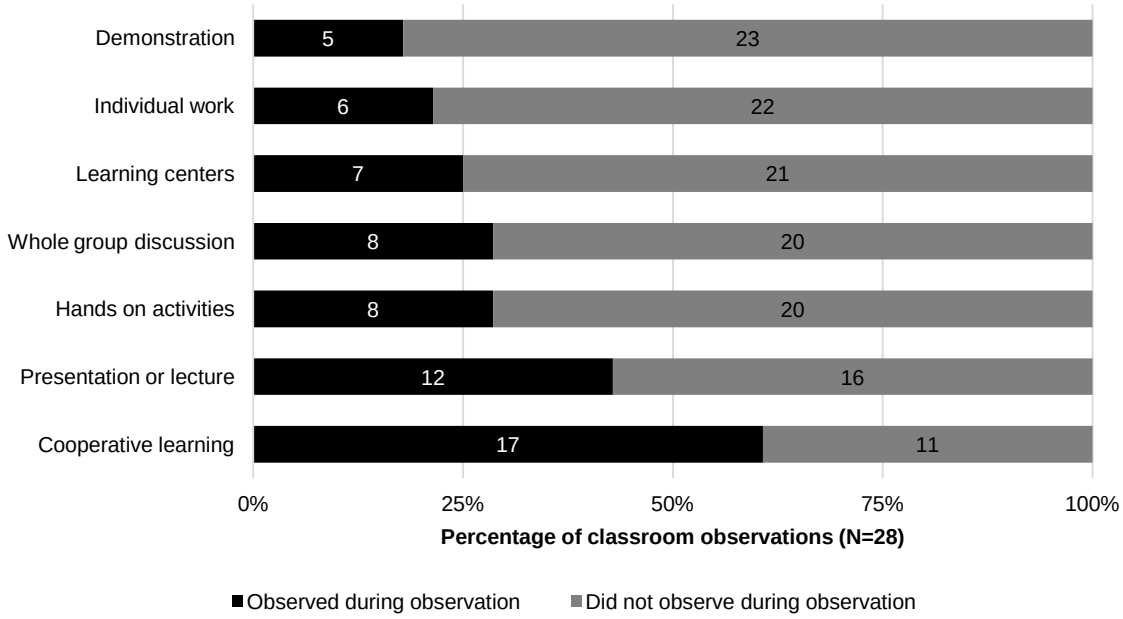

Figure 2. Classroom instructional activities observed by researchers

Classroom observation data also indicated that in a majority of the classrooms we observed, classroom teachers were primarily directing and facilitating the conversation. In 17 of 28 (60.7 percent) of the classrooms we observed, teachers were asking students for evidence or a justification to support the answers they provided. Similarly, we found that teachers were posing reflective questions in the same number of classrooms. In contrast, we observed that students were asking for evidence or justification in just 3 of the 28 classroom teachers (10.7 percent) and students were posing reflective questions in only one of the classrooms we observed. In many of the classrooms we observed, the type of instruction provided was very didactic and predominately involved the teacher posing questions to the student to determine whether they knew the answer. In 15 of the 28 classrooms (53.6 percent) we observed, students were primarily responding to questions posed by the teacher.

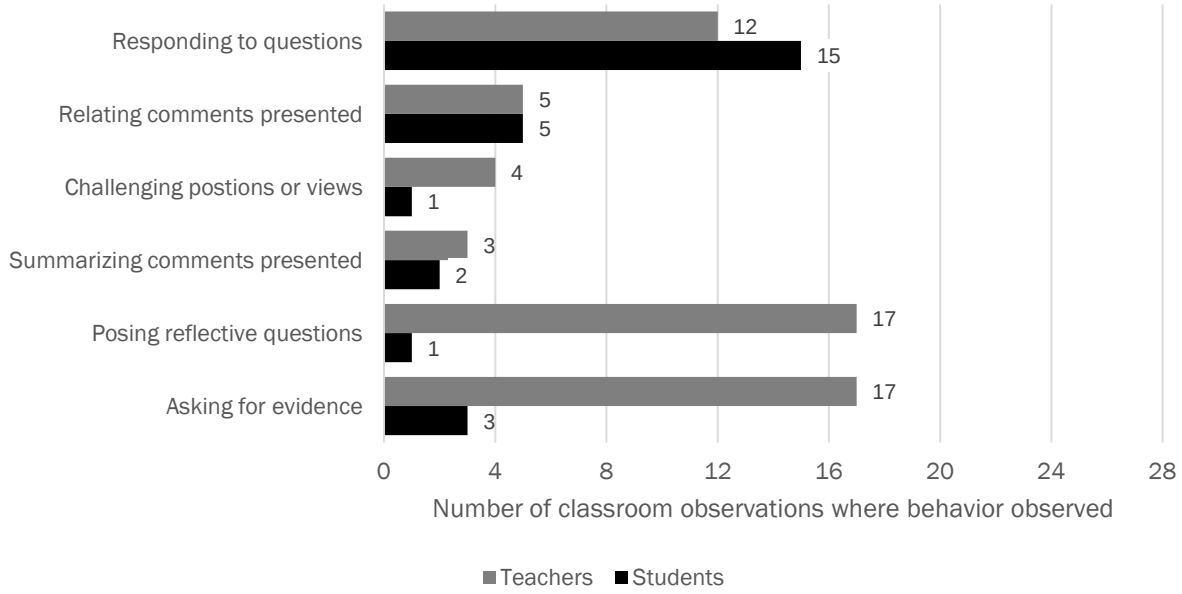

Figure 3. Teacher and student behaviors observed during classroom observations

Student Perceptions of Instructional Activities

Students were also asked to identify what types of instructional activities they enjoy most. Students overwhelmingly enjoyed "making or building things" with 78.0 percent of students indicating that this was something that they "enjoyed a lot." Nearly three-quarters (72.2 percent) of students also indicated that they enjoyed "figuring out new ways to solve problems." Students appeared to enjoy both "asking questions and finding answers" (55.0 percent) and "writing about my dreams or ideas" (49.2 percent) less than other activities.

Comparisons based on Schools

A one-way between groups analysis of variance was conducted to identify potential differences in student perceptions about the learning environment across schools. We treated students' responses pertaining to the learning environment as a continuous, dependent variable that ranged from one to three. We found statistically significant difference at the $p < .01$ level between student responses regarding the extent to which they enjoy asking and answering questions: $F(3, 305) = 4.753$, $p = .006$. Despite reaching statistical significance, the actual

difference in mean scores was quite small (Field, 2009). The effect size, calculated using eta squared, was .04. Post-hoc comparisons using Tukey HSD test indicated that the difference in mean score between School D (M=2.72, SD=.453) and School C (M=2.39, SD=.523) were statistically significant. Students at School D were more likely to enjoy asking questions and finding answers than their peers at School C.

A one-way between groups analysis of variance was also conducted to identify potential differences in student perceptions about English, Math, and Science (e.g., Survey Questions 7 through 9). We found statistically significant differences on three of five survey items pertaining to English. There were statistically significant differences in student responses regarding the extent to which students perceived they do well in English ($F(3, 305) = 4.753$, $p = .003$); the perception that English was a harder subject than others ($F(3, 305) = 5.855$, $p = .001$); and the perception that they were not good at English ($F(3,305) = 3.598$, $p = .014$). Despite reaching statistical significance, the actual difference in mean scores was quite small. The effect size, calculated using eta squared ranged from .03 to .05 across the three survey items.[4] Post-hoc comparisons using Tukey HSD test indicated that students attending the School A school (M=2.43, SD=.745) were less likely to feel that they did well in English compared with students who attended School B (M=2.72, SD=.716) and School D (M=2.80, SD=.540). Similarly, students who attended School A (M=1.75, SD=.816) were more likely to indicate than English was harder for them than students who attended School B (M=1.30, SD=.600) or School C (M=1.42, SD=.691). Finally, students who attended School A (M=1.40, SD=.718) were more likely to indicate that they were not good at English compared with students who attended

[4] Cohen (1988) provides guidance for the interpretation of Eta-squared. According to this guidance, eta-squared value of .01 is a small effect, .06 is a medium effect, and .14 is a large effect (p. 284-287).

School B (M=1.15, SD=.491) or School D (M=1.13, SD=.454). Responses indicate that students attending School A were less confident in English than their peers at other schools.

We also found statistically significant differences in responses on three of five survey items pertaining to science. There were statistically significant differences in student responses regarding the extent to which students perceived they do well in Science ($F(3,305)=3.266$, $p=.022$); the perception that Science was a harder subject than others ($F(3,305) = 8.872$, $p=.000$); and the perception that they were not good at Science ($F(3,305) = 4.295$, $p=.005$). Despite reaching statistical significance, the actual difference in mean scores was quite small in two of the three cases with eta squared ranging from .03 to .04. The third was of moderate size, with an eta squared of .08. Post-hoc comparisons using Tukey HSD test indicate that students attending School B (M=2.36, SD=.891) felt less confident in their ability to do well in science than students attending School D (M=2.66, SD=.541). Student attending School A (M=1.73, SD-.103) perceived that Science was harder for them than students attending either School B (M=1.22, SD=.660) or School D (M=1.58, SD=.708). Finally, students attending School A (M=1.43, SD=.647) were more likely to perceive that they were not good at science than students attending either School B (M=1.14, SD=.644) or School C (M=1.40, SD=.664). Taken together, these responses indicate that students attending the School A were less confident in science than their peers at other schools we studied.

Finally, we found statistically significant differences on four of ten survey items, which relate to the student's perception of various learning activities. There were statistical significant differences in relation to students perceptions of solving math problems ($F(3,305)=7.116$, $p=.000$); writing about historical events ($F(3,305)=3.691$, $p=.012$); and working math or science problems on their own ($F(3,305)=6.030$, $p=.001$). Two of the three items had moderate effective

sizes, with eta-squared values above .06. Post-hoc comparisons using Tukey HSD test indicate that students attending School D (M=2.16, SD=.781) were less likely to work with other students to solve math problems than were students at School B (M=2.59, SD=.625) or School C (M=2.45, SD=.619). Students at School D (M=2.66, SD=.541) were more likely than their peers attending School B (M=2.44, SD=.589) or School A (M=2.55, SD=.675) to work problems in either math or science on their own. The results indicate that students attending School D were more likely to work independently in math than students at other schools. Finally, students attending School A (M=1.77, SD=.745) were less likely write about historical events than their peers attending School B (M=2.08, SD=.742). Collectively the results suggest slight differences in instructional approaches across the schools as well as differing program foci.

Comparisons based on Gender

An independent samples t-test was conducted to determine whether there were statistically significant differences between survey responses obtained from male and female students. There was a statistically significant difference between male and female responses regarding whether the student enjoyed being at his or her school.

- Female students (M=2.89, SD=.439) were more likely to indicate that they enjoyed being a student at their school than did male students (M=2.83, SD=.452; t(507) = -1.155, p=.039).
- Male students (M=2.62, SD=.486) were more likely to enjoy asking questions and finding answers than did female students (M=2.45, SD=.593; t=2.758, p=.003).
- Female students (M=2.66, SD=.573) were more likely to enjoy sharing what they learned in school than were male students (M=2.50, SD=.611; t=2.758, p=.011).

- Male students (M=2.62, SD=.560) were more likely to solving problems or puzzles than were female students (M=2.55, SD=.683; t=1.004, p=.035).
- Male students (M=2.74, SD=.491) were more likely to feel that they would do well in English than female students (M=2.62, SD=.648; t=1.814, p=.001)
- Male students (M=2.59, SD=.508) were more likely to report working with classmates than female students (M=2.48, SD=.632; t=1.711, p=.011).

Taken together, survey results indicate that students across the schools exhibited mostly similar views regarding their experiences as PYP students. However, results indicate modest differences between schools when considering the students' views in regard to English, Mathematics, or Science as well as types of instructional activities they engaged in and preferred. These results generally confirm that there were slight differences across schools with regard to implementation of the PYP as well as the introduction of instructional strategies required by the PYP.

Summary of Findings

The findings from this study indicate that the schools were each in the process of implementing the PYP and that, consistent with previous research on the PYP, a variety of factors were influencing the implementation of the program.

According to administrators, two factors appeared to wield significant influence on the implementation of the PYP. First, the administrators were clear that finding teachers to teach the PYP was difficult given Colombian universities do not prepare teachers to teach in an inquiry-based manner. This finding was similar to research in Texas-based PYP and MYP schools in which researchers noted that districts had a difficult time recruiting staff (Alford, Rollins, Stillisano, & Waxman, 2013; Stillisano, Waxman, Hostrup, & Rollins, 2011). Second, in response to this reality, the Colombian administrators were fully invested in developing

supervisory models that supported teacher development and promoted professional growth. This is a key finding, as previous research has highlighted the importance of supportive school leadership for successful PYP implementation (Hall et al., 2009).

For their part, teachers acknowledged that the transition to the PYP was difficult and that support was critical. In particular, teachers noted the importance of professional development and in-class instructional resources that helped them become familiar with and teach effectively in the inquiry-based program. This finding aligns with previous research pointing to the importance of site-embedded professional development for PYP teachers (Burton, 2012). Teachers also indicated that the absence of bilingual resources from IB compounded their ability to implement the PYP. Interestingly, teachers acknowledged additional resources as critical, including the school library and librarian. Collectively, teachers saw the library as an important resource for both pedagogical insights, as well as in relation to materials that students could use to engage in the kind of inquiry-based learning that is supported by the PYP. Indeed, the need for supports to teachers is echoed in the larger body of literature, as Mills (2013) noted that successful implementation of the PYP is dependent upon support for classroom teachers.

Students offered the clearest and most direct indication of the importance of teachers. Many of the students we interacted with indicated that their teachers were central to their learning. In-class observations largely confirmed that teachers were primarily delivering instruction in most of the schools we studied. Further, surveys of students largely confirmed that instruction in the classrooms was primarily teacher directed. Collectively, the findings of this study related to students make an important contribution to the literature in that there are currently peer-reviewed articles that directly deal with student perspectives in PYP in Colombia.

Conclusions

Based on our analysis, we conclude that students, teachers, and administrators viewed the PYP in the four Colombian schools we studied positively. In particular, they noted the program's focus on a set of defined attributes embodied in the IB Learner Profile. They viewed these attributes as being relevant to the Colombian educational and social context, particularly the significant inequities that persist in the country. Teachers pointed to the program's unique emphasis on student centered teaching and inquiry-based learning activities. They viewed this as both a strength of the program model and a challenge given the bilingual nature of the schools. Students overwhelmingly viewed the PYP positively and through the examples provided by the students clearly recognized and related to IB Learner Profile.

While data from this study indicates that the four schools were successfully implementing the PYP, we note three important challenges to implementation that each of the schools highlighted. First, there appears to be a need for additional PYP focused resources and guidance around bilingual instruction. These resources could provide suggestions to teachers to help them understand how to operationalize aspects of the IB Learner Profile and attributes in their bilingual classrooms. Teachers across the schools noted that the absence of such guidance from IB made it difficult to understand the relationship between the PYP and 'best practices' in bilingual education. Similarly, they noted that it was difficult to operationalize some of the attributes of the IB Learner Profile given the language-based needs of the students.

Second and relatedly, we noted that much of the existing research about the PYP has focused on the curriculum and not specifically considered the types of instructional activities that are occurring in schools and classrooms. Based on data obtained in this study, we see a need for continued research about instructional practices in IB schools. For example, studies that focus

specifically on the implementation of the PYP in bilingual settings would potentially support schools in better understanding how to embed language instruction in an inquiry-based classroom.

Third, we noted that the implementation of the PYP varied across schools and depended on the support of the school's owners (or foundation). The IB would be well-served to assess how governance arrangements (particularly when the school is owned by a single family) may impact the implementation of its programs. While we did not specifically ask the schools to provide resource related data, we noted varying levels of investment as evidenced by the availability of teacher professional development, instructional resources, and student supports (e.g., classroom aides, learning support specialists) across the schools we studied. At times these variations appeared to be related to the differing governance arrangements in the schools as allowed by Colombian education policy. Despite these variations in resources and governance arrangements, it bears noting that each of the schools we studied were better resourced than the average Colombian school. It is therefore important to note that widespread adoption of the PYP and other IB programs in Colombia will depend upon the availability of significant financial and human resources. As the students participating in the study noted, *all* Colombian children would benefit from having access to the PYP.

Recommendations

Based on the findings, we offer the following recommendations to IB to support program improvements in Colombia. Given the purpose of this multi-site case study was not to evaluate the individual schools, these recommendations broadly relate to improvements that could be applicable to any school setting in Colombia or another Latin American county.

1. **Prepare parent informational materials in Spanish to ease the marketing and educational burden on schools.**

   Across the schools, we noted that administrators and teachers expressed concerns about parental understanding of the PYP philosophy. IB could support these schools by providing additional, parent-focused marketing materials that make the programmatic expectations and philosophy clear. In particular, the materials should explain how IB teachers approach instruction, what parents should expect to see from their child (in practical, less theoretical terms), and also note relevant differences with the Colombian educational model (e.g., limited use of textbooks, less emphasis on testing, etc.). While our study did not specifically interview parents and families, based on comments from administrators and teachers the absence of these marketing and educational materials requires the schools to develop procedures to educate and inform parents.

2. **Enhance professional development offerings and training materials related to the delivery of a bilingual education program.**

   Across the schools, teachers expressed difficulty adapting the PYP, its Learner Profile, and conceptual ideas for the program to a bilingual education program. Teachers collectively viewed the PYP as difficult to interpret in a bilingual setting, with this difficulty often undermining the efficacy of the program. The IB should provide additional resources that better illustrate how to offer the PYP as a bilingual program. These resources should specifically highlight classroom instruction, including translating the PYP, its philosophy, and the learner profile for bilingual students. Teachers collectively indicated that seeing examples of effective bilingual instruction would be beneficial; thus the IB should consider providing videos of effective instruction that serve

as models for teachers. Given the PYP uses similar units of inquiry across school, it would be particularly beneficial to teachers to see examples for each unit. Finally, given the dearth of instructional resources in Colombia, IB would be well-served to provide each Colombian school with a "start-up kit" that contains illustrative instructional resources, books, and other materials that the schools could then evaluate and purchase. Many of the teachers at the schools we studied indicated that they were "sharing" materials across classrooms and that this often made preparing and delivering lessons difficult. Relatedly, the IB should provide each school and its administration with a list of required resources that the schools must provide in order to ensure that the program is delivered with efficacy.

3. **Engage local teacher training institutions to share best practices, programmatic ideas, and or values.**

   Administrators collectively expressed difficulty finding locally trained teachers who were able to teach the PYP. We recommend that the IB engage local teacher training institutions to share best practices, programmatic ideas, and or values that relate to the PYP. This engagement could include, for example, teacher training partnerships whereby IB provides resources and other materials to teacher education programs, works with local IB schools to arrange field learning experiences for pre-service teachers, and connects IB school staff with faculty at colleges and universities. We see this area as an opportunity not only for further research, but also a significant opportunity for the IB to assist schools across Colombia.

4. **Ensure consistency of access across school sites related to library resources, as well as sufficient access to technology.**

Administrators, teachers, and students emphasized the importance of the school library; however, we noted that there was not consistent access to library resources across schools, as well as uneven access to technology. We recommend that IB provide additional resources, including professional development, designed to serve the needs of librarians in Colombian schools. This training should not only familiarize the librarians to the PYP and other IB programs, but emphasize the importance of library resources in deepening the student's experience in the IB. Relatedly, administrators noted that the cost to provide instructional technology often prevented the schools from investing in other facets of the program. IB should consider providing resources to schools that both help them acquire instructional technology at reduced cost or that provide strategies for schools to partner with business and other organizations to secure technology that is updated and aligned with the IB school.

5. **Establish recommended governance procedures for schools that encourage shared decision-making and a strong student focus.**

   Given Colombia allows schools to be privately owned, we strongly encourage the IB to develop suggested or recommended governance procedures for schools that ensure parental involvement, transparent and shared decision-making, as well as prioritization of student learning in relation to resource allocation. While each of the schools we studied demonstrated a commitment to the implementation of the program, as well as support for teachers and students, we noted that the level of support varied across schools and that the school wide commitment often reflected the owner's priorities rather than the core philosophy of the IB program. The guidance provided by the IB should focus on setting up shared decision-making structures, engaging teachers in decision-making, identifying

and prioritizing student learning as a priority for school resource allocation, and engaging parents in the school.

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Appendix A. Interview Protocol with IB School Administrators

Each interview lasted approximately 60 minutes and were conducted by both researchers. The field-based research assistant was present during all interviews and provided Spanish translation when needed. The interviews were digitally recorded and later professionally transcribed. Where appropriate, the researchers introduced follow-up questions and clarifying questions not listed in the protocol.

- Please tell me a little bit about your professional background.
    - How did you become the director at this school?
    - How long have you been at this school?
    - Have you worked at other IB schools?
- Please tell me a little bit about your school, the type of student it serves, and the families they come from.
- Please describe your role as the school director.
    - What are your primary responsibilities?
    - To what extent are you involved in the PYP?
    - Who is involved in the school's leadership?
    - What are their primary responsibilities?
    - How is leadership distributed or shared?
- How did you decide to become an IB school?
    - What was the decision-making process?
    - Who was involved?
    - How did you decide which IB programs to offer?
- What resources were required to become an IB school?
    - How were these resources generated?
    - How have you been able to sustain them?
    - Has the school experienced any significant changes in resources?
    - Are there specific resource challenges or needs that you feel are unique to this school because of its association with IB?
- When hiring new classroom teachers, what do you look for?
    - What skills, dispositions, or characteristics do you think are essential for an IB teacher?
    - To what extent have you been able to hire teachers with these skills?
- What are two or three successes your school has had in the past school year?
    - Are there any successes that you feel are specific to the PYP or its students?
- What are the two to three most significant challenges your school is facing this year?
    - Are there any challenges that you feel are specific to the PYP or its students?
- Please describe the PYP at this school.
- What do you think it means to be a student at an IB school? What are the most significant aspects of an IB school experience?
- How would you describe the IB Learner Profile?
    - From your perspective, how is the profile influencing or shaping the work you are doing at the school?

Appendix B. Interview Protocol with IB PYP Coordinators

Each interview lasted approximately 60 minutes and were conducted by both researchers. The field-based research assistant was present during all interviews and provided Spanish translation when needed. The interviews were digitally recorded and later professionally transcribed. Where appropriate, the researchers introduced follow-up questions and clarifying questions not listed in the protocol.

- Please tell me a little bit about your professional background.
    - How did you become a teacher and/or PYP coordinator at this school?
    - How long have you been at this school?
    - Have you worked at other IB schools?
    - How long have you been the PYP coordinator?
- Please tell me a little bit about your school.
    - What type(s) of students does it serve?
    - What are their families like?
- Please describe your role as the PYP coordinator.
    - What are your primary responsibilities with the PYP and the school itself?
    - To what extent are you part of the school's leadership team?
    - What does this role entail?
- How would you describe the PYP at this school?
    - What are its distinctive characteristics, qualities, or attributes?
- What resources do you have or feel you need to effectively operate the PYP?
- What are 2-3 successes you are having in relation to the PYP?
- What are 2-3 challenges you are having in relation to the PYP?
- Please tell us a little bit about the teachers in the PYP and the way(s) that they approach instruction.
- How does the IB Learner Profile inform your work in the PYP?
    - From your perspective, how has the profile been implemented in classrooms?
    - How do PYP teachers become familiar with the IB Learner Profile?
    - What support, assistance, or professional development is provided?
- In your opinion, what qualities or attributes make for a successful IB teacher?
- What instructional strategies are most effective and how are they deployed at this school?

Appendix C. Interview Protocol with Classroom Teachers

Each interview lasted approximately 30 minutes and were conducted by both researchers. The field-based research assistant was present during all interviews and provided Spanish translation when needed. The interviews were digitally recorded and later professionally transcribed. Where appropriate, the researchers introduced follow-up questions and clarifying questions not listed in the protocol.

- Please tell me a little bit about your professional background.
    - How did you become a teacher at this school?
    - How long have you been here?
    - Have you worked at other IB schools?
    - What brought you to or drew you to this school?
- Please describe from start to finish a typical day in the classroom.
- Please tell us a little bit about the students in your classroom.
- From your perspective, what are the distinctive characteristics or qualities of being an IB teacher?
- Which instructional activities do you tend to use most frequently with your students?
- How would you describe the IB Learner Profile?
- In what ways has the IB Learner Profile informed your work in the classroom?
- Can you describe how you have become familiar with the IB Learner Profile?
    - What support, assistance, or professional development have you received?
- What resources do you have or feel you need to be effective in the classroom?
- What are two to three of the most significant challenges you have faced as an IB teacher this year?
- Please describe the most significant successes you have experienced as an IB teacher this year.

Appendix D. Focus Group Protocol with Students

Each focus group lasted approximately 30 minutes and were conducted by both researchers. The field-based research assistant was present during all of the focus groups and provided Spanish translation when needed. The focus groups were digitally recorded and later professionally transcribed. Where appropriate, the researchers introduced follow-up questions and clarifying questions not listed in the protocol.

- Please tell us a little bit about yourself.
    - How old are you?
    - What grade are you in?
    - Do you primarily speak English/Spanish at home?
- Please tell us a little bit about this school.
    - What do you like most about this school?
    - What do you like least about this school?
- What do you like about your teachers?
    - What do your teachers do to help you learn?
- What do you enjoy learning most?
- What do you enjoy learning least?
- What is the best way for you to learn something new?
- What would help you learn more in school?
- What is something you learned recently in school?
- What is something you would like to learn more about?

Appendix E. School Observation Protocol

OBSERVATION DETAILS

Date of Observation: _____

School Location: _____

Name of Classroom Teacher: _____

Was this teacher interviewed? **Yes** **No**

Name of Observer: _____

DESCRIPTION OF THE CLASSROOM SETTING

What is the instructor's gender? Male Female

How many students are in the classroom at the time of the observation?
1-5 6-10 11-15 16-20 21-24 25+

Were other school staff working in the classroom? Yes No

If yes, what was their role or function?

DESCRIPTION OF THE ACTIVITIES & USE OF TIME
Which instructional strategies are being used in the classroom (check any that apply)?

- □ Presentation or lecture
- □ Presentation with discussion
- □ Hands-on activity or materials
- □ Small group discussion (student led)
- □ Small group discussion (teacher led)
- □ Whole group (class) discussion
- □ Administrative task
- □ Using instructional technology
- □ Individual writing activity
- □ Reading or seat work
- □ Demonstration (student led)
- □ Demonstration (teacher led)
- □ Student presentation
- □ Learning centers or stations
- □ Out of class experience
- □ Test, exam, or assessment

DESCRIPTION OF STUDENT ENGAGEMENT

Describe the level of student engagement in the classroom?

In what way(s) does the classroom teacher engage with students during the lesson?

□	Asking for evidence or justification	□	Challenging positions or views
□	Posing reflective questions	□	Relating students comments
□	Summarizing students comments	□	Responding to student questions
□	Other	□	Unable to observe

In what way(s) do students engage with the classroom teacher during the lesson?

□	Asking for evidence or justification	□	Challenging positions or views
□	Posing reflective questions	□	Relating students comments
□	Summarizing students comments	□	Responding to teacher questions
□	Other	□	Unable to observe

If other, please describe:

Appendix F: Student Survey

IB PRIMARY YEARS PROGRAMME | STUDENT SURVEY

THIS IS NOT A TEST. YOUR RESPONSES WILL NOT BE GRADED.

Thank you for taking the time to complete this survey. Your responses are very important and will provide valuable feedback to the International Baccalaureate about your experience in this school.

Please note that your responses will go directly to the Center for Evaluation & Education Policy (CEEP) at Indiana University, which is conducting this survey on behalf of International Baccalaureate. Your individual responses will be held in the strictest of confidence and not be presented to any one at this school or anyone outside CEEP in a manner that could identify you.

If you have any questions or concerns about the survey or evaluation process, please contact Dr. Chad Lochmiller at clochmil@indiana.edu or (812) 856.0895. Thank you for your time and participation!

Please tell us a little bit about yourself.

1. Are you a boy or a girl?
   - ☐ Boy
   - ☐ Girl

2. When were you born?
   - ☐ 2002
   - ☐ 2003
   - ☐ 2004
   - ☐ 2005

3. How often do you speak English at home?
   - ☐ Always
   - ☐ Almost always
   - ☐ Sometimes
   - ☐ Never

PLEASE GO TO THE NEXT PAGE.

4. How much do you agree with these statements about yourself as a student?

	I agree a lot…	I agree a little…	I disagree…
I am successful as a student.	☐	☐	☐
I will always be successful if I work hard.	☐	☐	☐
I am always trying to improve my scores/grades.	☐	☐	☐
I enjoy being a student at this school.	☐	☐	☐
I am proud to be a student at this school.	☐	☐	☐

5. How much do you agree with these statements about your teachers?

	I agree a lot…	I agree a little…	I disagree…
My teachers encourage me to ask questions.	☐	☐	☐
My teachers have high expectations for my work.	☐	☐	☐
My teachers give me help when I need it.	☐	☐	☐
My teachers help me set personal goals.	☐	☐	☐
My teachers help me achieve my goals.	☐	☐	☐
My teachers ask me how I am doing in school.	☐	☐	☐
My teachers encourage me to learn new things.	☐	☐	☐
My teachers encourage me to share my ideas.	☐	☐	☐

PLEASE GO TO THE NEXT PAGE.

6. How much do you enjoy doing these things?

	I enjoy this a lot…	I enjoy this a little bit…	I don't enjoy this…
Asking questions and finding answers.	☐	☐	☐
Looking up information online.	☐	☐	☐
Figuring out new ways to solve problems.	☐	☐	☐
Reading by myself.	☐	☐	☐
Sharing what I learn in school.	☐	☐	☐
Writing about my ideas or dreams.	☐	☐	☐
Solving problems or puzzles.	☐	☐	☐
Making or building things.	☐	☐	☐

7. How much do you agree with these statements about learning mathematics?

	I agree a lot…	I agree a little…	I disagree…
I usually do well in mathematics.	☐	☐	☐
I would like to do more mathematics in this school.	☐	☐	☐
Mathematics is harder for me than for my classmates.	☐	☐	☐
I enjoy learning mathematics.	☐	☐	☐
I am not good at mathematics.	☐	☐	☐

8. How much do you agree with these statements about learning English?

	I agree a lot…	I agree a little…	I disagree…
I usually do well in English.	☐	☐	☐
I would like to do more English in this school.	☐	☐	☐
English is harder for me than for my classmates.	☐	☐	☐
I enjoy learning English.	☐	☐	☐
I am not good at English.	☐	☐	☐

PLEASE GO TO THE NEXT PAGE.

9. How much do you agree with these statements about learning science?

	I agree a lot…	I agree a little…	I disagree…
I usually do well in science.	☐	☐	☐
I would like to do more science in this school.	☐	☐	☐
Science is harder for me than for my classmates.	☐	☐	☐
I enjoy learning science.	☐	☐	☐
I am not good at science.	☐	☐	☐

10. How often do you do these things at your school?

	Always…	Sometimes…	Not much…
I watch the teacher do an experiment.	☐	☐	☐
I design or plan an experiment.	☐	☐	☐
I work with other students on math problems.	☐	☐	☐
I explain how I solve math problems.	☐	☐	☐
I ask questions about books I read.	☐	☐	☐
I write about an idea I had recently.	☐	☐	☐
I write about a historical event.	☐	☐	☐
I listen to the teacher talk.	☐	☐	☐
I work problems (math or science) on my own.	☐	☐	☐
I work with my classmates or friends on a project.	☐	☐	☐

PLEASE RETURN YOUR COMPLETED SURVEY TO THE RESEARCHER.
THANK YOU!