

**The Incorporation of the IB Learner Profile in Chicago Public
Schools Middle Years Programmes**

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Executive Summary

The International Baccalaureate (IB) seeks to better understand the ways that the learner profile (LP) is incorporated as part of Chicago Public Schools (CPS) Middle Years Programme (MYP) teachers' practice. The LP is a core component of the IB's programme design and its approach to teaching and learning, yet the LP has been little studied as a facet of teachers' practice. While IB expects schools to embed development of the attributes throughout classroom and school practices, IB aims to preserve local school autonomy for how they reach the IB ethos of international mindedness. Our research literature review revealed the recurring theme for needed guidelines, additional training, and supports for teachers' sense-making of the attributes as well as international mindedness. This study explored the incorporation of the LP into CPS MYP teachers' practice in order to better understand how IB MYP programmes are implemented in schools and how IB MYP programmes influence classroom teaching.

The project's overarching research question was: How do teachers in Chicago Public Schools Middle Years Programmes understand the learner profile and incorporate the learner profile into their instructional practice? To complete this project, we created a sequential mixed methods research design comprised of multiple phases. Phase I of the project entailed a validated set of descriptions of student activities that reflect each LP attribute; these constructs were then used as part of a CPS-wide survey of MYP teachers and coordinators to assess the incorporation of the LP into instruction. Phase II consisted of four mixed methods case studies of MYPs selected partially on Phase I data analysis. Two

middle schools housing MYP years 1-3 and two high schools housing MYP years 4-5 were purposefully selected to reflect the diversity of MYPs across the district.

Our finding across Phases I and II were categorized into the following three topics:

Teacher Understanding.

- Our research reveals that MYP teachers, coordinators, and administrators see the LP as a central component of the programme, but they somewhat varied in how they understood that role and how it should function.
- Teachers did convey that they are very familiar with the LP and each of the attributes.
- They also have confidence in their ability to incorporate the LP attributes and report doing so extensively. This incorporation can be characterized generally as seeking opportunities within regular classroom practice to identify or integrate attributes.
- Teachers believe they can influence students' development of attributes, but their ability to do so is perceived to be related to students' age and living environment.

Incorporation of the Learner Profile into Practice.

- Across the district and the case schools, we found wide variation in the ways the LP is incorporated into teaching practice.
- Educators identified facilitators and barriers to incorporating the LP. Notably, a strong MYP coordinator was noted as a key support, while the content of each subject area could provide both opportunities and challenges to incorporation.

- There were other issues external to individual schools that presented difficulties such as teacher turnover and limited student experience with the IB prior to high school (MYP year 4).
- There were some distinct differences in which attributes were easier or more likely to be incorporated. There are several potential factors influencing this, including teachers' experience in the MYP as well as grade range taught.
- We found little evidence of explicit LP language use, but teachers and coordinators described several common strategies, such as "student of the month," that do try to promote awareness of the profile among students.
- Taken as a whole, we find the MYPs across CPS take divergent approaches to incorporating the LP based on difference in understanding of the LP and its purposes as well as key organizational facets related to MYP implementation.

Supports and Resources for Incorporating the Learner Profile.

- Across the professional development experiences and materials touched on through our research, we find a clear preference for school-based, including MYP coordinators, and district-based resources to support LP incorporation.
- Although teachers find local resources useful and frequently access them, it should also be noted that few teachers have direct experience with professional development offered beyond Chicago.
- The IB guides are valued, though there were many requests for further detailed examples of how the attributes can be incorporated into classroom practice.

Based on our findings and analysis, we recommend the International Baccalaureate Organization consider the following future steps: developing support materials that further explain, situate, and articulate the purpose and function of the LP; provide professional development that helps educators view the assets students bring to school related to the attributes and how those attributes can be further developed; and, assistance in cultivating more local resources to support school- and district-planned incorporations of the LP into practice.

Table of Contents

Executive Summary	ii
Chapter 1: Introduction	1
Project Overview	1
Review of Project Goals and Timeline	2
The Middle Years Programme.....	5
Literature Review.....	6
Learner Profile: Purpose and Outcomes	8
Role of the Learner Profile in IB Programmes	11
The Learner Profile in Relation to other MYP Components	14
The Learner Profile’s Relation to International Mindedness.....	15
Implementation of the LP & MYP.....	16
Teacher Capacity for Making Meaning of the LP and International Mindedness.....	18
Conclusion	21
Chapter 2: Methods.....	23
Research Design.....	24
Phase I.....	24
Development of LP integration section of questionnaire.	25
Sample.....	26
Phase II.....	27
Case selection.....	27
Data collection Phase II.	28
Chapter 3: Results.....	30

Phase I: District-wide Survey Results.....	30
Demographic results.	30
Research Question 2.	32
Research Question 4a.....	34
Research Question 7a.....	35
Research Question 7b.	45
Research Question 8.	48
Phase II: Case Studies.....	52
Overview.....	52
Elk Elementary School case study.....	54
School demographics and history with IB & MYP.	54
Teacher survey findings.....	55
Case study findings.	56
School demographics and history with IB & MYP.	64
School survey findings.....	65
Case study findings.	65
Brown Bear Elementary School case study.....	75
School demographics and history with IB & MYP.	75
School survey findings.....	76
In the spring of 2017, we surveyed Brown Bear Elementary School MYP teachers to understand how the learner profile (LP) is incorporated into classroom practice. There were 6 respondents that completed an online questionnaire.	76

Case study findings.....	76
School demographics and history with IB & MYP.....	80
School survey findings.....	81
Case study findings.....	82
Chapter 4: Discussion: Cross-Case Analysis.....	86
Teacher Understanding of the LP.....	86
Research Question 1.....	86
Research Question 2.....	88
Research Question 3.....	90
Teacher understanding summary.....	91
Incorporation of the LP into Practice.....	91
Research Question 4.....	92
Research Question 4a.....	96
Research Questions 5 & 6.....	99
Research Question 8.....	101
Incorporation of the LP into practice summary.....	104
Supports and Resources for Incorporating the Learner Profile.....	104
Research Question 9.....	104
Chapter 5: Recommendations and Suggestions for Further Study.....	107
Explaining, Situating, and Articulating the Learner Profile.....	107
Viewing Attribute Assets and Development in Students.....	108
Resourcing the LP.....	109
Issues for Further Research.....	110

References..... 112

Enclosed Appendices

- A. Research Plan and Composition of the Research Team
- B. Literature Review on the Incorporation of the Learner Profile in MYPs
- C. Survey Instrument for Attribute Construct Validity
- D. Aggregated Data for the Construct Validity Survey
- E. Survey Instrument for CPS MYP Teacher & Coordinator Perceptions of Learner Profile Incorporation
- F. CPS MYP Teacher & Coordinator Perceptions of Learner Profile Incorporation Report
- G. Survey Instrument for Case Study MYP Teacher & Coordinator Perceptions of Learner Profile Incorporation
- H. Case Study MYP Teacher & Coordinator Perceptions of Learner Profile Incorporation Reports
 - 1. Brown Bear Elementary School
 - 2. Buffalo High School
 - 3. Coyote High School
 - 4. Elk Elementary School
- I. Instruments and Protocols for Case Study Research
- J. Demographics of CPS Schools housing MYPs
- K. IRB Review Letter from Loyola University Chicago & Research Review Letter from Chicago Public Schools

List of Tables

Table 1 <i>Research Questions</i>	2
Table 2 <i>Research Questions and Methods to Generate Data</i>	4
Table 3 <i>Search Terms and Databases</i>	7
Table 4 <i>IB Learner Profile Attributes</i>	7
Table 5 <i>Case Study Schools</i>	28
Table 6 <i>Descriptive Statistics. Participating Schools</i>	30
Table 7 <i>Descriptive Statistics. Survey Respondents</i>	31
Table 8 <i>Correlations Between Familiarity and Confidence Ratings for LP Attributes</i>	34
Table 9 <i>LP Incorporation Score by Student Grade</i>	35
Table 10 <i>Incorporation Scores on LP Attributes by Student Age</i>	36
Table 11 <i>Incorporation Score Average Across Subject Area</i>	37
Table 12 <i>Incorporation Score Each Attribute Across Subject Areas</i>	39
Table 13 <i>Incorporation Score by Department Area</i>	40
Table 14 <i>Incorporation Score on LP Attributes Across STEM and Humanities Teachers</i>	40
Table 15 <i>Incorporation by Student Age and by Subject Area</i>	41
Table 16 <i>Incorporation Score on LP Attributes Across Subject Areas and Student Ages</i>	43
Table 17 <i>Incorporation Score by MYP Authorization Length</i>	46
Table 18 <i>Incorporation Score on LP Attributes by MYP Authorization Length</i>	47
Table 19 <i>Incorporation Score Across Length of Teacher MYP Experience</i>	47
Table 20 <i>LP Attributes Incorporation Scores by Length of Teacher MYP Experience</i>	48
Table 21 <i>Frequency of Accessing Professional Development and IB Authored Materials</i>	49
Table 22 <i>Usefulness of Professional Development and IB-authored Materials</i>	50

Table 23 *Coyote High School Qualitative Data Collection Methods and Participants* 82

List of Figures

Figure 1. Familiarity and confidence scores of Learner Profile attribute.	33
Figure 2. LP Incorporation score across the attributes.	35
Figure 3. Frequency and usefulness score of support.	52

Chapter 1: Introduction

Project Overview

As with all the International Baccalaureate (IB) program models, the learner profile sits at the core of the Middle Years Programme. Across the IB continuum of programmes, the Learner Profile articulates the ten attributes, consisting of both academic and social-emotional traits, that students develop through their educational experiences. The development of the Learner Profile attributes is a central goal of an IB education. To understand better how practitioners implement the learner profile into practice within this program, a research team at The Loyola University Chicago (LUC) completed the project, “Incorporating the IB Learner Profile into Chicago Public Schools Middle Years Programmes.” The following is a final report on the findings and conclusions of the project.

The report is organized as follows. Chapter 1 provides an overview of the project and a review of the relevant literature concerning the learner profile in Middle Years Programmes. Chapter 2 involves a review of the research methods developed and employed for these projects. Chapter 3 presents the project’s findings. These are organized by the two phases into which the research was conducted: “Phase I” in which all Chicago Public Schools Middle Years Programme educators were surveyed about their incorporation of the learner profile; and “Phase II” in which four purposefully selected case study programs were researched in-depth to provide rich qualitative data about learner profile incorporation. Chapter 4 consists of a discussion of the findings organized by the project’s research questions. Chapter 5 entails recommendations and suggestions for further study. Also enclosed are a set of appendices that present instruments, protocols, supplemental data, and in-depth reports from key research activities.

Review of Project Goals and Timeline

This study examined the ways that the learner profile (LP) is incorporated as part of Chicago Public Schools (CPS) Middle Years Programme (MYP) teachers' practice. The LP is a core component of the IB's program design and its approach to teaching and learning, but there is a dearth of research on the LP as a facet of teachers' practice. Our team systematically researched the incorporation of the LP into CPS MYP teachers' practice to understand better how IB MYP programs are implemented in schools and how IB MYP programs influence classroom teaching.

The project's overarching research question was as follows: How do teachers in Chicago Public Schools Middle Years Programmes understand the learner profile and incorporate the learner profile into their instructional practice? The eight research questions (and sub-questions) are shown in Table 1.

Table 1

Research Questions

Topic	Questions
Teacher understanding of the LP	<ol style="list-style-type: none">1. How do teachers describe the role of the learner profile within the MYP and as part of MYP instructional practices?2. To what extent (a) are teachers familiar with the learner profile and (b) do teachers find the learner profile easy to incorporate into their lessons?3. To what extent do teachers believe that they have the power to influence the development of learner profile attributes in their students?
Incorporation of the LP into practice	<ol style="list-style-type: none">4. What are the factors that facilitate the incorporation and present challenges to the incorporation of the LP into their instruction?

	<ul style="list-style-type: none"> a. Are there certain LP attributes that are easier than others to incorporate into lessons?
	5. To what extent do teachers explicitly use the language of the learner profile in their planning, and in collaboration with colleagues?
	6. To what extent do teachers explicitly use the language of the learner profile with students?
	7. Are there certain LP attributes that are mentioned more than others? <ul style="list-style-type: none"> a. Do the relative frequencies vary across student ages and academic subjects? b. Do the relative frequencies vary according to school authorization length or length of teacher IB experience?
	8. What are the specific strategies that teachers use to make students aware of the learner profile (using its terminology) and to develop learner profile attributes?
Supports & resources for incorporating the LP	9. Which professional development and IB-authored materials do teachers find most useful for integrating the learner profile into their teaching?

To complete this project, we created a sequential mixed methods research design comprised of multiple phases. By adopting this methodology, we employed the results of previous phases to inform the design, instrument development, and implementation decisions in subsequent phases of the research plan. For instance, we employed results from our Teacher & Coordinator Survey (Appendix F) to inform case study site selection, as well as particular questions and prompts in the research protocols.

Table 2

Research Questions and Methods to Generate Data

Research Questions	Methods to Generate Data
1. How do teachers describe the role of the learner profile within the MYP and as part of MYP instructional practices?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups
2. To what extent (a) are teachers familiar with the learner profile and (b) do teachers find the learner profile easy to incorporate into their lessons?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups • Classroom Observations
3. To what extent do teachers believe that they have the power to influence the development of learner profile attributes in their students?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups
4. What are the factors that facilitate the incorporation and present challenges to the incorporation of the LP into their instruction? b. Are there certain LP attributes that are easier than others to incorporate into lessons?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups • Classroom Observations • Analysis of Curriculum Materials
5. To what extent do teachers explicitly use the language of the learner profile in their planning, and in collaboration with colleagues?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups • Classroom Observations • Analysis of Curriculum Materials
6. To what extent do teachers explicitly use the language of the learner profile with students?	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups • Classroom Observations • Analysis of Curriculum Materials

<p>7. Are there certain LP attributes that are mentioned more than others?</p> <p>a. Do the relative frequencies vary across student ages and academic subjects?</p> <p>b. Do the relative frequencies vary according to school authorization length or length of teacher IB experience?</p>	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups • Classroom Observations • Analysis of Curriculum Materials
<p>8. What are the specific strategies that teachers use to make students aware of the learner profile (using its terminology) and to develop learner profile attributes?</p>	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups
<p>9. Which professional development and IB-authored materials do teachers find most useful for integrating the learner profile into their teaching?</p>	<ul style="list-style-type: none"> • Teacher & Coordinator Survey • Teacher, Coordinator, & Administrator Interviews • Teacher Focus Groups

The Middle Years Programme

The Middle Years Programme (MYP) is a curriculum framework for students aged 12 to 16 and situated after the Primary Years Programme and before either the Diploma Programme or Career Programme in the IB Continuum. There are eight subject areas students take courses in: arts; design; individuals and societies; language acquisition; language and literature; mathematics; physical and health education; and, sciences. Students spend a minimum of 50 hours in each subject area in each of the five years of the MYP.

There are several characteristic elements of the MYP. First, and most important to this study, is that students are expected to develop the ten learner profile attributes over the course of the programme. This is supported through the incorporation of specific “Approaches to Learning” identified by the IB, which entail specific student social, thinking, research, communication, and self-management skills that teachers are expected to incorporate into lessons. Teachers also focus on conceptual understanding of disciplinary and interdisciplinary concepts that are contextualized into students’ lives and experiences. Finally, students are

expected to apply their learning beyond the classroom through a community project and a personal project, both of which ask students to connect their learning with service through actions taken outside of school.

Literature Review

This study sought to understand better the ways that the learner profile (LP) is incorporated into the practice of MYP teachers in the Chicago Public Schools (CPS). The LP is a core component of the IB's program design and its approach to teaching and learning, but there is a dearth of research on the facet of teachers' practice. The first step in this research was to conduct a literature review around the LP, with a specific focus on the following research questions to guide the review:

1. How do teachers describe the role of the learner profile within the MYP and as part of MYP instructional practices?
2. To what extent do teachers find the learner profile (a) useful and (b) easy to incorporate into their lessons?
3. What are the factors that facilitate the incorporation and present challenges to the incorporation of the learner profile into their instruction? a. Are there certain learner profile attributes that are easier than others to incorporate into lessons?

This review of literature encompasses all identified research-based articles, literature reviews, and position papers generated from database searches using the listed searches on the IB LP, studies of each of the attributes, implementation of the IB MYP in relation to the LP, and ultimately the LP's contribution to developing international mindedness and intercultural understanding within the MYP, see Table 3. The aim of this literature review is to explicate the LP's history, the theoretical frameworks associated with its attributes, and illustrate the role of

the LP within the IB MYP in the stated aims and purpose established by IB with what the literature reveals on its operationalization. The full review can be found in Appendix B. This review highlights how the LP relates to other program features specifically the philosophy of international mindedness and components such as the Approaches to Learning (ATL) in MYP. The crux of the literature review emphasizes the development of the LP and individual attributes through the implementation process. Table 4 describes each of the LP's attributes.

Table 3

Search Terms and Databases

Search Terms	Search Databases
<ul style="list-style-type: none"> • International Baccalaureate and learner profile • International Baccalaureate and Middle Years Programme implementation • IB and learner profile attributes International Baccalaureate or Middle Years Programme integration • International Baccalaureate and developing international mindedness • Civic minded • International Baccalaureate and learner profile attributes 	<ul style="list-style-type: none"> • Education Research Complete • Educational Administration Abstracts • Education Resources Information Center • ProQuest (Dissertations & Thesis)

Table 4

IB Learner Profile Attributes

Learner Profile Attribute	Description of the Learner Profile Attribute
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.

Thinkers	We use critical and creative thinking skills to analyze and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.
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.

Note. Source: [IB's Learner Profile](http://www.ibo.org/contentassets/fd82f70643ef4086b7d3f292cc214962/learner-profile-en.pdf) retrieved from <http://www.ibo.org/contentassets/fd82f70643ef4086b7d3f292cc214962/learner-profile-en.pdf>

Learner Profile: Purpose and Outcomes

Of the studies designed to examine the effect of the LP in different types of schools, few focus on MYP specific contexts. The work of Morrissey, Rouse, Doig, Chao, and Moss (2014) examined the overall implementation of the LP in PYP schools, while Billig, Fredericks, Swackhamer, and Espel (2014) explored the effect of specific LP attributes within DPs across

five different public high schools in the United States. Identifying the need for further inquiry on both the effect of the LP and the MYP, Chatlos (2015) undertook a qualitative case study “to describe five MYP teachers’ beliefs and practice related to the values in the IB Learner profile within a private middle school in Dallas, Texas” (p. 2). Her aim was to understand individual teachers’ views about specific LP attributes and gauge how teachers direct the teaching of these attributes within subject-specific content.

Chatlos (2015) surveyed one teacher from each of the following subjects: humanities, physical education, sciences, visual arts, and language B. She noted that although the MYP framework takes a balanced and holistic approach to curriculum, the evidence in the study’s results suggests some difference based upon the discipline taught. Nonetheless, a key limitation to this study is a need for consideration of multiple teachers of the same subject. Another limitation is the need for research across multiple sites to determine if emphasis found is ubiquitous or specific to this case study. Through the interviews, observations, and visual documents, the study depicted that MYP teachers are committed to helping students develop the IB learner profile attributes. However, the emphasis they make for individual LP attributes differed from teacher to teacher. Teachers discernments of the attributes influenced the approaches utilized to address the attributes during instruction.

Providing the most recent of the studies contributing findings on the LP, Ateskan, Dulun, and Lane (2016) undertook an embedded, multiple case study of three MYP authorized schools in Turkey. Like, Morrissey et al. (2014), they also utilized observations. While the primary aim of their investigation was to examine program implementation, one strand of their work used observations in 22 MYP classrooms to report student outcomes related to LP attributes. They found that, while the schools studied showcased many ideals of the LP attributes, the most

commonly observed attributes displayed by students in classrooms were *Open-Minded*, *Reflective*, and *Inquirer*.

Considering the potential benefits of additional exposure and participation in IB programmes, Walker, Bryant, and Lee (2014) sought to examine how students participating in the full continuum of IB programmes, the PYP, MYP, and DP, compared to non-continuum students. Continuum students were those who participated in at least 3 years of the PYP, 3 years of the MYP, and 2 years of the DP. In the phase of the study pertaining to the LP, the researchers surveyed 126 continuum students and 606 non-continuum students across 29 schools in Hong Kong using the IB Learner Profile Questionnaire (IBLPQ). The researchers designed the IBLPQ to capture participating students' perceptions of their own capacity related to four of the LP attributes: *Knowledgeable*, *Inquirers*, *Caring*, and *Open-Minded*. The overall results of both continuum and non-continuum sample students showed that students "slightly to moderately" agreed with Likert scale items ranging from strongly disagree to strongly agree regarding their capacity for the four LP attributes (p. 2). On the 6-point Likert scale, means ranged from 4.41 to 4.88. Interestingly, non-continuum students generated slightly higher scores across the four LP attributes than continuum students, although the only significant statistical difference was related to the attribute of *Caring*. Another surprising finding related to the comparison of continuum, multi-program, and DP-only students. DP-only students showed a higher rating across the four attributes, although statistical analyses revealed yet again that the only statistically significant difference was for *Caring*. The authors suggested that these paradoxical findings may have been because the study took place prior to the implementation of the MYP Next Chapter. The MYP Next Chapter has revisions intended to "support the

articulation of the curriculum and continuity of practice pertaining to instruction and assessment” (Walker, Bryant, & Lee, 2014, p. 6).

From the qualitative phase of the study, the authors found that teachers perceived continuum students to exhibit the dispositions, abilities for “skills and understanding of instruction and assessment practices that could be put to good use in the DP” (Walker, Bryant, & Lee, 2014, p. 4). Walker, Bryant, and Lee (2014) determined this finding to be significant as “it suggests that the content expectations gap between the MYP and the DP may be counterbalanced somewhat by sound preparation in inquiry skills” (p. 5). Again, the team noted the interconnectedness of program implementation to LP attribute development.

To better understand these findings, the Walker, Bryant, and Lee (2014) analyzed results based on the percentage of local students in the student body at each school. The authors classified schools with zero to 33% local students as low-concentration, schools with 34 to 66% were classified as mid-concentration, and schools with 67% to 99% were classified as high-concentration schools. The authors found that low concentration DP schools showed statistically significant stronger scores on *Knowledgeable* and *Open-Minded* than high-concentration schools. Similarly, students in mid-concentration schools also showed statistically significant stronger scores on *Knowledgeable* and *Open-Minded* than high-concentration schools. The authors concluded that students in schools with highly homogenous student populations are “less likely to have opportunities to examine their personal and cultural values and beliefs through learning how people from other ethnic and cultural backgrounds think and act” (p. 53).

Role of the Learner Profile in IB Programmes

The IB has established an important role for the LP within and across its programs. IB sees the LP as a common framework for developing international mindedness across the

continuum of IB programmes. Reflecting the limited progress of the LP to serve as the common framework across the continuum, Hallinger, Walker, and Lee (2010) utilized a series of descriptive statistical analyses to examine school practices associated with high-quality program implementation of the IB curriculum transition across, PYP, MYP, and DP. Although the LP is referred to by two of the schools in the study, the overall findings do not reflect the LP to be among the statistically significant factors affecting transition across the continuum of IB programmes.

In a position paper deliberating the continuing review and examination of the LP, Walker, Lee, and Panjwani (2014) each author separately reflected on his evolving understanding of the LP and IB's intent for its utilization. Specifically, Walker, Lee, and Panjwani depict the IB's use of the LP as a facilitation of change in the learner's mindset from its default position of the local to the less comfortable position of the global. Essentially, through development of the LP attributes, the learner is encouraged to acquire capacity and inspiration to rise above a cultural foundation level to explore issues from a global perspective, meanwhile maintaining her or his local identities. Distinct to IB's vision of an international education, the LP must be deferred to for a description of the knowledge, skills, and values that will underpin the concept of international mindedness (Walker, Lee, and Panjwani, 2014).

Rizvi et al. (2014) described the intentional pedagogy embedded through the LP attributes as a design "to produce learners who are able to engage effectively with the processes of rapid social change, growing experiences of cultural diversity and exchange and the realities of global interconnectedness and interdependence" (p. iii). In sum, IB programmes aim to inculcate these foundations through development of the PYP attitudes in conjunction with the LP attributes during the early years. Although minimally addressed in studies, the 12 PYP attitudes

of appreciation, commitment, confidence, cooperation, creativity, curiosity, empathy, enthusiasm, independence, integrity, respect, and tolerance (IBO, 2009) are cultivated as part of the intentional pedagogy to groom elementary students for continued development of the LP during MYP. Notably, the literature does not reveal empirical evidence or a theoretical framework connecting the 12 PYP attitudes to the 10 LP attributes. In fact, the limited literature on PYP program components includes a six schools case study that discloses teacher requests to “integrate Learner Profile and Attitudes into one set of easy to use and easy to remember characteristics (Kong & Sperandio, 2013). Thus, studies are not available revealing to what extent, if any, PYP attitudes work together with the LP attributes to establish the foundation IB envisions.

The IB aims to further support the role of the LP as the common language across the continuum of programs during the MYP through the Approaches to Learning (ATL) framework. The IB designed ATL to guide teachers’ planning and implementation within instructional practices. This framework is intended to help students “better understand how to process information, learn and think effectively, and manage their emotions” (Skrzypiec, Askill-Williams, Slee & Rudzinski, 2014, p. 84). While inquiry and critical thinking have been essential and an overarching feature from the inception of IB programs, the 2013 restructuring of the MYP provided an added emphasis to thinking and learning skills through the ATL skills framework. The additional attributes the identified studies featured are empathy and well-being, both of which directly align to the ATL social and self-management skills. Ultimately, the continuous development of LP attributes in the PYP and MYP serve as the underpinnings for the IB journey towards international mindedness in the DP and/or Career Programme and into adulthood.

The Learner Profile in Relation to other MYP Components

The IB's in-depth review of the LP that began in 2011 asserted that the LP has essential connections to all other aspects of IB programmes and recommended the IB community continue to “refine its understanding of those connections, including approaches to teaching, approaches to learning and PYP attitudes, as well as to the IB’s mission statement” (IBO, 2013, p. 13). Extensive review of the MYP program and the pursuit of improving curriculum framework alignment led to the 2013 roll out of updates in MYP the Next Chapter. Among the enhancements are the six global contexts as an intended extension from the PYP transdisciplinary themes for global awareness and engagement expected along the continuum of the IB programmes. The shift from a local to an increasingly global outlook in IB learners as they experience the components of the MYP and eventually the DP components are essentially connected through the LP. The intention of the LP attribute development coupled with the ATL guidelines is to lead MYP learners to international mindedness, which is at the heart of the IB philosophy (IBO, 2013).

In a recent study aimed to identify association between LP attribute development and students’ exposure to IB programs, the team found “that students and staff attribute development of the *Open-Minded* attribute to international school contexts rather than to the IB Continuum” (Bryant, Walker, & Lee, 2016, p. 100). However, a comparative case study of two suburban IB middle schools serving a substantial number of immigrant and refugee youth revealed a wide divergence in teacher practice whereby there was limited observation of practices exemplifying a flexible teacher orientation towards global education, acknowledging the global experiences, multiple languages, and variety of viewpoints that students brought into the classroom (Quaynor, 2015). This study reflects the significance of school context with respect to teachers’ readiness to

design activities and present content in ways that recognize or disregard students' identities and experiences. Hence, the LP framework and the school context are not necessarily exclusive of each other rather each may serve to drive the needed interactions between teachers, students, and the intentional pursuit of international mindedness.

The Learner Profile's Relation to International Mindedness

The literature draws on IB documents in identifying the purpose of the ten LP attributes as working together "to develop internationally-minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world" (IBO 2008, p. 5). The objective is that the LP provides a "... common framework, as a clear and concise statement of the aims and values of the IB, and an embodiment of what the IB means by 'international-mindedness'" (IBO 2008, p. 1).

Rizvi et al. (2014) indicated their study's capacity to reveal the outcomes of the LP was very limited because "longitudinal studies are necessary since the main aim of the LP is to produce life-long outcomes in producing internationally-minded learners, who are able to engage productively with the changing realities of global interconnectivities" (p. 26). A recurring notion appears in the literature implying that relevance of the LP is directly related to the challenges in teacher and student interpretations of attributes, adaptations across cultural contexts, and inconsistency in implementation across different schools as well as different countries (Billig et al., 2014; Rizvi et al., 2014; Walker, 2010; Walker, Lee, & Panjwani, 2014; Wells, 2011; Weiss, 2013). The most recently published study of developing international mindedness (Hacking, Blackmore, Bullock, Bunnell, & Donnelly, 2017) contends that it is more important for schools to make international mindedness with implicit reference to the LP, their own, adapted to their distinctive community perspectives and circumstances. Sketching a similar depiction of the

international mindedness journey, Wells (2011) presented a similar sentiment as Hacking et al. (2017) that school communities should not view international mindedness as an endpoint but rather as an ongoing journey they undertake with continuous discussion for defining its meaning, cultivating its practice, and assessing its development.

Implementation of the LP & MYP

Sizmur and Cunningham (2012) explored the implementation of the IB MYP in the UK with the aim to complete a comparative analysis of MYP, GCSE, and IGCSE programs and on the non-scholastic outcomes as demonstrated by students in IB MYP schools. In Phase 1, teacher and student views on the benefits of the MYP were gauged through survey questionnaires. Many of the statements in the questionnaires were based on ideas central to the MYP, such as fostering international mindedness and encouraging independent learning. Findings reflected that teachers held highly positive views on the effects of the MYP on students. A great majority, 90%, believed the MYP to be “a broad, holistic, and engaging approach that develops civic and international mindedness” (Sizmur & Cunningham, 2012, p. 11). With respect to effect on students’ future opportunities, over 80% surveyed agreed that the MYP has positive effects, over 80% of teachers agreed or strongly agreed that the MYP prepares students for future life and work. Additionally, over 80% felt that the MYP encourages students to become increasingly involved in the local community.

During teacher interviews, a significant proportion of teachers agreed that the MYP develops independent learners and critical thinkers, as well as help students connect their learning to real life situations. The resulting data generated from student questionnaire and focus group responses, revealed that IB MYP students exhibited many of the philosophies the program aims to advance; international mindedness; global awareness; civic mindedness, and active

citizenship. After completing a factor analysis on the composite scales of international mindedness and civic-mindedness, Sizmur and Cunningham (2012) used a multilevel regressions model to identify the relationship between student attitudes and behaviors and involvement in the IB MYP and a variety of other background factors. The supplementary analysis revealed that UK IB MYP students “gained significantly higher scores on factor scales related to international-mindedness and civic-mindedness than non-IB students” (Sizmur & Cunningham, p. 127). Specifically, while other background variables were controlled, it was revealed that on the scale of international mindedness was significantly associated with higher scores for UK IB MYP students than students attending at international and independent schools. The scale of “international mindedness included the factors of globally minded attitudes and globally minded behaviours” (Sizmur & Cunningham, p. 128).

To understand the effect of the LP in different types of US high schools, Billig et al (2014) surveyed students in addition to interviewing teachers and administrators. The research team sought to identify how each of the schools in the study interpreted the LP, how it was implemented, and to what degree was the profile holistically integrated into the school. Broadly, the findings revealed that the five school sites similarly defined and interpreted the LP. Like the qualitative findings in the 2014 study by Bryant et al., some of the schools studied had apparently built their revised mission and vision statements on the LP attributes while almost all the schools had various facets embedded in their missions and visions. Successful implementation of the LP was contingent on the specific instructional strategies used by teachers. Overall, the sites Billig and colleagues studied revealed that implementation of the attributes did not occur singularly but rather through an integrated approach of developing different attributes

through a greater concentration on social justice, while other schools focused on global issues and some schools emphasized a balance between global and local concerns.

Teacher Capacity for Making Meaning of the LP and International Mindedness

Available literature speaks to the aspirational nature of the LP as “it is not only meant for students enrolled in any one of the IB programmes, but also for teachers and administrators who are all regarded as IB learners” (Van Oord, 2013, p. 4). The expectation for teachers and coordinators to teach by example has significant implications on staffing, as candidates must possess requisite dispositions on diversity, global awareness, and intercultural contexts. The literature denotes effective implementation of the LP is at least influenced if not contingent on teachers’ readiness to embed the language and practice the attributes across subjects and design classroom practices that enable student acquisition of the attributes (Billig et al, 2014; Rizvi et al., 2014; Stevenson et al., 2016; Walker, Lee, & Panjwani, 2014; Wells, 2011). While participating teachers generally responded positively about their school’s IB program and their role as an IB teacher, qualitative data in literature revealed specific teacher needs or concerns.

Bunnell’s critique (2010) highlighted teachers’ concerns with the change of philosophy from PYP to MYP, the limited time for reflection and time-consuming rubrics. He also emphasized limited research compared to DP, such as current practice of MYP implementation and coordination in schools. Weiss (2013) asserts teachers’ confusion stems from the ambiguity of the LP attributes, partly due to lack of available research as to how and why the current attributes were chosen. Walker, Lee, and Panjwani (2014) and Weiss’ (2013) points build on Wells’ (2011) critique of the LP’s lack of concept clarity and specifically questioning the strategies utilized for selecting the attributes and creating the LP. The literature reveals these concerns were responded to in part by IB with revisions and introduction of MYP the Next

Chapter which included the introduction of global context themes closely aligned to the six PYP transdisciplinary themes as well as an emphasis on ATL (IBO, 2014). IB also provided MYP educators web resources that included a template for documenting the integration of LP in curriculum and teacher professional development yet emphasized application is not meant to be universal. Whereas IB aims to advocate for local autonomy teachers and coordinators appreciate, schools voiced the need for additional guidance as recommended by Chatlos (2015) in which he encouraged IB to provide additional guidance to teachers as to how they can formulate more personalized or localized values in relation to the LP. Chatlos argued that the content area and personal perspective of a teacher could influence the attributes that they choose to emphasize in their teaching.

Although several of the studies (Ateskan et al. 2016; Billig et al, 2014; Hacking et al., 2017; Rizvi et al., 2014; Stevenson et al., 2016; Van Oord, 2013; Walker, Lee, & Panjwani (2014); Weiss, 2013) have included varying levels of implications of skilled teacher expectations for developing LP attributes, Jones (2014) and Chatlos (2015) asserted in findings that teachers need improved training for an in depth understanding of the LP. For instance, Ateskan et al. (2016) highlighted teachers' perspective of valuing administrators who experienced IB as teachers or educators as this contributes to their ability to recognize the importance of specific training to support MYP teachers. Qualitative data revealed teachers valued coordinators' direct support for developing LP attributes across instructional activities that met both MYP as well as national curriculum requirements. Further, coordinators network with peers across their region to exchange ideas and best practices of MYP implementation, which they bring back to their building (Ateskan et al., 2016).

As being caring is a defining feature of what it means to be an IB learner and equally important an IB school, it should be of the first of attributes that are targeted for development. In contrast, Stevenson et al. (2016) suggested the need for a “scope of guidance on effective modelling and dialogue, and a richer language for ensuring continuity in discussing pro-social behaviour across IB schools” (p. 113). Similarly, Hacking et al. (2017) noted staff perceived that the coverage on international mindedness provided by the many IB workshops, additional need for professional development dedicated specifically to international mindedness.

Until recently, IB has avoided presenting an explicit values education model. In contrast, challenges with developing and assessing progress towards international mindedness brought into question IB’s approach where international mindedness is “embedded in subject areas and assessed through them” (IBO, 2009). For instance, Wells (2011) provided the following critiqued:

There is no assurance that teachers and schools accommodate the attitudes inherent in the IB Learner Profile, that these will be acquired by students; and, even if they are acquired, there is no guarantee that the students will develop strong attitudes so they can be transformed into demonstrations of behaviour. (p. 181)

In response to these needs, IB provided multiple models derived from IB documents that could “act as guides for debating 21st century international mindedness as part of the process of interpreting them to test their applicability to particular classrooms” (Singh & Qi, 2013, p. 44). Further, Singh and Qi (2013) proposed a scaffolding achievements model that illustrates a progression of international mindedness through knowledge, consciousness, disposition, and action but persisted in the recommendation for more research on effective assessment of international mindedness. A recent study by Hacking et al. (2017) recognized that international

mindedness is to be personalized and contextualized to meet the local uniqueness of the school community. Hacking et al. highlighted tools, rubrics, and frameworks including the LP (among three others) which schools could choose to adopt and establish structure, while maintaining flexibility as the school approaches meaning-making, defining, and developing international mindedness.

Conclusion

The literature reveals that IB aims to support schools in their locally contextualized journey towards international mindedness through development of the learner profile attributes. While IB expects schools to embed development of the attributes throughout classroom and school practices, IB aims to preserve local school autonomy for how they reach the IB ethos of international mindedness. Thus, it remains as the apparent responsibility of the school leadership to adopt appropriate tools and frameworks that guide teachers planning for instructional and assessment practices, which directly contribute, to developing internationally minded IB learners. The literature review revealed the recurring theme for needed guidelines, additional training, and supports for teachers' sense-making of the attributes as well as international mindedness. Another recurring theme is the lack of findings that reflect the learner profile as the intended vehicle across the continuum of programs (Bryant et al. 2016). Although IB has designed the approaches to learning skills as a framework to guide teachers in developing and assessing learner profile attributes, only Jarvis et al. (2013) have addressed this key component of the program. Incidentally, the ATL were recently emphasized with the enhancements to the MYP, and thus research is not yet available to glean the effect of the MYP Next Chapter improvements. Ultimately, empirical research is necessary to closely explore teachers' meaning-

making approaches of the learner profile attributes and their utility of provided supports they identify as useful in their teaching and learning processes.

Chapter 2: Methods

The project's overarching research question was as follows: How do teachers in Chicago Public Schools Middle Years Programmes understand the learner profile (LP) and incorporate the LP into their instructional practice? To answer this overarching research question, the sub questions were organized into three topic areas. The topic areas corresponding research questions are provide below:

Teachers Understandings of the Learner Profile:

RQ1: How do teachers describe the role of the learner profile within the MYP and as a part of MYP instructional practices?

RQ2: To what extent (a) are teachers familiar with the learner profile and (b) do teachers find the learner profile easy to incorporate into their lessons?

RQ3: To what extent do teachers believe that they have the power to influence the development of learner profile attributes in their students?

Incorporation of the LP into Practice:

RQ4: What are the factors that facilitate the hat are the factors that facilitate thethey have the power to influence the development of l

- a. Are there certain LP attributes that are easier than others to incorporate into lessons?

RQ5: To what extent do teachers explicitly use the language of the learner profile in their planning, and in collaboration with colleagues?

RQ6: To what extent do teachers explicitly use the language of the learner profile with students?

RQ7: Are there certain LP attributes that are mentioned more than others?

- a. Do the relative frequencies vary across student ages and academic subjects?
- b. Do the relative frequencies vary according to school authorization length or length of teacher IB experience?

RQ8. What are the specific strategies that teachers use to make students aware of the learner profile (using its terminology) and to develop learner profile attributes?

Supports and Resources for Incorporating the LP:

RQ9. Which professional development and IB-authored materials do teachers find most useful for integrating the learner profile into their teaching?

Research Design

The researchers utilized a multiphase mixed-method study approach to addressing the research questions. Phase I involved a survey methodology emphasizing quantitative data collection from MYP teachers and coordinators who are working Chicago Public Schools with an International Baccalaureate curriculum. Phase II involved a set of instrumental cases studies of IB MYP schools. We describe each phase in more detail below.

Phase I

The purpose of Phase I was to gain a broad understanding of CPS teachers and coordinators perceptions related to the following: teachers and coordinators understanding of the LP domains, perceptions of their level of incorporation of the LP into classroom instruction, teachers and coordinators perceptions of how LP is being implemented in their school curriculum and classroom instruction, and what resources support their incorporation of the LP into classroom instruction. Phase I included the use of the Teacher & Coordinator Survey (see Appendix E) developed by the research team. The questionnaire consisted of four main sections.

Section 1: demographic information about respondents, such as their school, role, and years of experience; Section 2: respondents were asked to rate both how familiar they are with each attribute and how comfortable they are in incorporating it into practice; Section 3: respondents were asked how often they engage students in instructional activities that represented the ten LP attributes, and Section 4: asked respondents assess their familiarity and the usefulness of various supports for incorporating the learner profile (See Appendix E).

Development of LP integration section of questionnaire. This study involved collecting information regarding the incorporation of the LP attributes into teacher's instructional practices. This required the development of a set of questions that represented the LP attributes as they might appear in a classroom. The development of Section 3 of the questionnaire included reviewing related literature, constructing items for the questionnaire, obtaining construct and content validity, revising questionnaire, and distributing the final questionnaire to teachers and coordinators.

The literature review examined the LP's history, the theoretical frameworks associated with its attributes, and the role of the LP within the IB MYP. The review highlighted how the LP related to other program features specifically the philosophy of international mindedness and components such as the Approaches to Learning (ATL) in MYP. Finally, the review provided the limited literature in response to inquiry about teachers' approaches to sense-making of the LP and the specific attributes that have been studied with an emphasis on attributes that have not been studied. The research drew upon the literature and ATL to create sets of items that reflected the constructs represent in each of the 10 LP attribute definitions. The research team reviewed and modified these sets of items. Once modified, the research team e-mailed a construct measure questionnaire (See Appendix C) to the MYP coordinators ($N=1136$) published

in the 2016 IB School Guide, except for those listed in Chicago Public Schools. The questionnaire asked the coordinators to rate the degree to which each item represents the associated LP attribute and to provide comments on the items. A total of 47 coordinators responded. Using the rating and qualitative feedback the research team selected the four items from each attribute group that best represented the LP. These items were then used to construct the incorporation (Section 3) of the Teacher Coordinator Survey and served as a face and content validity check of these items. Readers are directed to Appendix F, which contains more details of the development of the LP incorporation items and a psychometric discussion of the Teacher & Coordinator survey along with an analysis and discussion of the reliability and validity of the instrument.

Sample. The research team identified all ($N=52$) MYP Chicago Public Schools through public records. From school websites and public records the name and e-mail of the principal was collected. Principals at the identified MYP schools were sent an e-mail describing the purpose of the research, the URL for the online questionnaire, and a request to forward the e-mail to all faculty and IB coordinators in the school. A total of 157 respondents accessed and started the questionnaire (response rate: 51.48%) however, only 120 questionnaires were determined to be complete enough to include in data analysis.

Data analysis focused on descriptive statistics (e.g., measure of central tendencies, and variability) for the sets of items from the survey (e.g., demographics, LP incorporation, LP familiarity and confidence) to provide a descriptive analysis of the survey results. Tables and figures were constructed for ease of reporting results. These descriptive statistics, tables and figures are presented in the results section of the body of this report. In some instances, correlation coefficients were calculated to report the associations between two sets of

items. Non-parametric statistics were used in order to make comparisons between grade level, subject areas and length of school authorization. The results of these comparisons are reported in Appendix F of the report as the purpose of the study was more exploratory than comparative in nature. In addition, psychometric analysis (item correlations, internal consistency of items and exploratory factor analysis) on the LP incorporation section of the survey were conducted in order to examine the properties of the instrument. Results of these analyses are reported in Appendix F.

Phase II

Phase II utilized a multiple instrumental case study design at both the individual case (teachers) level and the site case (school building) design to examine the practices by teachers and schools as they incorporate LP into the curriculum and classroom instruction. The purpose of Phase II provide a qualitative examination of how teachers incorporate and school sites incorporate the IB LP into their classroom practice and school sites.

Case selection. Data from Phase I provided information for selecting school's for Phase II. The research team analyzed data of incorporation practices based on responses from faculty at schools who participated in the Phase I data collection. Case selection was made based on grade levels (i.e., 6-8 and 9-12), years of authorization as an IB school, and reported level of LP incorporation from Teacher & Coordinator Survey completed in Phase I. A set of four schools served as the cases for Phase II. Schools were purposefully selected to represent different grade levels, years of MYP authorization, and average incorporation scores from Section 3 of the Teacher & Coordinator Survey. Table 5 provides the pseudonym, grade range, and years of authorization.

Qualitative analysis focused first on intrinsic case analysis as individual research teams examined observations, focus group and interview data for each case school independently. During this step of the analysis research teams examined data from their case site looking for how faculty incorporated the LP attributes into their instruction. In addition, this step of analysis included the examination of this data to identify practices or processes present within each case that facilitated incorporation or indicated areas of struggle for incorporating LP attributes. Once individual case analyses were completed and written up, we examined the individual cases analysis looking for patterns of similarity across the cases to provide an instrumental analysis of the data for all cases to provide an understanding of LP attribute incorporation within MYP programmes situated in an urban context.

Table 5

Case Study Schools

Pseudonym	Grades	Years of MYP Authorization
Buffalo	9-12	3 years
Elk	6-8	1 year
Coyote	6-8	3 years
Brown Bear	9-12	16 years

Within each case school the researchers recruited faculty who represented Humanities (English Language Arts, Social Studies, and Art) and STEM (Math, Science, Design) for single course observations. Details of each individual teacher case is present in the results section of each school case.

Data collection Phase II. Data collection included interviews with MYP coordinators and school administrators; focus groups with teachers; classroom observations of teachers in STEM and Humanities, which included mini follow up interviews; and review of curriculum

materials, such as unit and lesson plans. Observation, focus group, interview and document analysis protocols are available in Appendix I.

All interviews and focus groups took place outside of instructional time. Interviews times ranged from 30-45 minutes and focus group times ranged from 45-60 minutes. Classroom observations involved passive data collection conducted by research team members and focused on teaching practices that align with LP attributes. Observations were followed by semi-structured interviews with the observed teacher in order to understand the teachers' decision-making process in planning and delivering the lesson vis-a-vis the LP. Due to school the amount of teacher turnover, it was determined that a modified version of the Teacher & Coordinator Survey was to be administered to teachers in three of the four case schools (i.e., Buffalo, Elk, and Brown Bear) in order to gather an accurate representation of the current level of incorporation (See Appendix H1-4 for these reports). This modified version of the questionnaire, included items from Sections 3 and 4 (See Appendix G).

Chapter 3: Results

Phase I: District-wide Survey Results

The data collected as through Phase I of the research project addressed research questions 2 and 4. A description of the results from this phase follows.

Demographic results. 120 participants from 27 CPS MYP schools provided complete responses to the survey. Table 6 shows descriptive statistics by participating schools (school names are anonymized). The majority of the respondents were from school R (19.2%), followed by school X (11.7%).

Table 6

Descriptive Statistics. Participating Schools

School Name	<i>n</i>	Valid %	School Name	<i>n</i>	Valid %	School Name	<i>n</i>	Valid %
A	3	2.5	J	1	.8	S	8	6.7
B	4	3.3	K	1	.8	T	3	2.5
C	8	6.7	L	8	6.7	U	3	2.5
D	2	1.7	M	1	.8	V	6	5.0
E	1	.8	N	1	.8	W	3	2.5
F	1	.8	O	4	3.3	X	14	11.7
G	1	.8	P	2	1.7	Y	2	1.7
H	1	.8	Q	6	5.0	Z	7	5.8
I	1	.8	R	23	19.2	AA	5	4.2

Table 7 provides information on the make up the survey sample. The majority of respondents had been educators for 10 or more years (56.7%). Over 68% of respondents had worked in a MYP for 1-6 academic years. Teachers formed the highest proportion of the sample (85%), with Language & Literature (20.8%) teachers as the largest group of respondents. Approximately half of the respondents worked in a high school setting (grades 9-12) (55.8%),

and over half of respondents worked in a school that had been authorized for MYP for 3 or more years.

Table 7

Descriptive Statistics. Survey Respondents

Categories	<i>n</i>	Valid %
Years as an Educator		
Less than a year	4	3.3
1-3 years	12	10.0
4-6 years	19	15.8
7-9 years	17	14.2
10 or more years	68	56.7
Years Working in MYP		
Less than a year	15	12.5
1-3 years	43	35.8
4-6 years	39	32.5
7-9 years	12	10.0
10 or more years	11	9.2
Current Role		
MYP Teacher	102	85.0
MYP Coordinator	16	13.3
MYP Teacher & MYP Coordinator	2	1.7
Years in Current Role		
Less than a year	18	15
1-3 years	42	35
4-6 years	32	26.7
7-9 years	12	10
10 or more years	16	13.3
Subject Taught		
Arts	10	8.3
Language Acquisition	7	5.8
Physical & Health Education	9	7.5
Design	6	5.0
Language & Literature	25	20.8
Sciences	14	11.7
Individuals and Societies	13	10.8
Mathematics	22	18.3
I do not teach	14	11.7
School Grade Served		
PK, K-8 Elementary School	45	37.5
9-10 High School	67	55.8
6 - 12 Elementary & High School	8	6.7

Length of Authorization (Years)		
1-2 years	46	38.3
3-5 years	32	26.7
More than 5 years	42	35

Research Question 2. To what extent (a) are teachers familiar with the learner profile and (b) do teachers find the learner profile easy to incorporate into their lessons? The mean score of familiarity with the LP was 4.27 , with scales values anchored from 1 “almost not at all familiar” to 5 “extremely familiar.” Thus, a mean score of 4.27 can be interpreted as “very familiar.” For The mean of familiarity score ranged by LP attribute from 4.20 to 4.31 (See Figure 1).

Furthermore, we surveyed teachers on their confidence in incorporating the LP attributes into their instruction. The mean confidence score was 3.86 (1 “almost not at all confident” to 5 “extremely confident”) indicating respondents in general were very confident in incorporating LP attributes into their practice. (See Figure 1).

Across all ten LP attributes the teachers’ self-reported higher levels of familiarity than confidence, with little variation in familiarity ratings across the ten attributes, mean familiarity scores ranged from 4.20 to 4.31. (See Figure 1). Greater variability existed in teachers’ confidence ratings with mean confidence ratings ranging from 3.62 to 3.99. Figure 1 suggests an underlying positive relationship between familiar and confidence, this pattern was explored more through correlation coefficients between the familiarity and confidence for the LP attributes.

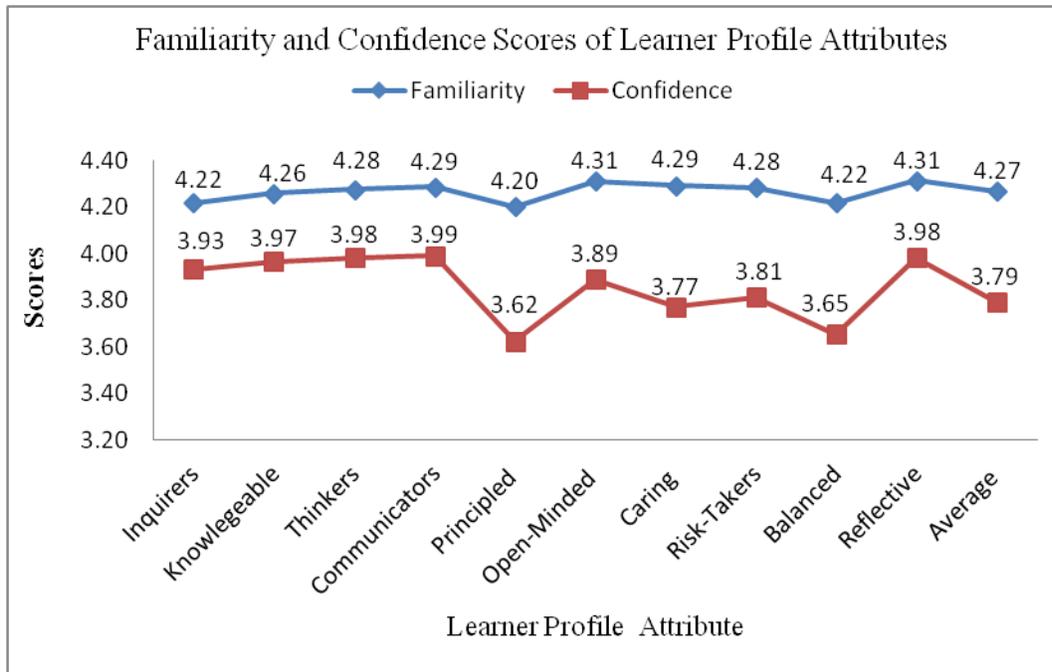


Figure 1. Familiarity and confidence scores of Learner Profile attributes.

Spearman rho correlation coefficients were calculated to examine the relationship between participants rating of their familiarity with a LP attribute and their confidence incorporating the attribute into their practice. Correlation values ranged from .60 to .77 (see Table 8) indicating moderate to strong relationships between a teacher’s self-reported level of familiarity with an attribute and their self-reported level of confidence incorporating the attribute into instruction. In most instances r values were highest when confidence and familiarity ratings for an individual attribute was calculated, see bold numbers in Table 8. However, in two instances (i.e., *Open Minded x Reflective*, and *Caring x Balanced*) the relationship between familiarity and confidence was slightly stronger between the familiarity rating and a confidence rating, (see italicized numbers in Table 8). Although these two relationships are difficult to interpret, it may suggest an interrelationship between these different LP attributes indicating that these LP attributes may be perceived as homogenous in nature.

Table 8 *Correlations Between Familiarity and Confidence Ratings for LP Attributes*

	Inquires	Knowledge	Thinkers	Communicators	Principled	Open Minded	Caring	Risk Taker	Balanced	Reflective
Inquires	.773**									
Knowledge	.675**	.736**								
Thinkers	.668**	.716**	.733**							
Communicators	.640**	.666**	.634**	.724**						
Principled	.649**	.649**	.633**	.655**	.674**					
Open minded	.597**	.586**	.613**	.567**	.530**	.647*				
Caring	.581**	.574**	.550**	.607**	.557**	.561**	.600**			
Risk Taker	.668**	.629**	.634**	.627**	.574**	.646**	.594**	.676**		
Balanced	.665**	.647**	.630**	.638**	.643**	.633**	.627**	.621**	.664**	
Reflective	.619**	.615**	.648**	.648**	.540**	.659**	.594**	.641**	.574**	.698**

** significant at .001

Research Question 4a. Are there certain LP attributes that are easier than others to incorporate into lessons? The descriptive statistics on the LP incorporation showed a mean of 3.74 (on a scale of 1-5), a median of 3.82, a mode of 4.00, and a standard deviation of .85 for all instrument items. Scale values were anchored from 1 “not at all” to 5 “a great extent,” with a mean score of 3.74 that can be interpreted as a moderate level of MYP LP incorporation. The mean integration scores for the individual attributes ranged from 3.66 to 3.88 (See Figure 2). *Knowledgeable* was reported as the attribute most likely to be incorporated attribute into the lessons. It could be because teachers constantly and naturally explore concepts, ideas, and issues when teaching a subject matter as well as keeping acquainted with new ideas in the field. The lowest mean score for integration was for *Risk-Takers*, which means that teachers reported being least likely to be integrate this attribute into the classroom. It is important to note that all LP

attribute mean scores are below 4 suggesting that while teachers are integrating the LP attributes, they may struggle with integrating LP attributes into their instructional practice.

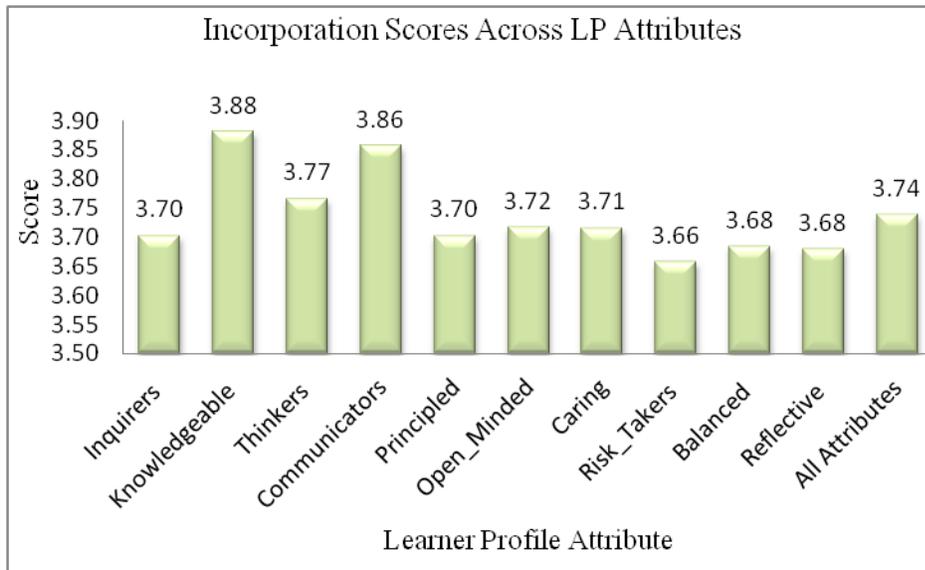


Figure 2. LP Incorporation score across the attributes.

Research Question 7a. Do the relative frequencies vary across student ages and academic subjects? Teachers' incorporation scores by student age (grade level was used to approximate student ages) are reported in Table 8. Respondents teaching grades 6-8 had higher overall mean scores for incorporation in comparison with respondents teaching grades 9-12. Grades 6-8 teacher participants reported addressing each attribute in their classroom, while grades 9-10 teachers reported that they did not address each attribute in their classroom activities. In total, the 112 responding teacher across all grade levels reported a medium level of incorporation ($M = 3.81$).

Table 9

LP Incorporation Score by Student Grade

Grade	<i>n</i>	Mean	Std. Deviation	Minimum	Maximum
6-8	45	4.07	.59	2.78	5.00

9-10	67	3.64	.79	0.00	4.98
Total	112	3.81	.74	0.00	5.00

The incorporation score by student age per LP attribute can be seen in Table 9. Grades 6-8 teachers' highest incorporation score was for *Communicators* followed by *Caring* while for Grades 9-10 teachers the highest incorporation score was for *Knowledgeable*, followed by *Communicators*. *Communicators* obtained a high score in both respondent groups while *Knowledgeable* and *Open-Minded* set slightly to the opposite direction for both groups. In general, regardless of teacher grade level, the two highest combined mean of LP incorporation were *Knowledgeable* and *Communicators*. Meanwhile the three lowest combined mean of LP incorporation were *Risk-Takers*, *Balanced* and *Reflective*. Both grade level bands show that incorporating *Communicator* is an essential aspect in instruction.

Table 10

Incorporation Scores on LP Attributes by Student Age

LP Attributes	Grade					
	6-8 (n = 45)		9-10 (n = 67)		Total (N = 112)	
	Mean	SD	Mean	SD	Mean	SD
Inquirers	4.06	0.78	3.57	0.82	3.77	0.83
Knowledgeable	4.11	0.68	3.87	0.89	3.97	0.82
Thinkers	4.09	0.65	3.64	0.81	3.82	0.78
Communicators	4.21	0.60	3.76	0.89	3.94	0.81
Principled	4.06	0.67	3.63	0.93	3.80	0.86
Open-Minded	3.97	0.71	3.71	0.92	3.81	0.85
Caring	4.13	0.68	3.56	0.88	3.79	0.85
Risk-Takers	4.03	0.66	3.51	0.84	3.72	0.81
Balanced	3.99	0.70	3.58	0.83	3.75	0.80
Reflective	4.03	0.70	3.58	0.91	3.76	0.86
Average	4.07	0.68	3.64	0.87	3.81	0.83

The results of LP incorporation by subject area (teachers' main subject) show that the incorporation mean score for Individuals and Societies teachers was the highest followed by Language Acquisition, and Physical & Health Education, although the mean difference was

fairly small across these subject areas (see Table 10). Meanwhile teachers from Design reported the lowest perception of LP incorporation, with large variation however among teachers (SD=1.65).

Table 11

Incorporation Score Average Across Subject Area

Subject Area	<i>n</i>	Mean	<i>SD</i>	Minimum	Maximum
Arts	10	3.33	1.30	0.00	4.95
Language Acquisition	7	3.96	.56	3.28	4.78
Physical & Health Education	9	3.94	.68	3.00	4.95
Design	6	2.97	1.65	0.00	4.98
Language & Literature	25	3.93	.80	2.30	5.00
Sciences	14	3.51	.92	1.20	4.55
Individuals and Societies	13	4.00	.55	2.80	5.00
Mathematics	22	3.73	.67	2.40	5.00
I do not teach	14	3.79	.53	3.00	5.00
Total	120	3.74	.85	0.00	5.00

The breakdown of teachers' incorporation scores by subject areas for each LP attribute can be seen in Table 11. The average mean across the subject area ranged from 2.97 to 4.00, across the LP attribute ranged from 3.66 to 3.88 and across the subject areas and LP attributes ranged from 2.71 (Design-*Open Minded*) to 4.40 (Individuals & Societies-*Knowledgeable*). It is notable that some attributes (*Thinkers*, *Open-Minded*, *Caring* and *Balanced*) had mixed results. For example, *Thinkers* was highly incorporated by Science teachers but it was the least incorporated by Language Acquisition teachers. Perhaps the nature of the subject explains why different subject area teachers had different incorporation mean scores for the same attribute. Additionally, a remarkable point is that *Communicators* was the only attribute that was moderately incorporated (by all of the teachers across subject areas) meanwhile *Knowledgeable* and *Principled* were consistently moderately and highly incorporated.

We also divided the 9 primary subjects into two groups of department areas (i.e. STEM and Humanities). STEM consisted of Design, Mathematics, and Science while Humanities consisted of Arts, Language Acquisition, Language & Literature, and Individual & Societies.

Table 12 shows teacher in the Humanities group reported higher incorporation score, with less variation, than that of STEM group. In total, those 97 Humanities teachers reported a medium level of incorporation ($M = 3.71$). The incorporation levels among teachers across department areas and by LP attribute is shown in Table 13.

Table 12

Incorporation Score Each Attribute Across Subject Areas

LP Attribute / Subject Area	Arts		Language acquisition		Physical & Health Education		Design		Language & Literature		Sciences		Individuals & Societies		Mathematics		I do not teach		Total	
	<i>(n = 10)</i>		<i>(n = 7)</i>		<i>(n = 9)</i>		<i>(n = 6)</i>		<i>(n = 25)</i>		<i>(n = 14)</i>		<i>(n = 13)</i>		<i>(n = 22)</i>		<i>(n = 14)</i>		<i>(N = 120)</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Inquirers	3.34	1.3	3.8	0.6	3.7	0.8	3.0	1.6	3.8	0.9	3.7	0.9	3.93	0.58	3.69	0.79	3.7	0.6	3.7	0.9
		2	6	7	2	5	0	7	6	1	0	4					0	7	0	1
Knowledgeable	3.75	1.4	4.0	0.9	3.9	0.7	2.9	1.6	3.9	0.8	3.6	1.1	4.40	0.51	3.86	0.75	3.9	0.5	3.8	0.9
		1	0	5	4	9	6	8	5	1	5	0					2	5	8	3
Thinkers	3.25	1.3	3.5	0.9	3.9	0.6	2.8	1.6	3.9	0.7	3.7	0.8	3.96	0.59	3.89	0.65	3.8	0.5	3.7	0.8
		1	7	5	2	7	8	3	5	2	4	9					3	6	7	6
Communicators	3.58	1.3	4.3	0.5	4.0	0.6	3.0	1.7	3.9	0.9	3.5	1.0	3.98	0.61	3.88	0.80	3.9	0.5	3.8	0.9
		7	2	1	3	8	8	1	9	2	7	4					5	3	6	2
Principled	3.00	1.4	3.7	0.6	3.9	0.7	2.9	1.5	3.9	0.8	3.4	0.9	4.23	0.70	3.49	0.82	4.0	0.5	3.7	0.9
		0	1	7	4	6	6	8	5	7	3	8					4	6	0	6
Open-Minded	3.33	1.3	4.3	0.4	4.0	0.7	2.7	1.6	4.0	0.7	3.3	1.0	4.23	0.62	3.40	0.87	3.7	0.7	3.7	0.9
		0	9	3	0	3	1	2	3	7	2	1					6	0	2	6
Caring	3.08	1.3	3.8	0.5	4.0	0.6	3.2	1.7	4.0	0.9	3.4	1.0	3.83	0.79	3.64	0.83	3.8	0.6	3.7	0.9
		8	9	9	6	7	1	1	0	1	3	4					6	0	1	6
Risk-Takers	3.28	1.3	3.6	0.4	4.0	0.8	2.9	1.6	3.7	0.8	3.4	0.9	3.83	0.66	3.80	0.82	3.6	0.5	3.6	0.9
		5	8	9	0	0	2	8	7	4	3	7					5	9	6	1
Balanced	3.18	1.2	3.9	0.5	3.8	0.6	3.1	1.6	3.8	0.9	3.5	0.9	3.71	0.77	3.81	0.67	3.6	0.5	3.6	0.8
		9	6	5	9	4	3	9	6	2	1	9					5	8	8	9
Reflective	3.43	1.3	4.2	0.6	3.8	0.6	2.8	1.6	3.9	0.9	3.3	1.0	3.85	0.68	3.76	0.71	3.5	0.7	3.6	0.9
		8	1	0	6	5	3	6	1	9	2	2					0	0	8	5
Average	3.32	1.3	3.9	0.6	3.9	0.7	2.9	1.6	3.9	0.8	3.5	0.9	4.00	0.64	3.72	0.76	3.7	0.6	3.7	0.9
		5	6	3	4	2	7	6	3	6	1	9					9	0	4	2

Table 13

Incorporation Score by Department Area

Subject	Mean	<i>n</i>	Std. Deviation	Minimum	Maximum
STEM	3.55	42	.94	0.00	5.00
Humanities	3.84	55	.85	0.00	5.00
Total	3.71	97	.90	0.00	5.00

Table 14

Incorporation Score on LP Attributes Across STEM and Humanities Teachers

LP Attributes	Subject					
	STEM (<i>n</i> = 42)		Humanities (<i>n</i> = 55)		Total (<i>N</i> = 97)	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
Inquirers	3.60	1.00	3.78	.91	3.70	.95
Knowledgeable	3.66	1.05	4.03	.91	3.87	.99
Thinkers	3.70	.95	3.78	.88	3.74	.91
Communicators	3.66	1.05	3.95	.92	3.83	.98
Principled	3.39	1.00	3.81	1.00	3.63	1.01
Open-Minded	3.27	1.04	4.00	.88	3.68	1.01
Caring	3.51	1.04	3.78	.99	3.66	1.02
Risk-Takers	3.55	1.04	3.68	.89	3.63	.95
Balanced	3.61	.97	3.71	.94	3.67	.95
Reflective	3.48	1.02	3.85	.98	3.69	1.01
Average	3.55	.94	3.84	.85	3.71	.90

Table 13 shows that the STEM teachers' incorporation score ranged from 3.27 to 3.70. The scores for Humanities teachers ranged from 3.68 to 4.03. In all attributes, the Humanities teachers' scores were higher than STEM teachers. *Knowledgeable* appears to be a high priority attribute for all teachers, regardless of the subject area. *Open-Minded* and *Reflective* appeared to vary the most between the two groups.

Table 14. Provides a breakdown of data disaggregated by grade level, (6-8 and 9-10) for each of the nine subject areas. Table 14 shows that the largest difference between grade 6-8 and grade 9-12 teacher mean scores was found in Arts and Science. This means that incorporating

LP in Art tended to be more conducive for both respondent groups, while incorporating LP in Science in Grades 9-12 was likely more difficult than in Grades 6-8.

Table 15

Incorporation by Student Age and by Subject Area

Primary subject/Grade	Grade	<i>n</i>	Mean	<i>SD</i>	Min	Max
Arts	6-8	3	3.86	.95	3.20	4.95
	9-10	6	3.61	.47	3.03	4.40
	Total	9	3.69	.61	3.03	4.95
Language acquisition	9-10	7	3.96	.56	3.28	4.78
	Total	7	3.96	.56	3.28	4.78
Physical & Health Education	6-8	1	4.48		4.48	4.48
	9-10	7	3.97	.67	3.00	4.95
	Total	8	4.04	.65	3.00	4.95
Design	6-8	2	3.19	.58	2.78	3.60
	9-10	4	2.86	2.09	0.00	4.98
	Total	6	2.97	1.65	0.00	4.98
Language & Literature	6-8	14	4.20	.54	3.15	5.00
	9-10	11	3.58	.95	2.30	4.90
	Total	25	3.93	.80	2.30	5.00
Sciences	6-8	5	4.18	.50	3.33	4.55
	9-10	7	3.38	.61	2.50	3.88
	Total	12	3.71	.68	2.50	4.55
Individuals and Societies	6-8	3	4.33	.58	4.00	5.00
	9-10	10	3.90	.52	2.80	4.55
	Total	13	4.00	.55	2.80	5.00
Mathematics	6-8	9	4.03	.61	3.13	5.00
	9-10	9	3.58	.56	2.73	4.70
	Total	18	3.80	.62	2.73	5.00
I do not teach	6-8	8	3.98	.56	3.33	5.00
	9-10	6	3.54	.39	3.00	4.08

Primary subject/Grade	Grade	<i>n</i>	Mean	<i>SD</i>	Min	Max
	Total	14	3.79	.53	3.00	5.00
Total	6-8	45	4.07	.59	2.78	5.00
	9-10	67	3.64	.79	0.00	4.98
	Total	112	3.81	.74	0.00	5.00

Table 14 shows that the largest difference between grade 6-8 and grade 9-12 teacher mean scores was found in Arts and Science. This means that incorporating LP in Art tended to be more conducive for both respondent groups, while incorporating LP in Science in Grades 9-12 was likely more difficult than in Grades 6-8.

The result also shown that across subject areas and student grade levels, the lowest score of incorporation was reported by teachers from both grade levels in Design. Meanwhile the highest incorporation score was reported by teachers in Physical & Health Education. Across grade levels, Design subject with the least extensive incorporation and Physical & Health Education had the most extensive incorporation.

We conducted further analysis to elaborate the incorporation scores for each LP attributes by subject area and by student age. Results are displayed in Table 15.

Table 16

Incorporation Score on LP Attributes Across Subject Areas and Student Ages

Subject Area / Grade / Attribute	Arts			Language Acquisition				Physical & Health Education				Design			Language & Literature													
	Grade 6-8 (n = 3)		Grade 9-10 (n = 6)		Total (n = 9)		Grade 9-10 (n = 7)		Total (n = 7)		Grade 6-8 (n = 1)		Grade 9-10 (n = 7)		Total (n = 8)		Grade 6-8 (n = 2)		Grade 9-10 (n = 4)		Total (n = 6)		Grade 6-8 (n = 14)		Grade 9-10 (n = 11)		Total (n = 25)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Inquirers	3.75	1.15	3.70	.33	3.71	.63	3.86	.67	3.86	.67	4.75	3.79	.65	3.91	.69	3.25	.71	2.88	2.10	3.00	1.67	4.25	.56	3.36	1.05	3.86	.91	
Knowledgeable	4.58	0.52	3.96	.46	4.17	.54	4.00	.95	4.00	.95	4.75	4.00	.69	4.09	.69	3.13	.88	2.88	2.10	2.96	1.68	4.05	.65	3.83	1.00	3.95	.81	
Thinkers	3.92	0.95	3.46	.56	3.61	.69	3.57	.95	3.57	.95	4.50	3.93	.69	4.00	.67	3.00	.35	2.81	2.10	2.88	1.63	4.13	.55	3.72	.86	3.95	.72	
Communicators	4.25	0.43	3.83	.63	3.97	.58	4.32	.51	4.32	.51	4.75	4.04	.65	4.13	.65	3.25	.71	3.00	2.16	3.08	1.71	4.29	.55	3.61	1.17	3.99	.92	
Principled	3.25	1.52	3.38	.79	3.33	.98	3.71	.67	3.71	.67	4.25	4.07	.70	4.09	.65	3.38	.18	2.75	1.99	2.96	1.58	4.20	.63	3.64	1.05	3.95	.87	
Open-Minded	3.92	0.95	3.58	.41	3.69	.60	4.39	.43	4.39	.43	4.75	3.96	.76	4.06	.75	2.63	.53	2.75	2.06	2.71	1.62	4.18	.55	3.85	.97	4.03	.77	
Caring	3.17	1.59	3.54	.53	3.42	.92	3.89	.59	3.89	.59	4.50	3.93	.72	4.00	.69	3.88	.53	2.88	2.09	3.21	1.71	4.39	.55	3.51	1.05	4.00	.91	
Risk-Takers	3.92	1.01	3.50	.65	3.64	.75	3.68	.49	3.68	.49	4.25	4.11	.81	4.13	.76	3.00	.71	2.88	2.13	2.92	1.68	4.13	.59	3.32	.92	3.77	.84	
Balanced	3.50	1.09	3.54	.53	3.53	.69	3.96	.55	3.96	.55	4.25	3.93	.67	3.97	.63	3.63	.53	2.88	2.10	3.13	1.69	4.18	.71	3.45	1.02	3.86	.92	
Reflective	4.33	0.58	3.54	.66	3.81	.72	4.21	.60	4.21	.60	4.00	3.96	.65	3.97	.60	2.75	.71	2.88	2.10	2.83	1.66	4.23	.58	3.50	1.27	3.91	.99	
Overall	3.81	1.02	3.61	.54	3.67	.71	3.93	.65	3.93	.65	4.53	3.97	.71	4.04	.69	3.24	.57	2.85	2.09	2.98	1.66	4.20	.59	3.59	1.01	3.93	.85	

Table 15 (continued)

Incorporation Score on LP Attributes Across Subject Areas and Student Ages

Subject Area / Grade / Attribute	Sciences						Individuals & Societies						Mathematics						I do not teach						Total					
	Grade 6-8 (n = 5)		Grade 9-10 (n = 7)		Total (n = 12)		Grade 6-8 (n = 3)		Grade 9-10 (n = 10)		Total (n = 13)		Grade 6-8 (n = 9)		Grade 9-10 (n = 9)		Total (n = 18)		Grade 6-8 (n = 8)		Grade 9-10 (n = 6)		Total (n = 14)		Grade 6-8 (n = 45)		Grade 9-10 (n = 67)		Total (N = 112)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Inquirers	4.05	1.07	3.64	.73	3.81	.87	4.28	.75	3.83	.51	3.93	.58	4.08	.86	3.36	.65	3.72	.83	3.88	.82	3.46	.29	3.70	.67	4.06	.78	3.57	.82	3.77	.83
Knowledgeable	4.17	.70	3.68	.94	3.88	.85	4.58	.38	4.35	.54	4.40	.51	4.00	.83	3.85	.70	3.93	.75	4.14	.55	3.63	.41	3.92	.55	4.11	.68	3.87	.89	3.97	.82
Thinkers	4.37	.67	3.54	.73	3.88	.80	4.58	.38	3.78	.52	3.96	.59	4.08	.73	3.78	.54	3.93	.64	3.99	.60	3.63	.47	3.83	.56	4.09	.65	3.64	.81	3.82	.78
Communicators	4.33	.62	3.46	.67	3.83	.76	4.25	.66	3.90	.60	3.98	.61	4.28	.75	3.64	.74	3.96	.80	4.09	.44	3.75	.61	3.95	.53	4.21	.60	3.76	.89	3.94	.81
Principled	4.15	.49	3.29	.70	3.65	.74	4.25	.75	4.23	.72	4.23	.70	3.97	.57	3.24	.85	3.61	.80	4.22	.51	3.79	.58	4.04	.56	4.06	.67	3.63	.93	3.80	.86
Open-Minded	4.08	.43	3.11	.80	3.51	.82	4.50	.50	4.15	.66	4.23	.62	3.69	.70	3.39	.88	3.54	.79	3.93	.81	3.54	.51	3.76	.70	3.97	.71	3.71	.92	3.81	.85
Caring	4.27	.18	3.21	.83	3.65	.83	4.17	1.04	3.73	.74	3.83	.79	4.03	.49	3.48	.81	3.75	.71	4.07	.61	3.58	.49	3.86	.60	4.13	.68	3.56	.88	3.79	.85
Risk-Takers	4.22	.57	3.18	.49	3.61	.73	4.08	.80	3.75	.65	3.83	.66	4.14	.69	3.55	.83	3.84	.80	3.85	.67	3.38	.34	3.65	.59	4.03	.66	3.51	.84	3.72	.81
Balanced	4.02	.74	3.54	.70	3.74	.72	4.33	.76	3.53	.70	3.71	.77	3.86	.72	3.80	.57	3.83	.63	3.89	.60	3.33	.41	3.65	.58	3.99	.70	3.58	.83	3.75	.80
Reflective	4.10	.38	3.11	.84	3.52	.84	4.25	.66	3.73	.67	3.85	.68	4.11	.67	3.61	.47	3.86	.62	3.66	.87	3.29	.37	3.50	.70	4.03	.70	3.58	.91	3.76	.86
Average	4.18	.61	3.40	.73	3.73	.79	4.34	.67	3.91	.63	4.01	.65	4.02	.70	3.56	.73	3.79	.75	4.01	.62	3.56	.46	3.82	.59	4.07	.68	3.65	.87	3.82	.82

Examining subject area, Physical and Health Education teachers scored the highest across the attributes especially on *Communicators* and *Risk-Takers* attributes while Design teachers scored the lowest especially on *Open-Minded* attribute. However, in general, *Knowledgeable* was the highest incorporated and *Risk Takers* was the lowest incorporated attribute. Interestingly, while *Risk-Takers* was the highest incorporated in Physical and Health Education, it was the lowest incorporated in overall subject areas. On the contrary, *Knowledgeable* became the highest incorporated as it was also highly scored in Arts, Science and Individual & Societies. Specifically, at Grades 6-8, *Knowledgeable*, *Thinkers*, *Communicators*, and *Caring* were imperative as they appeared in more than one subject areas as the highest implemented while *Open-Minded* and *Reflective* were the lowest integrated. At grades 9-10, attributes that were highly incorporated by more than one subject area teachers were *Knowledgeable*, *Open-Minded*, and *Principled*. However, *Principled* and *Open-Minded* were also reported as the lowest incorporated by teachers from other subject areas. *Reflective* was the attribute that appeared as the lowest incorporated by teachers from Sciences. Generally, Grade 6-8 teachers had higher incorporation scores than Grade 9-10 teachers particularly in Physical & Health Education, Language & Literature, Sciences, and Individuals & Societies that scored above 4 in all LP attributes.

Research Question 7b. Do the relative frequencies vary according to school authorization length or length of teacher IB experience? The incorporation scores by school authorization length are reported in Table 16. School authorization length shows the time from the year of MYP authorization (information is available from: <http://www.ibo.org/>) up to the year this study took place (2017). We created three groups of authorization length: 1-2 years, 3-5 years, and more than 5 years. There were 12 schools in the first category, 3 in the second and

12 schools in third. For the data analysis, we categorized respondents by the numbers of years for which their MYP has been authorized. The sample size (n) for each group in table 16 represents the total number of teachers across schools who were teaching in the schools that match the authorization length category.

Table 17

Incorporation Score by MYP Authorization Length

Authorization Length	n	Mean	Std. Deviation	Minimum	Maximum
1 – 2 years	46	3.71	.67	2.30	5.00
3 – 4 years	32	3.47	.99	0.00	4.90
More than 5 years	42	3.98	.86	0.00	5.00
Total	120	3.74	.85	0.00	5.00

Note: n represents number of responding teachers from the schools grouped by the length of authorization.

Table 16 shows that the mean incorporation score of the teachers who were in the schools with the longest authorization year had higher scores than the two other groups. Results show a wider variation in responses among teachers in the schools with 3-4 years of authorization. MYPs that have been authorized for five or more years had the highest mean incorporation score. It seems that the more years of authorization, the higher the mean incorporation scores, however teachers in these schools reported a greater degree of variability in their incorporation scores than did teachers in schools with 1-2 years of authorization.

Table 17 presents descriptive statistics by the length of authorization for each LP attribute. For each LP attribute, the incorporation scores of the teachers from schools with the longest authorization length were higher than those of teachers from schools in the other two groups. *Knowledgeable* was the highest implemented attribute by most teachers across the school years authorization while the lowest incorporation attribute varied across the three groups. From the standard deviation, it can be seen that the 3-4 years of authorization group had greater

variability as group about their LP incorporation in their classroom compared to the other two groups.

Table 18

Incorporation Score on LP Attributes by MYP Authorization Length

LP Attribute	Years Authorized															
	1-2 years (<i>n</i> = 46)				3-5 years (<i>n</i> = 32)				more than 5 years (<i>n</i> = 42)				Total (<i>N</i> = 120)			
	<i>M</i>	<i>SD</i>	Min	Max	<i>M</i>	<i>SD</i>	Min	Max	<i>M</i>	<i>SD</i>	Min	Max	<i>M</i>	<i>SD</i>	Min	Max
Inquirers	3.66	.77	2.00	5.00	3.39	.99	0.00	5.00	3.99	.91	0.00	5.00	3.70	.91	0.00	5.00
Knowledgeable	3.93	.76	2.50	5.00	3.56	1.08	0.00	5.00	4.07	.93	0.00	5.00	3.88	.93	0.00	5.00
Thinkers	3.69	.68	2.50	5.00	3.58	.94	0.00	5.00	3.98	.94	0.00	5.00	3.77	.86	0.00	5.00
Communicators	3.85	.81	1.00	5.00	3.60	1.05	0.00	5.00	4.06	.90	0.00	5.00	3.86	.92	0.00	5.00
Principled	3.71	.86	2.00	5.00	3.38	1.10	0.00	5.00	3.94	.90	0.00	5.00	3.70	.96	0.00	5.00
Open-Minded	3.70	.78	1.75	5.00	3.38	1.09	0.00	5.00	3.99	.97	0.00	5.00	3.72	.96	0.00	5.00
Caring	3.61	.82	2.00	5.00	3.47	1.09	0.00	5.00	4.02	.93	0.00	5.00	3.71	.96	0.00	5.00
Risk-Takers	3.61	.74	2.00	5.00	3.42	1.08	0.00	5.00	3.89	.90	0.00	5.00	3.66	.91	0.00	5.00
Balanced	3.65	.73	2.50	5.00	3.40	1.06	0.00	5.00	3.94	.87	0.00	5.00	3.68	.89	0.00	5.00
Reflective	3.66	.88	1.00	5.00	3.45	1.07	0.00	5.00	3.88	.91	0.00	5.00	3.68	.95	0.00	5.00
Average	3.70	.78	1.93	5.00	3.46	1.05	0.00	5.00	3.98	.92	0.00	5.00	3.74	.92	0.00	5.00

Note. *n* represent number of teachers who were in the schools with the length of authorization.

Table 18 presents teachers' incorporation scores in relation to the length of their experience with IB MYP. Results shows that the most experienced teachers (10 or more years) report the highest levels of LP incorporation compared with their less experienced counterparts.

Table 19

Incorporation Score Across Length of Teacher MYP Experience

Length of Teacher MYP Experience	<i>n</i>	Mean	Std. Deviation	Minimum	Maximum
Less than a year	15	3.28	1.09	0.00	4.40
1-3 years	43	3.67	.59	2.38	5.00

4-6 years	39	3.91	.68	2.40	5.00
7-9 years	12	3.45	1.42	0.00	4.95
10 or more years	11	4.32	.71	2.78	5.00
Total	120	3.74	.85	0.00	5.00

Table 19 shows descriptive statistics for incorporation of each LP attribute by the length of MYP teaching experience.

Table 20

LP Attributes Incorporation Scores by Length of Teacher MYP Experience

Length of Teacher MYP Experience	Less than a year (n = 15)		1 - 3 years (n = 43)		4 - 6 years (n = 39)		7 - 9 years (n = 12)		10 or more years (n = 11)		Total (N = 120)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Inquirers	3.18	1.09	3.67	0.75	3.83	0.72	3.44	1.43	4.34	0.74	3.70	0.91
Knowledgeable	3.46	1.13	3.75	0.79	4.12	0.70	3.67	1.52	4.34	0.76	3.88	0.93
Thinkers	3.28	1.16	3.70	0.64	3.96	0.67	3.58	1.37	4.18	0.78	3.77	0.86
Communicators	3.28	1.26	3.73	0.67	4.11	0.64	3.65	1.54	4.48	0.70	3.86	0.92
Principled	3.32	1.16	3.60	0.71	3.85	0.90	3.46	1.52	4.39	0.65	3.70	0.96
Open-Minded	3.49	1.23	3.65	0.69	3.85	0.87	3.37	1.52	4.18	0.92	3.72	0.96
Caring	3.26	1.15	3.63	0.67	3.83	0.91	3.47	1.49	4.52	0.56	3.71	0.96
Risk-Takers	3.13	1.12	3.60	0.66	3.87	0.76	3.34	1.45	4.20	0.83	3.66	0.91
Balanced	3.13	1.00	3.66	0.69	3.86	0.78	3.26	1.37	4.36	0.62	3.68	0.89
Reflective	3.30	1.30	3.68	0.71	3.83	0.78	3.23	1.47	4.14	0.90	3.68	0.95
Average	3.28	1.16	3.67	0.70	3.91	0.77	3.45	1.47	4.31	0.75	3.74	0.92

Teachers in their early years of MYP experience incorporated *Open-Minded* attribute more than other attributes compared to those who were in the middle years of MYP experience (7-9 years) who incorporated more in *Knowledgeable* attribute and the ones with the longest experience with *Caring* attribute. On the contrary, the three groups of teachers with 4 years or more MYP experience seems to incorporate *Reflective* less than other attributes. Those results are in accordance with previous result in which *Knowledge* ($M = 3.88$) was the highest incorporated while *Risk-Takers*, *Balanced*, and *Reflective* were among the lowest incorporated.

Research Question 8. Which professional development and IB-authored materials do teachers find most useful for integrating the learner profile into their teaching? This study also

sought to understand the utility of IB professional development and IB authored materials in relation to supporting the incorporation of the LP in the classroom. Table 20 illustrates the frequency of accessing professional development and IB authored materials, rated from 0 to 5, 0 meaning no answer, 1 the least frequent access and 5 the most frequent access.

Table 21

Frequency of Accessing Professional Development and IB Authored Materials

Professional Development and IB-Authored Materials	<i>n</i>	Mean	<i>SD</i>	Min	Max
IB Authored Guides & Materials	101	3.51	1.06	1.00	5.00
IB MYP Workshops	102	2.98	1.22	1.00	5.00
IB MYP Annual Conferences	100	1.80	1.04	1.00	5.00
IB Authorization & Reauthorization Process	101	2.84	1.22	1.00	5.00
CPS Authored Guides & Materials	102	2.71	1.27	1.00	5.00
CPS MYP Workshops & Meetings	102	2.59	1.21	1.00	5.00
School Developed MYP Guides & Materials	100	3.38	1.19	1.00	5.00
School MYP Workshops & Meetings	100	3.55	1.23	1.00	5.00
Ongoing Coaching from MYP Coordinator	102	3.34	1.32	1.00	5.00
Ongoing Coaching from Fellow Teachers	102	3.43	1.19	1.00	5.00
IAIB World School Events	102	1.94	1.19	1.00	5.00
Average Frequency	102	2.92	0.81	1.27	5.00

Table 20 shows that generally teachers used supports provided by schools more frequently than any kind of supports provided by the district or by the IB. The school-offered MYP workshops or meetings were the resources most frequently accessed, more than any other materials and resources, followed by IB authored guides and School Developed MYP Guides & Materials. Meanwhile the least frequent materials or resources that the respondents accessed was IB MYP annual conferences followed by IAIB (Illinois Association of International Baccalaureate) world school events. On average, the frequency of accessing the resources and materials was medium ($M = 2.92$). Using a scale with 1 described as “almost never,” 2 as “seldom,” 3 as “sometimes,” 4 as “often,” and 5 as “almost always,” the mean score of 2.92 shows that teachers access sometimes these resources (see Figure 3).

The measure of support recorded not only the frequency of use but also how useful respondents found the resource. Usefulness might refer to easiness, user friendliness, effectiveness, and efficiency. Table 21 illustrates the usefulness of each support (professional development and IB authored materials). The range of the scores is 0-5, in which 0 means that the respondents did not answer, 1 means that the resources/material was least useful and 5 means that the resources/materials was the most useful.

Table 22

Usefulness of Professional Development and IB-authored Materials

Professional Development and IB-Authored Materials	<i>n</i>	Mean	<i>SD</i>	Min	Max
IB Authored Guides & Materials	99	3.70	1.09	1.00	5.00
IB MYP Workshops	97	3.46	1.39	1.00	5.00
IB MYP Annual Conferences	88	2.50	1.48	1.00	5.00
IB Authorization & Reauthorization Process	94	2.85	1.25	1.00	5.00
CPS Authored Guides & Materials	97	2.65	1.33	1.00	5.00
CPS MYP Workshops & Meetings	98	2.80	1.28	1.00	5.00
School Developed MYP Guides & Materials	97	3.32	1.23	1.00	5.00
School MYP Workshops & Meetings	96	3.45	1.23	1.00	5.00
Ongoing Coaching from MYP Coordinator	97	3.32	1.40	1.00	5.00
Ongoing Coaching from Fellow Teachers	98	3.49	1.22	1.00	5.00
IAIB World School Events	91	2.12	1.30	1.00	5.00
Average Frequency	99	3.08	.86	1.18	5.00

Table 21 shows that the respondents reported that the most useful resources were the IB authored guides followed by ongoing coaching from fellow teachers and IB MYP workshops and meetings. Meanwhile the least useful materials or resources that the respondents reported was IAIB world school events followed by IB MYP annual conferences and CPS authored guides and materials. The standard deviations of all the resources were relatively similar with similar minimum and maximum scores. Using a scale with 1 is described as “almost not at all useful,” 2 as “slightly useful,” 3 as “somewhat useful,” 4 as “very useful,” and 5 as “extremely useful,” the

mean score of 3.08 shows that the resources and materials provided by IB, districts, and school were somewhat useful for the respondents. Even though one support from the IB (i.e. IB-Authored Guides) was found to be the most useful resource, apparently based on the provider as a group, school level supports were the most useful compared to the supports provided by the district and the IB organization, see Figure 3. Combining all the information about frequency and usefulness give a clearer explanation about the utility of the supports (i.e. materials and resources), as it is shown in Figure 3.

It appears that generally the usefulness line is above the frequency line meaning that respondents commonly regarded that the materials and resources were was more useful than being frequently accessed. However, regarding supports provided by the district (i.e., CPS Authored Guides & Materials) and school (i.e. school developed MYP guides & materials, School MYP Workshop meetings, Ongoing Coaching from MYP Coordinators), the frequency outweighed the usefulness.

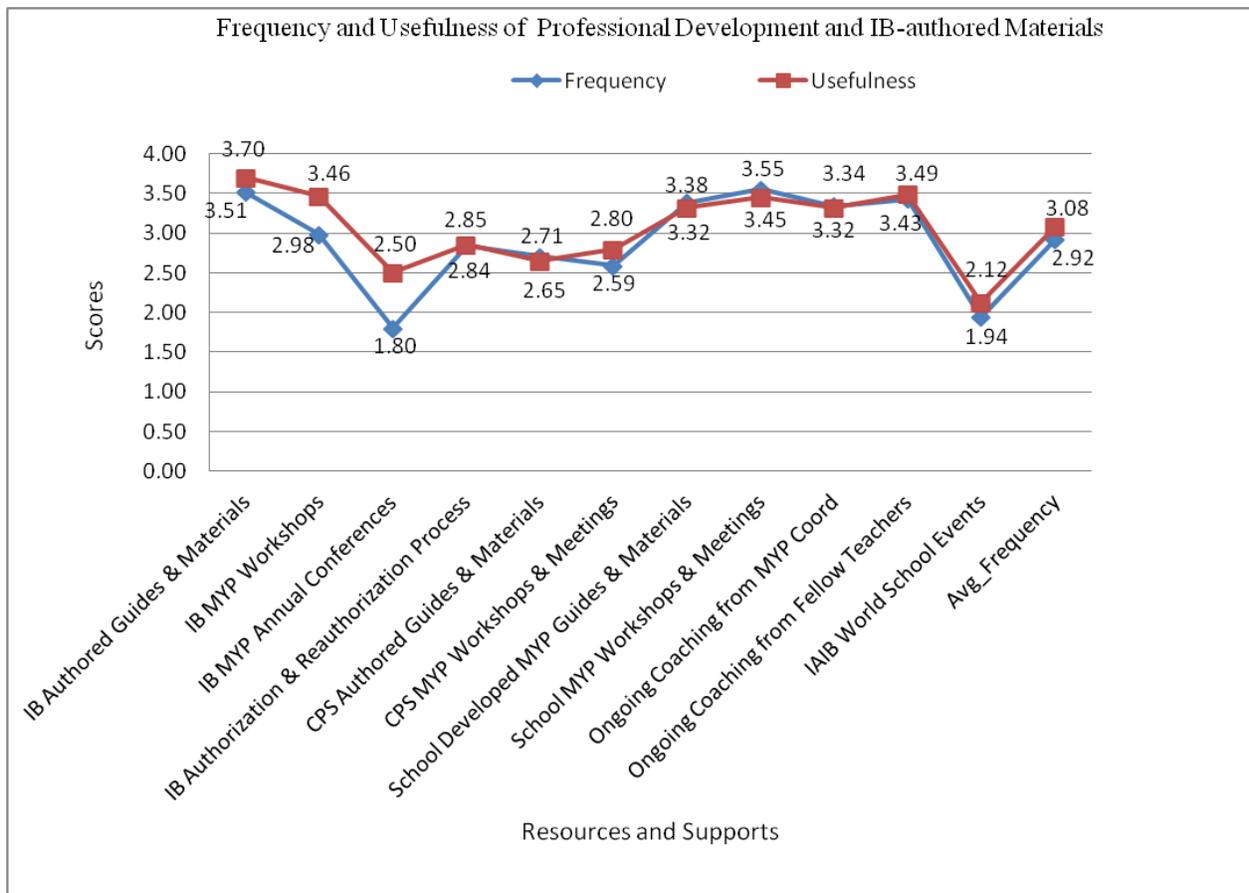


Figure 3. Frequency and usefulness score of support.

Phase II: Case Studies

Overview. The Phase II case studies utilized multiple case study methodology of four schools. We chose two high schools and two elementary schools (serving pre-kindergarten through 8th grade (PK-8)) that were implementing the IB MYP. The data collection methods used in each case study included reviewing documents and conducting interviews, focus groups, and classroom observations. We collected data in two stages as outlined in Table 22. The case study within each school focused on the Humanities and STEM subjects (see Table 23).

Each school's case is presented through an analysis of the data collected and followed by a cross-case analysis. Each case is organized into three categories stemming from the larger study's research questions: 1) teacher understanding of the IB MYP LP; 2) incorporation of the

IB MYP LP into practice; and 3) supports and resources related to the IB MYP LP. All schools and individual participants have been given pseudonyms.

Table 22

Case Site Research Activities

Stage I	Stage II
Principal & MYP Coordinator Interview	Classroom Observations with follow up Teacher Interview
Teacher Focus Group	Unit Planner Review
Authorization Material and School Publication Document Review	

Table 23

Categorization of MYP Subject Areas

Humanities	STEM
Language & Literature	Mathematics
Individuals & Societies	Sciences
Arts	Design

Elk Elementary School case study. The following section involves a description of the Elk Elementary School case study. It includes a discussion of the school demographics, survey finding, and case study findings.

School demographics and history with IB & MYP. Elk Elementary School is a neighborhood Chicago Public School serving PK-8 students in Chicago, Illinois in the United States. The school’s student population is over 80% Hispanic, with 30% English Learners, over 90% Economically Disadvantaged (eligible for free-or-reduced lunch), and almost 15% Diverse Learners (students who qualify for special education services). Elk was authorized to offer the

IB MYP in 2017. The school plans to pursue authorization of the Primary Years Programme (PYP) in the near future.

Teacher survey findings. In January 2018, we surveyed Elk MYP teachers to understand how the learner profile (LP) is incorporated into classroom practice. There were 11 respondents that completed an online questionnaire. Most of the 11 respondents had 7 or more years of teaching experience, as well as one or more years of teaching in an MYP. These teachers reported strong familiarity with the LP attributes (3.41 mean score on 1-5 scale), with *Caring* being the most familiar (3.64) and *Principled* and *Balanced* the least familiar (3.18). When asked how confident they were about incorporating the LP into their teaching, the mean score was lower (3.35) with teachers expressing the least confidence with *Balanced* (3.09) and the most confidence with *Caring*, (3.55).

The responding teachers indicated that they incorporate the LP into classroom practice (3.52). The attribute of *Communicators* (3.84) was the most extensively incorporated, while *Thinkers* (3.36) was the least. Humanities teachers (social studies, English, and art) indicated a more extensive incorporation (3.60) than teachers in the STEM fields (3.33). The teachers reflected that they fairly integrated the LP attributes into classroom instruction (2.78), while integration into the overall school environment was slightly higher (3.11).

When asked about the usefulness of a variety of professional development and support materials for incorporating the LP into MYP classrooms, teachers indicated that “MYP workshops and meetings organized by the school” was the most useful (3.50). Respondents reported that the “IB MYP Annual Conference” and “IAIB World School Events” were least useful. (See Appendix H4 for complete survey results.)

Case study findings. A qualitative case study of Elk was conducted from January 9, 2018 through February 6, 2018. Table 25 documents the data collection methods used and the number of participants.

Table 24

Elk Elementary School Qualitative Data Collection Methods and Participants

Data Collection	Number of Participants
Interview with Coordinator	1
Interview with Administrator	1
Focus Group with Teachers	4
Focus Group with Teacher	1
Classroom Observation	2
Total Participants	9

Supplementing these qualitative data sources, were documents collected from the site. We used these sources to more effectively triangulate the data to understand the incorporation of the LP at Elk. These documents included MYP unit plans, the school website, the student handbook, and Elk’s learner of the month materials.

Teacher understanding. Based on the interviews and focus group data, teachers at Elk were in the process of becoming familiar with the language and meaning of the LP in the MYP. Teachers found some of the attributes easier to understand than others. At least one teacher saw the attributes as something to teach when they arose naturally at “teachable moments.” However, Elk’s administrator situates teacher understanding in the reality that the school is newly authorized. In looking at Elk’s survey summary, the administrator commented on the fact that attributes like *Caring* and *Communicators* were more apt to be emphasized: Barbara stated,

... the traits they're talking about are consistent with the level of proficiency we have as a- as a school in terms of our experience with IB, um, these are kind of like the low-hanging fruit, the most accessible ones.

This is further reflected in Lynn's comment, an MYP teacher, on her level of comfort with the LP. She suggests that there is a difference between embedding the LP and referencing it. Lynn stated,

I personally don't even feel comfortable enough embedding them yet because I feel like I don't fully understand them well enough. Like, I couldn't even, for all of them I couldn't give you like five examples of how I might apply them yet because I, I still would like to learn more about them. So, I, I feel very comfortable referencing the attributes and saying, "Okay, so when we did this activity what were the different ones?" And I think um, I feel comfortable breaking it down in language that the kids understand, even those who really struggle academically.

Another teacher, Elizabeth, demonstrated how the LP is difficult for those who are new to IB. As a first year teacher and without much IB training, she is struggling to understand the distinctions between the attributes and how to share those with students. Elizabeth stated,

I just wrote down on here, "thinker, inquirer, and knowledgeable." Like, how they, they seem so, or too closely aligned to really differentiate for our students so that they see the difference. And that's where like, explicitly teaching and knowing really good examples that model each one would be extremely helpful.

After observing Elizabeth and her co-teacher, we shared multiple instances where the lesson reflected the LP attributes. Elizabeth noted that she did not intentionally incorporate the LP in her lesson but realized it after debriefing with us. This lends additional support that as a

newly authorized school with faculty new to the MYP, it will take time to deepen teacher understanding of the LP.

An analysis of Elk’s MYP unit plans also supports this theory. There was variation in the use and application of the LP in the plans. Most units identified LP attributes to be addressed, but only a few demonstrated the attributes in the plan’s activities. Of the 19 plans, 13 explicitly identified LP attributes. Of those that identified attributes, three had evidence of all identified attributes incorporated into the unit plan. Of the 19 unit plans analyzed, all 19 actively planned to teach LP attributes; however, some were better aligned than others to the LPs identified. Some did not list LPs, but still had content that reflected LP attributes. Table 26 shows the frequency with which the LP attributes occurred in different aspects of the 19 units—objectives, content, lesson experiences, etc. The unit plans were in the subject areas of art, design, individuals and societies, language and literature, math and science.

Table 25

Elk Elementary School MYP Unit Plan LP Attribute Incorporation

LP Attribute	Frequency of Incorporation
Knowledgeable	27
Inquirer	11
Caring	0
Open-Minded	1
Thinker	9
Communicator	27
Principled	0
Risk Taker	0
Balanced	0
Reflective	4

These data support teachers' responses to the Phase II survey that the LP *Communicator* is widely incorporated, but challenges the finding that the LP attribute *Thinker* is not. While not the most frequent, it certainly is more prevalent than *Caring*, which had a mean of 3.64 in familiarity and 3.55 in confidence on the survey, but no instances of incorporation in the units (See Appendix H4). These data support the theory of a disconnect between teacher understanding and teacher practice.

Incorporation into practice. Elk educators are aware of the gap between teacher understanding of the LP attributes and their incorporation of it into their MYP units. The MYP Coordinator (Mary) commented,

... to include them [LP attributes], and that's what I kinda was speaking about before is we need to get better at explicitly making sure that we are highlighting these. You know, we can put them in the unit plan and they can be written there and, you know, ... Every once in a while, we might say, "Oh, you did a great job of being, you know- -this." But ... You know, how are we really using that and, and, you know, even as I'm talking right now and talking about ATLs and I'm like, "really, let's start combining these things." So, there's just a lot ... of underground work with that.

The MYP Coordinator appreciates that the task of incorporating the LP attributes is not separate from other aspects of the IB curriculum. Instead, she realizes it is integrated with the ATL as teachers develop their units for teaching in the MYP. This is critically important in supporting teachers as they wrestle with the issue of how to incorporate LP attributes and is demonstrated in the following exchange.

Michelle: ... I teach Math and Science, and I feel like a lot of times it is me

just sort of throwing it in, like, “Let's all be thinkers.” And, and you know I reference the posters in the back. Um, but like Elizabeth was saying it just doesn't seem authentic. And, and maybe that's just cause.

Elizabeth: Right.

Michelle: We don't have exposures as, you know, math teachers as like ... how, while I'm teaching one step equations or, you know, percents, like how I can authentically embed it in my lesson.

Michelle: Without it seeming, um.

Elizabeth: Forced.

Michelle: Staged or, and then not to take up too much time away from the math, cause we unfortunately that's another thing. We don't have, I mean we have such limited time. It's very important, but it's also something that I, I would love to know how to do it purposefully but effectively, and, and where it's not taking up too much instructional time.

Michelle: Like, it would be awesome if we could do a lesson on how to do it, but I can't take up, a Math lesson away to do that.

The MYP Coordinator articulates a desire for the MYP team to become more disciplined in its application of the LP in its planning, but also recognizes that this “... will come with more experience and more time and more collaboration.” A statement from a first year teacher further demonstrated the need for experience. Elizabeth stated,

Like, where are the pockets where I could embed it into lessons where you're not just throwing out labels and just saying it, but they can make the connections more because I

can't even make the connections that easily. And every time I feel like I'm sitting down to like plan my units it's like, "Ah, this is really hard."

Elk teachers express an authentic desire to incorporate the LP into instructional practice in meaningful ways. The administrator at Elk considers how the school as a whole could make the LP more meaningful for students. Barbara stated,

... when I walk around, I'm like, "Oh, I really like these learner attributes, um, and ... I'm wondering if the students really understand them." So ... that's for us to talk about too and try to figure out. Um, is this something the child could describe with accuracy and try to internalize or want to internalize the attributes.

There is more consistency in the application of the LP attributes through the schools' positive behavior support system. The school has Learner of the Month Cards listing each of the LP attributes. Teachers and students nominate a student and identify the attribute they believe the student has exhibited. Students are eligible for Learner of the Month, who earn enough positive behavior points and receive at least one learner of the month nomination. Elk seems to emphasize the LP attributes in relationship to students' behavior. Elk's administrator, Barbara, noted, "... we are very concerned with social emotional learning." However, it remains a frustration for staff at the school that the LP attributes are somewhat limited to this area. The MYP Coordinator (Mary) stated the following:

... we would sit down as a team .. and look through the box and whoever had the most cards, you know, we would choose. So, we tried that and we're still, in a way, incorporating it, but what happens, then, is the part where I mentioned earlier where we're then not almost becoming intentional about the lessons we're doing.

In explaining which attributes were easier to teach to middle school students, teachers identified *Caring* and *Communicator*, claiming that those seemed familiar to students in their everyday lives. Teachers may be informally teaching caring, since there is no evidence of it in unit plans, but they are integrating communicator into plans. Teachers also acknowledged that these were easier to offer examples of and identify in students' behavior. Lynn stated,

... not that anyone is more important or weightier, but I think it's easier to demonstrate being caring in whatever capacity you can. So, even if I see a student opening a door or translating for a peer, that would qualify. It may not match the definition under the IB trait, but that would allow me to, to praise that student and give that student an extra point.

If the LP is framed more in terms of a behavior systems approach, then it can change the way the attributes may be understood and applied. Maria stated,

The one thing the risk-takers, I feel like it almost has like a negative connotation to it. Like, I feel like the students aren't making those connections like being a risk-taker is like doing something like rebellious ... but in reality like being a risk-taker, you're trying something new in class, something that maybe you've never done before that feels kind of uncomfortable.

Marie appreciates what the IB intends by risk-taking, but the behavioristic way that the LP attributes have been used makes it somewhat more difficult to teach them in more nuanced and academic ways. More importantly engaging students in these more in-depth ways is vital for students to understand the holistic approach of IB and the particular value it has for marginalized populations. The administrator at Elk reflected this in the comments. Barbara stated,

I think that it also brings our attention to the need to incorporate maybe more rigorous and complex, um, uh, traits, uh, for our students, especially for our minority students in terms of being risk-takers and, um, having the confidence of calling themselves as knowledgeable.

The data from the case reflects how teachers at Elk find it challenging to incorporate the LP.

Supports and resources. Elk school invests in its teachers by sending them to IB workshops and conferences and by purchasing IB materials and resources. It has also made it possible for the MYP Coordinator and teachers to participate in a local university-led IB cohort and to visit local MYPs. Regardless, teachers still identified that their best resource for better understanding how to implement the LP is collaboration at the school level. The following exchange typifies the responses teachers offered when asked about supports and resources for developing their understanding of how to incorporate the LP.

Michelle: ... we do meet as like an IB team every week through training and information from our IB coordinator. The majority of us have been through at least one IB training. But I felt (...) that that was more focused on writing the unit plan and um.

Marie: Mm-hmm (affirmative). That IB language. Not as much focusing on those learner attributes at all.

Michelle: Right, so maybe, probably the best resource is just us having conversations. I know last year we were more specific, like we were going to do it in Individuals in Society and sort of make that focus um ... but to be honest I would love more resources.

The IB MYP Coordinator finds the resources useful that the school has been able to carve out locally and from IB. Elk's coordinator is dedicated to supporting teachers' learning about the LP. Mary saw participation in this research as a form of professional development and has sought out additional resources to build on it, including the following:

... a Category 3 just learner profile training. I'm sending two teachers to it, and so we're really excited about learning that and then bringing that learning back to the teachers.

Um, I sort of did that intentionally since we're doing all this practice on it.

Summary. These findings from Elk Elementary School demonstrate a disconnect between teacher understanding and teacher practice in the application of the LP. However, there is consistency in the application of the LP attributes through the schools' positive behavior support system. Administrators and teachers alike acknowledge the gaps in understanding and the need for professional development in the LP area. They have identified both local and IB resources to address their growth in this area as a newly authorized IB MYP.

Buffalo High School case study. The following section provides a description of the Buffalo High School case study. It includes a discussion of the school demographics, survey finding, and case study findings.

School demographics and history with IB & MYP. Buffalo High School is a neighborhood Chicago Public School serving Grades 9-12 in Chicago, Illinois in the United States. The school's student population is over 60% Hispanic, with over 10% English Learners, some 95% Economically Disadvantaged, and almost 25% Diverse Learners. For full demographic data on CPS schools, see Appendix J. Among the first few neighborhood schools in the district, Buffalo has been an IB World school offering the DP since 1998. In an effort to increase student access to an IB education, Buffalo became authorized to offer the MYP in 2015.

School survey findings. In January 2018, we surveyed Buffalo High School MYP teachers to understand how the learner profile (LP) is incorporated into classroom practice. There were 17 respondents that completed an online questionnaire. Most of these respondents had seven or fewer years of teaching experience as well as four or fewer years teaching in an MYP. These teachers reported a familiarity with the LP attributes (4.01 mean score on 1-5 scale), with Principled being the least familiar (3.75) and Reflective the most familiar (4.13). When asked how confident they were incorporating the LP into their teaching, the mean score was lower (3.75), with teachers reporting the least confidence with Balanced (3.38) and the most confidence with Open-Minded (4.00).

The responding teachers indicated that they incorporate the LP into classroom practice to some extent (3.67). The attribute *Communicators* (3.88) was the most extensively incorporated, while *Thinkers* (3.20) was the least. Humanities teachers (Social Studies, English, and Art) indicated a more extensive incorporation (3.58) than teachers in the STEM fields (3.40). Teachers with 4 to 6 years of experience reported the greater incorporation (4.27) than teachers with any shorter or longer years of experience.

When asked about the usefulness of a variety of professional development and support materials for incorporating the LP into MYP classrooms, teachers indicated that “Ongoing Coaching from Fellow Teachers” was the most useful (3.77). Respondents reported that the “IAIB World School Events” was least useful. (See Appendix H2 for the complete results.)

Case study findings. A qualitative case study of Buffalo High School was conducted from January 9, 2018 through February 8, 2018. Table 27 outlines the data collection methods used and the number of participants involved.

Table 26

Buffalo School Qualitative Data Collection Methods and Participants

Data Collection	Number of Participants
Interview with Administrator	1
Interview with Coordinator	1
Focus Group with Teachers	5
Focus Group with Teachers	4
Classroom Observations	7
Total Participants	18

Teacher understanding. Based on the interviews and focus group data, teachers at Buffalo acknowledge the value of the LP attributes but teachers can struggle with the intentional attribute development on a day-to-day basis. While the 9th and 10th grade teacher focus groups were each unique in outlook about the priorities of their grade level, there seemed to be a sentiment among teachers that developing these attributes represents good teaching however a tension can exist between subject content of courses, learning environment and various student needs and challenges. For some, it seems that the LP is inadvertently pushed to the back burner. As Richard stated, “Um, I think there are particular IB Profile traits that stick out more to me, um, with the needs of our students. Um, so there are certain ones like, um, being balanced, reflective, communicating,”

While some teachers emphasized the local context and effect student demographics have on teachers' capacity to integrate the LP, Jack stated,

Honestly, being an inner-city teacher, like, sure we're teaching content. But we're just trying to get them to, like, have skills to survive. ... I think a lot of those are Learner Profiles as well, but ... I think they [LP attributes] could be more effective with more students who have less on their plates than inner city kids. So I think there's a deep conversation there about who's, at this school, those Learner Profiles might not be as effect[ive] as if you put them in at some separate school.

Others teachers considered the stage of adolescent development students are in as a more significant factor. Julie stated,

I guess not necessarily considering just race, gender demographics, um, ethnic demographics, area/neighborhood demographics, but just the fact that they're teenagers. Like they, any teenager ... I don't, depending on wherever you come from, needs an opportunity to assess these, these skills and to learn how to develop them. I know for darn sure that when I was a teenager I was not some of these [LP attributes] things.

Teachers' understanding of the attributes appears to be in part based on their personal experiences, background knowledge of the attribute's conceptual meaning and perception that some attributes can be developed through some subject matter while others are outside of the content area. Richard stated,

The only ... I mean I, I don't know if I take these out of context but like with things like caring, and reflective, and balanced, and principled, I try to like not even to apply it to their math but just apply it to them as humans. So every once in a while, I'll bring a news piece into the classroom, and we'll watch a video, and like have discussions, and hear thoughts and stuff like that, but I really struggle with the math part.

In a focus group, teachers expressed that using some LP attributes is difficult in their content areas. Teachers also indicated difficulty with distinguishing between the definitions of attributes that on the surface appear similar, as the following exchanged shows:

Julie: I think sometimes I get hung up on the differences between inquirer, knowledgeable, and thinker.

James: I was just about to say that. I was like my kids really struggle with those.

Julie: But I, I think that it's pretty obvious that knowledgeable is the one that we like automatically seem to go to because we can't distinguish between the three of them. Knowledgeable seems like the one that maybe fits the most umbrella over all three when they're actually all three really, really different. So that doesn't surprise me.

Statements from focus groups and post observation interviews also indicated that teachers can struggle to use the attributes in class and go beyond the face value of the attribute meaning.

Maria stated,

So like I mentioned, like today the kids are working on one of their summative [assessments] and they have to create, design their own lab. So, that requires them to be inquirers, to be knowledgeable, and to just use those skills in order to be able to achieve the goal. Um, and then I also have kids like reflect on like how they've developed as IB Learners like at the end of the week. So they might say, "Oh. I'm, I was caring this week because I helped my friend do X, Y, Z."

Other statements from teachers during focus groups represented challenges in thinking about the attributes in more meaningful ways.

Paul: Open-minded's always easy one to, to use. You know, because, [a student] just say something and this is very insulting to other people... so you just give a whole lecture about open-minded and they like it. So, yeah, this is a good one to do. Easy to use

Daisy: ... In my [course name] class..., I had them discuss how to be balanced when thinking about like their aesthetic beauty and like, um, how that can mess up like the, um, like the stuff inside their body.

The MYP Coordinator also echoed the struggle with deeper understanding and incorporation of the LP attributes during the interview. Chris stated,

I would like to see us do a better job, [of] getting specific to the descriptors of each individual profile, um, instead of just, you know, picking something up off the ground and being like, “Hey, that was an example of being caring.” Um, or, you know, talking to another student in the classroom and saying, “Oh, well you're, you're being a communicator.” ...And I think that we have work to do to dive deeper into each of the profiles to, to really make use of them and to really develop our students.

While several implicit references to various attributes were heard during each of the classroom observations we made, of the seven classrooms observed the explicit reference to attributes was noted 10 times. During observation debriefing interviews with teachers, each was agreeably surprised when we shared with her/him the different attributes to which their instructional activities could tacitly be aligned. One teacher admitted he did not plan for integrating any specific attribute and reflected further on how he could be doing better to integrate attributes. Peter stated,

And I don't feel very confident in like, I know, I know them very well, but like the amount of times that it gets mentioned in my class isn't very often. So like, how much it, it, it drives my instruction and my planning I would say is little to minimum...

Another teacher who had been teaching MYP for three years explained in her observation debrief that not all lessons and/or activities lend themselves for her to integrate the attributes.

Cindy stated,

Today it wasn't interactive—when interactive opportunities are present, I give tickets when students exhibit any of [the LP] attribute[s]. In another class I had four attributes focused on per unit with examples for each generated that we generated together—um it hasn't been possible to do this semester with other demands.

Michelle, who recently joined the school, remarked she was not yet familiar with the “IB language” and therefore does not include the attributes in her teaching. Michelle stated, “It helps to see them on the wall with examples. Uh, some of them I normally do anyways, like reflective, but I don't specifically teach it.”

Administration also recognized that the use of the LP in instruction could be difficult for new teachers given all the responsibilities they have in their new role as a teacher. He reflected on what it might be like for a new a teacher out of their preparation program. Dan stated,

I've graduated with a degree in history... I don't know classroom management. I don't know bureaucracy. ...I don't know lesson planning, grading, calling home and there's this thing called IB that I don't even know what it is... I have to write my lessons in a particular way... or you know, the Learner Profiles.

Although teachers at Buffalo do struggle with the use of the LP attributes in the classroom, they are aware that they could take steps to make the LP attributes more explicit in

their classroom. This was evident in the following conversation that took place during a focus group. Jack stated,

And maybe we, and maybe I could be doing a better job of that... if you were using that word [LP attribute], like if you were being reflective because it's learning profile, and they hear that, and [the student] thinks the idea is I'm trying to [be] like that... reflect[ive].

Incorporation into practice. Within Buffalo, the LP attributes are sometimes perceived as traits or behaviors that students are to acquire through the MYP program and the incorporation of LP tends to align with the perspective that the LP attributes represent components of student development with connections to Social Emotional Learning and positive behavior of students. The MYP coordinator described the LP in the following way. Mark said, “I think the Learner Profiles help teachers tap into the student; again, that whole child philosophy... and can be very useful for social-emotional learning, and strategies in the classroom with that, you know, in terms of classroom management.” However, the coordinator also understands that the incorporation of the LP needs to extend beyond the performance of the behaviors or the simple recognition of the trait in practice. He reflected on a recent conversation with some students. Mark stated,

I had a group of students ... they were talking about their Spanish teacher referencing, being like, “Oh, you're being a thinker in the classroom.”... I said, “But have you talked about what IB considers a thinker to be?” And they're like, “Well, no, I mean we were talking about something, so we were thinking about it.” ... I said, “To be a thinker is to actually think in terms of ethics.”

The School's administrator acknowledges the current status of the school's integration of the LP may be at the behavior/skill compliance phase with respect IB and incorporation of LP.

Dan stated,

[LP is a] student mindset, um, rather than you know, distinct skills that I think in education, you know, I know how to do A, B, C or D, the Learner Profiles are more about, the way I see and operate within the world. Am I a risk taker? when I hear teachers talk about it, it's almost like I have to think about it like I'm incorporating a grammar skill into my lesson.

This connecting the LP to classroom practices related to skills associated with a content area was also present in teachers' remarks. As Julie stated, "I have like a standard like unit reflection sheet. And I have them talk about like what were three attributes that you felt like you really worked on and became through our content, through our, our objectives."

During the focus groups, a common sentiment was shared that various factors function as barriers to integrating the development of attributes in daily instructional activities. These included a lack of training and metrics for incorporating the LP attributes, as the following quotes show:

Richard: I know so little about it. And I've been trained so little, which is why I would say the school hasn't done their part in giving me that information.

Steve: What's the gold standard? "You have to use it six times a day." No, but, like, are you using it daily? Are you using it weekly? Are you using it monthly?

The MYP Coordinator recognizes the variations that exist across ninth and tenth grade, particularly the perpetual turnover of teachers and time needed to induct new teachers.

Additionally, he notes the increased readiness of students who come from feeder schools with PYP as students will have earlier exposure to the LP whereby the “language” is not as new to them. He hopes to bring teachers to the next level whereby they work to cross examine the traits in terms of other curricular frameworks or programs being implemented. Mark stated,

It [LP] is similar to AVID, and it's for select, it's a set cohort of students identified as sophomores. That are going to move as sophomores to junior to senior year to really ensure that they are college ready... they're developing the same skills in the students, but they're not necessarily using the same language. So [in] my conversation with the teacher [I asked], “Have you thought about providing a lesson, or, or an opportunity for students to match and compare [how] Learner Profile traits line up to [Embark]?”

The incorporation of LP attributes in other school programs or IB related experiences was also recognized as a means of enhancing the development of the LP attributes in students at Buffalo. Julie stated,

...our awards ceremony... that was really huge. So as a sophomore team, [we] nominated students for each of these [LP] categories... So like we had a student who was most Knowledgeable, who was most balanced, who was most, most of an inquirer, and then each of us, if our student won, we had to write about a time and like present and talk about when that student was that Learner Profile trait.

Supports and resources. In addition to IB training, Buffalo developed school level resources to support the IB work of teachers (See Figure 6 in Appendix H2). Teachers recalled two brief professional development sessions and the opportunities availed them through the coordinator's support in planning the MYP units that the LP was something to be explored personally and as a teacher. Julie recalled,

If I remember correctly, when we had summer planning this year I think we had an opportunity to like evaluate which ones that we wanted to work on. We have like a, it's like a Jigsaw activity -Where they [LP attributes] were like posted all over the library and we got to stand by the one that we felt we needed to work on and be better at.

However, some reported that they have not received any school or IB training that explicitly focuses on how to incorporate the LP attributes into the classroom or instruction. Jack recalled, "...I think our school and every PD has always focused on saving inquiries, unit questions, stuff like that. And we really don't focus on, like, incorporating [LP attributes] ... Or the importance of incorporating them [LP attributes]."

The IB MYP Coordinator has created local resources that help teachers, he has focused on creating opportunities for PD to promote IB MYP practices, and these include the development of an LP checklist and observation tool. Mark stated,

I've run department PDs, ...where I actually created a unit, to model the PD itself, just to show teachers, like, "Hey, this can be done..." And it was rolling out that, that observation tool, that IB checklist, [that] broke down the descriptors for global context in that particular unit, ...I told them my goal was to quantify IB.

Along with PD, teachers see their peers as excellent resources for learning about MYP and LP, teachers rated "on going coaching by fellow teachers" as the most useful resource. Maria stated, "I think our colleagues are like one of the best resources. Um, kind of seeing how other people incorporate Learner Profile, which I feel like that's something we could do more of." One teacher also commented how she has used the internet to search for IB resources, though this resource did require some work and effort on her part. Julie stated,

I looked up, “Learner Profile reflection sheet” because I wanted to do something at the beginning of the semester...so I Googled [and found] something and I had to obviously modify it a little bit because it was not very clear I think, but I used [what I found] to sort of like create my own resource for reflection. Um, so the Internet [has] been great but I have noticed that, generally speaking, IB resources are not very prevalent on the internet ... You got to dig pretty deep to find things that work for you.

Summary. These findings from Buffalo High School demonstrate an uneven understanding of the LP attributes by teachers. There is evidence of teachers understanding of the concepts, but less so in how it relates to their instructional practice in the MYP. Buffalo teachers and administrators are engaged with LP in their instruction, but more out of compliance in this early stage of authorization. There is also an engagement in the LP as a mechanism for school-wide behavior support. School personnel recognize a need to deepen their understanding, engagement and application of the LP with a focus on using local resources to address this need.

Brown Bear Elementary School case study. The following section involves a description of the Brown Bear Elementary School case study. It includes a discussion of the school demographics, survey finding, and case study findings.

School demographics and history with IB & MYP. Brown Bear Elementary School is a neighborhood Chicago Public School serving PK-8 students in Chicago, Illinois in the United States. The school’s student population is over 70% Hispanic, with more than 15% English Learners, over 8% Diverse Learners, and roughly 65% Economically Disadvantaged. Brown Bear was authorized to offer the IB Middle Years Programme (MYP) in 2015. The school had its Primary Years Programme (PYP) authorized in 2014.

School survey findings. In the spring of 2017, we surveyed Brown Bear Elementary School MYP teachers to understand how the learner profile (LP) is incorporated into classroom practice. There were 6 respondents that completed an online questionnaire. Most of these respondents had 10 or more years of teaching experience as well as four or more years teaching in an MYP. These teachers expressed a familiarity with the LP attributes (4.67 mean score on a scale of 1-5). It was not clear which attribute was the most or least familiar as all of the ten LP attributes had the same mean score of 4.67. When asked how confident they were with incorporating the LP into their teaching, the mean score was lower (4.31) with teachers expressing the least confidence with *Principled, Caring, Risk-Takers, Balanced, and Reflection* (4.17) and the most confidence with *Inquirers, Knowledgeable, and Thinkers* (4.67).

The responding teachers indicated that they incorporate the Learner Profile into classroom practice to some extent (3.75). The attribute *Knowledgeable* (4.04) was the most extensively incorporated, while *Balanced* (3.33) was the least. STEM teachers (design, mathematics, and science) indicated a more extensive incorporation (3.93) than teachers in the Humanities fields (3.65). Teachers with 7 to 9 years of experience reported greater incorporation (4.00) than teachers with less than a year experience (3.88) and 4 to 6 years' experience (3.65).

When asked about the usefulness of a variety of professional development and support materials for incorporating the LP into MYP classrooms, teachers indicated that "IB MYP workshops" was most useful (4.50). Respondents reported that the "CPS Authored Guides and Materials" was the least useful (1.50).

Case study findings. A qualitative case study of Brown Bear was conducted from January 11, 2018 through January 20, 2018. Table 28 documents the data collection methods used, the number of participants involved, and the dates that we collected data.

Table 27

Brown Bear Elementary School Qualitative Data Collection Methods and Participants

Data Collection	Number of Participants
Interview with Coordinator	1
Collection of MYP Planners	32

Teacher understanding. When entering through Brown Bear’s front door, visitors are immediately greeted with a very large mural depicting children engaged in various learning and play activities outside the school building. The coordinator informed us that picture was painted several years ago by students in 8th grade (MYP year 3) and that each activity depicts a different LP attribute. In the image, there is a young man reading, a young girl handing balloons to a crying boy, and a hot air balloon made up of flags from around the world, among the illustrations of the LP. None of the attributes are labeled nor is there a sign explicitly noting the connection to the LP, but the painting is what welcomes people to Brown Bear every day.

Through an interview with the coordinator and a review of MYP unit planners and scope and sequence forms, similar issues were raised about how explicit teachers are about the LP as well as how the attributes are connected to classroom learning activities. The LP is clearly present in the program, but its incorporation is generally distinct from classroom teaching.

The MYP Coordinator, who also coordinates the school’s Primary Years Programme (PYP), considers the LP as an element that “goes throughout all the programs and something that, I think, brings IB together.” She identified the LP as a framework for developing students “character” in terms of helping students develop well socially emotionally as well as become good citizens. She offered examples that this might mean using the LP to preemptively discuss bullying in the school or to connect concepts from individuals and societies to the students personally.

While the school does require teachers to include an LP trait for each unit in a year-long scope and sequence curriculum planner per subject area, the coordinator noted that integrating the LP attributes into regular instruction remains a challenge. She explained,

[Y]ou have one hour to cover this content [in the MYP]. So, you're more focused on the content and you're hoping that you may touch on it really quickly, but you're gonna move on, whereas PYP, since you have the kids in front of you for such a long time, you're reading all these storybooks to students. You're having opportunities like that...I think with MYP, you're just tight for time. If you're a math teacher, you want to focus on the math that's being taught.

Incorporation into practice. The LP has a strong presence at Brown Bear, and students directly engage in it in several ways. The most visible is through an LP attribute student of the month activity. Across the MYP, teachers will start each month with a short discussion of one attribute that involves some form of media. Collaboratively, teachers have created “palettes,” which are online multimedia collection pages, to house a variety of interesting videos, pictures, or songs that relate to each attribute. The short monthly kick off conversations uses some kind of media from the palette. The coordinator explained that the media is important because, “[i]sn't it more impactful...I showed [teachers] a video on caring. Um, like that hits home more if you just show a really quick video and you talk about the word ‘caring.’” At the end of the month, the coordinator surveys the teachers to nominate a student who best exhibits the month’s given attribute. That student is then celebrated with a public announcement and signs posted in classrooms for the following month.

The LP is also brought in when parents or visitors come to tour the school. The coordinator relayed that she routinely shares the LP with potential parents and during

observations of classrooms. She will ask a student or two to share their thoughts about the LP attributes with the visitors. Finally, the school uses a reflection form aligned to the LP for students who have been sent out of the classroom for disciplinary reasons. The form requires students to write a reflection on their behavior and connect their actions to LP attributes such as *Caring* and *Open-Mindedness* to explain what was done and why it was inappropriate as well as how to behave better in the future.

The coordinator also described practical challenges to LP incorporation. Although the school emphasized the LP early on in its program implementation, the focus was now on successfully installing more technical aspects of the model, such as the MYP report card. She explained, “I just feel like, as we've grown as an IB school, I feel the Learner Profile has taken a backseat to the actual, ‘I have to create a report card, I have to do, um, rubrics and assessments and ...’ That has dominated more in the MYP.”

The coordinator went on to explain that she saw places where the LP could be better integrated into the MYP planning materials to facilitate regular, meaningful incorporation. She said, “So, if [the IB] would put Learner Profile in the unit planner, and if they would put Learner Profile in the subject guide overview and make them connected to the global context and key concepts, then, I would think [the LP] would come alive more.”

Supports and resources. In the survey of Brown Bear teachers, they reported that “Ongoing Coaching from Fellow Teachers” was the most useful (3.77) professional learning about the LP. The coordinator explained that she plans and leads IB professional development sessions for the teachers. At the start of each year, she focuses on the LP, both in ways that it applies to the teachers personally as well as how it can be brought into the classroom. The

coordinator described the nature of the activity and its general purpose, which is to help establish classroom culture that is aligned to the LP. She relayed,

You know, in the beginning of the year, usually we'll have activities and we'll talk about icebreakers and a lot of times we connect it to Learner Profile and we remind teachers how—What it means to—For them to even embrace and model the Learner Profile... I think that sometimes, if you were to ask a teacher, they'll say, “Yeah, I did this at the beginning of the year activity with my students and you see it up there and it's on the board and ...” You'll see teachers do maybe collages with the Learner Profile or they'll take pictures with kids to model the Learner Profile. But, I think it happens in the beginning [of the year] and it's more of, like, developing a culture and getting to know your atmosphere.

Summary. The findings from Brown Bear Elementary School are limited. We have minimal data from teachers to assess teacher understanding of the LP. Like other cases, it seems that there is more consistency in the application of the LP attributes through the schools' positive behavior support system than in instructional practice evidenced by the visual displays of the LP in the school and the LP reflection for disciplinary referrals. There is some emphasis on the LP at yearly professional development sessions locally and teachers identified IB MYP workshops as useful.

Coyote High School cases study. The following section involves a description of the Coyote High School case study. It includes a discussion of the school demographics, survey finding, and case study findings.

School demographics and history with IB & MYP. Coyote High School is a neighborhood Chicago Public School serving 9-12 students in Chicago, Illinois in the United

States. The school's student population is over 95% African American, with almost 90% Economically Disadvantaged, and over 10% Diverse Learners. Coyote was authorized to offer the International Baccalaureate Organization's Middle Years Programme (MYP) in 2002. The school has had an authorized Diploma Programme since 1999 and a Career Programme since 2015.

School survey findings. In January of 2018, we surveyed Coyote High School MYP teachers to understand how the learner profile (LP) is incorporated into classroom practice. There were 21 completed survey responses analyzed from Coyote. Most of these respondents had more than ten years of teaching experience but less than seven years teaching in an MYP. These teachers expressed a strong familiarity with the LP attributes (3.78 mean score on 1-5 scale), with *Open-Minded* being the most familiar (4.26) and *Knowledgeable* and *Communicators* the least familiar (3.76). When asked how confident they were incorporating the LP into their teaching, the mean score was lower (3.98) with teachers expressing the least confidence with *Risk-Takers* and *Balanced* (3.76) and the most confidence with *Knowledgeable* and *Thinkers* (4.14).

The responding teachers indicated that they incorporate the LP into classroom practice (3.81). The attribute *Knowledgeable* (3.94) was the most extensively incorporated, while *Reflective* (3.62) were the least. Humanities teachers (social studies, English, and art) indicated a more extensive incorporation (3.86) than teachers in the STEM fields (3.78). The teachers reflected that both their schools and they fairly integrated the LP attributes into the learning environment (3.30).

When asked about the usefulness of a variety of professional development and support materials for incorporating the LP into MYP classrooms, teachers indicated that "MYP

workshops and meetings organized by the school” was the most useful (3.33). Respondents reported that the “IAIB World School Events” and “IB Authorization & Reauthorization Process” were least useful.

Case study findings. A qualitative case study of Coyote was conducted from January 12, 2018 through February 6, 2018. Table 29 documents the data collection methods used and the number of participants involved. Documents collected from the site assisted in triangulating the data to understand better the incorporation of the LP at Coyote. These documents included MYP unit plans, the school website, and Coyote’s learner of the month materials.

Table 23

Coyote High School Qualitative Data Collection Methods and Participants

Data Collection	Number of Participants
Interview with Coordinator	1

Teacher understanding. Coyote has one of the largest and longest established IB programmes in CPS. The school houses the Diploma Programme and The Career-Related Programme as well. MYP. The MYP Coordinator identified the LP as “key” to keeping all of these programs aligned since it is the one common element among them. He identified the function of the LP as helping to develop students social emotional skills. He explained,

[The] IB suggests that they want the students to develop during their time in high school. So it's more of, not necessarily the academic side, but more of the, I guess, personal side. That's really not the word I'm looking for but, more of try to, the idea of getting a well rounded, holistic education of a student. So, um, more sort of social emotional attributes.

While identifying an LP attribute is not a standard part of the school's curriculum planning, the coordinator did explain that teachers find a variety of ways to connect the content of their units to attributes. He provided the following example,

[H]ere teachers can use one of the attributes to really focus their instruction. So if, like a particular text in an English class, for example, might lend itself to highlighting the idea of being open minded. Right? If we're teaching, which we do teach a lot of different, different novels from different cultures in our school to try to enhance that international mindedness. So, if we're talking about being open minded and we're reading a book like *A Thousand Splendid Suns* in an English class we're going to make sure that we highlight that open mindedness. How have you been able to develop your open mindedness through reading a book that's about Afghanistan?... And help focus student reflection on some learning they've done throughout a particular unit. That's another way.

Incorporation into practice. The coordinator relayed that incorporating the LP into instruction is a practice that teachers establish early in the school year. He works with his staff, a large number of whom have been at Coyote for 10 or more years with a number of others new to the profession, to develop lessons and activities around the LP attributes for the first week of school. He explained,

[E]very teacher in the building has to, well, not has to, but they, I guess they do have to address the Learner Profile attributes in the first week. So it's, like, setting those expectations and for norms and behaviors and rules in classes. So we know how important it is to set the routines and the policies and your first, week or two in class and so we have the students do a Learner Profile activity in each one of their classes. So they

actually get a little sick of it on the first week, because they're getting inundated with it in every class but that's how it starts.

From that point, teachers are expected to find ways to make connections between the LP and the subject area content as the year progresses. The coordinator noted that from his perspective the most common form this takes is through end-of-unit reflection activities that promote the *Reflective* attribute. Many teachers ask students to consider what they did well within the most recent unit, what they struggled with, and how they are developing as a learner over the course of the year.

Coyote also organizes a student of the month celebration aligned to the LP attributes. Similar to other CPS schools, the coordinator identifies an attribute per month of the school year. Each teacher then selects a student and that student is recognized on a sign outside each MYP teacher's classroom door.

Supports and resources. Through their school-specific survey, Coyote teachers indicated that "MYP workshops and meetings organized by the school" were the most useful professional development for learning about the LP. The coordinator is a member of the IB Educator Network and explained that he feels very comfortable leading professional learning about the IB for his teachers. He explained that he largely develops his own materials to lead what is a "mini-category one" workshop on the LP to start each year for his teachers. This is the time when teachers establish the LP related activities for the first week.

Summary. The findings from Coyote High School are limited. We have minimal data from teacher to assess teacher understanding of the LP. Like other cases, it seems that there is more consistency in the application of the LP attributes through the schools positive behavior support system than in instructional practice evidenced by the student of the month program.

There is some emphasis on the LP at yearly professional development sessions locally, which teachers identified as most useful to their learning about the LP.

Chapter 4: Discussion: Cross-Case Analysis

The data collected through Phases I and II of the research presented a wide range of findings about the ways that the learner profile (LP) is incorporated across Chicago Public Schools (CPS) Middle Years Programme (MYP). In the following section, we discuss these findings by research question. To analyze the data in this way, the data from Phase I and Phase II were coded using the questions themselves; this brought together quantitative survey data from all CPS MYPs and qualitative data from the focal case study schools. What emerges from the discussion are a variety of common perspectives on, problems with, and challenges to incorporating the LP into classrooms.

Teacher Understanding of the LP

Research Question 1. How do teachers describe the role of the learner profile within the MYP and as a part of MYP instructional practices? We first sought to characterize the ways that teachers understood the LP. We examined this from three different perspectives: what role teachers believe the LP plays within the MYP; the extent to which teachers find the LP is useful and easy to incorporate into lessons; and, the extent to which teachers believed they could influence students' development of LP attributes.

Staff from the case school widely viewed the LP as a core component of the MYP and the IB generally. As one teacher put it, "It's hard for me to separate the Learner Profile from the...IB curriculum." An administrator noted that from early on in the process of becoming an IB school, it was clear that the LP was a fundamental part of the MYP programme. She described how, early in the application phase to become an IB school, the staff learned about the role of the LP in the program.

We went onto the website and understood that, the Learner Profile was very fundamental to having the program at the school. And it gave us a really good foundation for what we wanted the students to demonstrate [as] a result of the program. So it was a really good guide [for] goals and objectives for the learner.

There was some variation on how the role of the LP was described, though. Some viewed the LP as a set of guidelines or central principles that should help direct the work of teachers and staff in implementing the MYP. One staff member explained,

I think for me, it kind of gives me like a guideline to hit certain things. To make sure that I'm intentional about making sure that students are embodying certain traits. Whereas if I didn't have it, I don't know if I would be as, I guess, intentional about like making sure that these students show these specific characteristics.

A teacher from a different school described the LP's role in the MYP as a guide for both teachers and students. She said, "It keeps us centered around a set of ideals and a set of, expectations, not only for the students, but for us to set as examples, to also model for the students."

Across schools, the purpose of the LP was often connected to helping students develop holistically. One coordinator explained, "I think the IB Learner Profile works to capture the whole student, to develop characteristics of the whole student to ensure that they will be successful lifelong learners...profile traits really focuses on specific areas to ensure student success." A teacher from a different school extended this to include "outside of the classroom a lot of the attributes are important in everyday life, when they're older."

Finally, one MYP teacher articulated the ongoing effort needed to maintain the LP as a central component of the MYP that is realized according to the IB's expectations. She explained,

I do feel like incorporating Learner Profiles is something that we've been working on for years and the analogy we always use is we want the Learner Profile to be like the cupcake instead of like just the frosting on top because in the past we've just had on our walls. We'll have like the Learner Profile traits, but that's like not enough for just ... They're there, but I think we do struggle like as a school to really incorporate them like with fidelity.

Research Question 2. To what extent (a) are teachers familiar with the learner profile and (b) do teachers find the learner profile easy to incorporate into their lessons?? Data from both the Phase I survey and the case studies were collected to explore how familiar teachers are with the LP and how easy teachers believe it is to incorporate the LP into their classroom practice. Per the survey results, teachers across CPS MYPs indicated a level of familiarity with the LP, both overall and for each attribute. The average of familiarity score from 120 respondents was 4.27 (from a scale of 1-5). Scale values were anchored from 1 “almost not at all familiar,” to 5 “extremely familiar,” with a mean score of 4.27 can be interpreted as “very familiar.” For each attribute, the mean of familiarity score ranged from 4.20 to 4.31.

While very familiar with the attributes, teachers portrayed less confidence in their ability to incorporate them into practice. The average confidence of 120 respondents was 3.86 (on a scale of 1-5 in which 1 “almost not at all confident,” to 5 “extremely confident”). This score can be characterized as teachers feel confident in their ability, but it does lag somewhat behind

familiarity. For each attribute, the means of confidence score ranged from 3.62 as the least confident to 3.99 as the most confident.

The Phase I survey then inquired about the extent to which teachers incorporate the LP into classroom practice. The responses from 120 respondents showed a mean of 3.74, a median of 3.82, a mode of 4.00, and a standard deviation of .85 for all instrument items. Scale values were anchored from 1 “not at all,” to 5 “a great extent,” with a mean score of 3.74 that can be interpreted as to moderate level of MYP LP incorporation. The mean integration scores for the individual attributes ranged from 3.66 to 3.88. *Knowledgeable* was the easiest attribute for teachers to be carried out in the lesson. The lowest score for integration was *Risk-Takers*, suggesting that this LP attribute was least likely to be integrated into the classroom.

During the case studies, teachers and coordinators relayed that some attributes were easier and more commonly incorporated than others. These generally included *Knowledgeable*, *Communicators*, and *Reflective*; there was also some variation along subject area lines. We will discuss in further detail below in responses to research questions about how teachers incorporate the LP into practice. Generally, though, teachers explained that they seek out opportunities that arise in the course of a lesson to incorporate the LP. As one described,

So for myself, I would say ... It takes place in, when there's a teachable moment, when one of those you kind of draw attention to, or I would say initially when starting a unit, I might say let's take into consideration and tell students, “You are going to need to be x, y or z in order to excel in this unit.”

In this way, “useful” or “easy” are not the best ways to describe LP incorporation into the classroom. Instead, teachers’ general approach might be better characterized as opportunity seeking while teaching.

Research Question 3. To what extent do teachers believe that they have the power to influence the development of learner profile attributes in their students? Staff at the case schools relayed that they believe they are able to influence students' development of LP attributes, but the issue is somewhat complex. One administrator connected LP attribute development to social-emotional learning, explaining, "We are very concerned with social emotional learning. So that's going to be a repeated theme of conversations we have with students, conversations I even have with students." The need to make attributes a routine and habitual part of practice was echoed across schools. One high school teacher described his MYP's efforts:

I feel like I'm noticing a difference in those areas that I spoke of ... Before (students) do something I feel like they're really starting to think about it. So I think that's reflective of a couple different practices we're doing in our school right now, but I think part of it has to do with our continued emphasis on that.

The perception of educators' ability to shape attribute development was also shaped by the age of the student. As one coordinator for an MYP located in an elementary school (entailing years 1-3) explained, "I think also with the Learner Profile, I think the way we try to see it here as a school, especially in elementary years, it really can be used to build a lot of character within the students." Conversely, many teachers of high-school-based MYPs noted the extent to which students already bring with them varying levels of attribute development. This was sometimes connected to students' age as well as growing up in an urban environment. One high school teacher explained, "I think that when dealing with teenagers, that demographic specifically, (the LP is) applicable in more than one place. I think to assume that just because our students live in a certain area that they need these things more, is maybe kind of an unfair assessment."

Teacher understanding summary. Our research reveals that MYP teachers, coordinators, and administrators see the LP as a central component of the programme, but they were somewhat varied in how they understood that role and how it should function. Teachers did convey that they are very familiar with the LP and each of the attributes. They also have confidence in their ability to incorporate the LP attributes and report doing so extensively. This incorporation can be characterized generally as seeking opportunities within regular classroom practice to integrate attributes. Teachers do believe they can influence students' development of attributes, but their ability to do so is perceived to be related to students' age and living environment.

Incorporation of the LP into Practice

After characterizing teachers' understandings of the LP, we examined how the LP is incorporated into practice and issues related to it. For this, we considered factors that facilitated as well as challenged incorporation. We explored if teachers believed some attributes were easier to incorporate than others as well as the extent to which they use the language of the profile. Finally, we looked at specific strategies used to make students aware of the LP and/or develop the attributes.

We originally proposed to answer Research Question 7, 7a, and 7b: *Are there certain LP attributes that are mentioned more than others, do the relative frequencies vary across student ages and academic subjects, and do the relative frequencies vary according to school authorization length or length of teacher IB experience?* We will not report on these questions here. We realized that through the project we were prompting teachers to discuss the attributes in a wide variety of ways. In some cases, such as the surveys, teachers had to respond to questions about each attribute. In other cases, teachers could mention attributes or be asked to

consider an attribute of interest to the research team member. This is to say, teachers' mention of each attribute were indistinguishable from our inquiries about them. Noting the frequency with which they appeared in the research would not provide much useful insight into how teachers considered the attributes outside of the research activities.

The following is Research Question 4:

Research Question 4. What are the factors that facilitate the incorporation and present challenges to the incorporation of the LP into their instruction? Through the case studies, we explored factors that facilitated or presented challenges to incorporating the LP into classroom practice. For this, we relied on interviews, focus groups, observations, and reviews of documentary data.

There was wide agreement among teachers from all schools that the MYP coordinator plays a key role in supporting teacher learning about and incorporation of the LP. One teacher said, "I mean, we have an IB coordinator who's wonderful at her job. I really, I can't speak highly of her enough and I feel like whenever she sees opportunity for feedback or suggestions, we receive it from her." In turn, coordinators noted that their own learning about the LP came through their own professional development experiences. One of the participating coordinators was a member of the IB educator network and felt that he had extensive exposure to the LP, while another had been coordinating both her school's PYP and MYP for several years felt similarly. The two coordinators who began in their positions within the past 2 years expressed appreciation for district-wide meetings for coordinators and a desire to learn more.

Teachers commonly cited the content of their subject area as lending itself to LP attribute incorporation. This varied by subject area. An Individuals and Societies teacher explained, "I feel like history really lends itself to it. I don't have a hard time fitting any of them in. I feel like

as we look at different people throughout history, it's really easy to be like, 'What profile is this person exhibiting? What profile is that person?'" In the same focus group interview, a Language and Literature teacher built on that response saying,

As well with literature. When we have characters, often times I'll ask students to identify Learning Profile traits of the characters, perhaps maybe where a character fell short in achieving that based on a choice that they made. I find that I'm able to really nicely integrate it into the content in a way that the students can kinda connect to in a meaningful way.

A math teacher in the same group built on that response explaining, "I think for mine, for teaching math, that's why I focus on those other areas [*Inquirers, Knowledgeable*] because I think that I have a harder time pulling some of those traits that you have an easier time."

In contrast, educators also found significant challenges in consistently connecting subject area content directly to attributes. Part of this stems from teachers, especially those less experienced with the IB, struggling to implement multiple components of the framework simultaneously. One administrator observed,

If I'm trying to teach English. I need to help kids be able to read and write and then make sure they're...college ready. And then, now they want me to do this thing with IB, there's this framework and I have to write my lessons in a particular way. And then, you know, my ... You know, how are we dealing with approaches to learning? Or you know, the Learner Profiles. So I think it ... It's overwhelming until you become more comfortable in your skin as a teacher.

The same administrator noted that teacher turnover compounds this problem. Schools, including his, which see significant numbers of teachers leave at the end of each year face a continuous

challenge to support LP incorporation. The administrator explained, “And so, when you're talking about creating a building culture of any sort...it doesn't have to be around Learner Profiles, you are reinventing the wheel every year. Because you're bringing in...a third of the staff.”

This capacity issue is important because teachers reported a number of common experiences learning about the LP. One is that they need support and further opportunities to learn about the LP and each of the attributes. One teacher stated, “thinker, inquirer, and knowledgeable.” They seem so, or too closely aligned to really differentiate for our students so that they see the difference. And that's where like, explicitly teaching and knowing really good examples that model each one would be extremely helpful.”

In some case schools, the MYP planning documents were adapted to include explicit incorporation of LP attributes. This ranged from a year-long scope and sequence documents to revised MYP planners with a place for a focal LP attribute. Coordinators also called for greater integration of the LP into MYP planning materials created by the IB. One coordinator said,

So, if IB would just add these requirements...if they would put Learner Profile in the unit planner, and if they would put Learner Profile in the subject guide overview and make them connected to the global context and key concepts...I would think that would come alive more.

A math teacher echoed this request, specifically in terms of connecting the LP to the ATLs. He said, “And so we talked about designing lessons that focus on the different attributes and then incorporating that connection between the ATLs and which attribute would be applicable.” An administrator characterized this challenge as needing to distinguish clearly the attributes from one another as well as from other student development frameworks. He told us,

That it's almost like these [attributes] aren't distinct. They're not academic skills, but sometimes I think, when I hear teachers talk about it, it's almost like I have to think about it like I'm incorporating a grammar skill into my lesson. Um, you know, questioning or- or whatever it is in um, to my lesson?

The coordinator in the same school expressed a need to delve into the LP to develop clear, detailed examples of each attribute to better support teachers. He explained,

I would like to see us do a better job...really getting specific to the descriptors of each individual profile, um, instead of just, you know, picking something up off the ground and being like, "Hey, that was an example of being caring,"... And I think that we have work to do to dive deeper into each of the profiles to, to really make use of them and to really develop our students.

This call for more examples and more clarity regarding the attributes was echoed widely, particularly for *Principled*, *Risk-Taker*, and *Balanced*. One high school coordinator noted that it is substantially helpful when students enter MYP year 4 with previous MYP and/or PYP experience. He explained,

I was in [the] IB Coordinators meeting yesterday and some of the coordinators were saying, "It's wonderful when you have students coming from a feeder school to high school from PYP into MYP, because they know the language." They know what the framework [is].

It is important to note that in CPS, students have a wide variety of high school options, and IB being one. While a number of high schools with MYPs have partner elementary MYPs, it is very likely that the high school programs have substantial numbers of incoming freshmen with no previous IB education.

The same coordinator also considered students' out-of-school experiences as a possible strength and possible challenge to attribute development. He said of students understanding of the LP, "I think it's in, really, those core values that students, come in or do not come in with." A teacher in a focus group raised a similar point saying,

Do [students] go home and do anything about [the LP]? That is a fascinating question that I think I would lean more towards no. But it's also, honestly, being an inner-city teacher, sure we're teaching content. But we're just trying to get them to, have skills to survive...And so I think a lot of those are Learner Profiles as well, but ... So I think there's a deep conversation there about who's at this school and those Learner Profile [attributes] might not be as effective as if you put them in at some separate school.

Research Question 4a. Are there certain LP attributes that are easier than others to incorporate into lessons? To assess whether educators believe some attributes are easier to incorporate than others, we matched Phase I survey data with Phase II case study data. As noted above, there was variation in the teacher reported incorporation of LP attributes. Scale values were anchored from 1 "not at all," to 5 "a great extent." The survey results returned *Knowledgeable* (3.88), *Communicators* (3.86), and *Thinkers* (3.77) as the three most incorporated. The three least incorporated were *Risk-Takers* (3.66), *Balanced* (3.68), and *Reflection* (3.68), though the point differences are minor.

Interestingly, the survey results were not well aligned with what teachers reported during the case studies. Multiple teachers identified *Caring* as a simple attribute to incorporate because it is natural for many students. One teacher noted, "Because obviously caring is the one that the kids most easily identify with, because it's the simplest." Another explained,

I think it's easier to demonstrate being caring in whatever capacity you can. So, even if I see a student opening a door or translating for a peer, that would qualify. It may not match the definition under the IB trait, but that would allow me to, to praise that student and give that student an extra point.

Other teachers reported,

Teacher A: They communicate. I mean, they communicate on social media, you know, and they like to talk. And so I feel like those are the ones that easily, without too much you know, push from us.

Teacher B: The Learner Profiles that I've heard come up most often are risk-taker, reflective, and open-minded, I think are some of the key... Communicator would be in there, as well; but I think that those are kind of the most

The wide variety of explanations given and their misalignment with the survey data suggest that educators have many diverging ideas about what each attribute is and how the LP functions. To understand this variation better, we disaggregated Phase I survey results about incorporation by grade ranges taught: MYP years 1-3 (Grades 6-8) and MYP years 4-5 (Grades 9-10). We did this under the hypothesis that middle grades and high school may view the LP differently. Grades 6-8 teachers' highest incorporation score was in *Communicators* followed by *Caring*, while for Grades 9-10 teachers the highest incorporation score was in *Knowledgeable*, followed by *Communicators*. *Communicators* is the high point for both groups while *Knowledgeable* and *Open-Minded* set slightly to the opposite direction for both groups. In general, regardless the grade span, the two highest combined mean of LP incorporation were *Knowledgeable* and *Communicators*. Meanwhile the three lowest combined mean of LP

incorporation were *Risk-Takers*, *Balanced* and *Reflective*, though, again, the point differences were small between the highest and lowest scoring attributes.

We also disaggregated incorporation scores by subject area again hypothesizing that there may be a meaningful difference in how teachers of different subjects may view the LP. The results show that the incorporation mean score for Individuals and Societies teachers was the highest followed by Language Acquisition, and then Physical and Health Education. Meanwhile teachers from Design had the lowest score. As shown by the standard deviation values, there is a greater spread of incorporation scores among Design and Art teachers. There are some patterns in the data for teachers from Individual and Society, Language Acquisition and Physical and Health Education that had relatively high mean scores, low standard deviation, and medium minimum scores. Meanwhile, Design, Art, and Science teachers had relatively low mean scores, high standard deviation, and low minimum scores.

Finally, we disaggregated the incorporation scores according to length of time a program had been authorized, as well as individual teachers' years of experience teaching in the MYP. It seems that the more years of authorization, the higher the incorporation scores; however, teachers who were in schools with 1-2 years of authorization reported less variability in their incorporation as evidenced by the standard deviation and their min and max scores. Experienced teachers, on average, report higher levels of incorporating the LP than their less experienced counterparts. An exception is for teachers with 7-9 years of experience, who had less incorporation mean scores than teachers with less years of experience. Additionally, the standard deviation of this group indicated greater variability in the level of incorporation.

In sum, the survey data show that there are potential effects on LP incorporation from grade range taught, subject area taught, years of an MYP has been authorized, and teacher's

years of experience in the MYP. More focused research is necessary to test these possibilities and parse the actual influence of any significant effects. The following is Research Questions 5 and 6:

Research Questions 5 & 6. To what extent do teachers explicitly use the language of the learner profile in their planning, and in collaboration with colleagues, and to what extent do teachers explicitly use the language of the learner profile with students? We also sought to understand the extent to which teachers explicitly used the language of the LP in different situations: with colleagues, in planning, and with students. We expected that greater use of the LP's terminology would be related to greater incorporation of the LP into practice. In terms of using the language of the LP with colleagues, teachers drew connections and distinctions with professional languages with which they were already familiar. One teacher characterized it in this way,

I think, too, that most of us have taught for so long and have learned our verbiages, the things we talk about, how we talk about them. Not that it's repetitive, but when you throw the IB Learner Profile in it, now you're speaking a different language that you've have to had almost learn a second language in and incorporate it into your lesson plan, or in your day to day lessons when you don't really think about it.

Some teachers did find connections that helped them integrate the LP into an existing framework in education. One said, "It's kind of like an SEL Skill. It just has time specific categories."

Another found connections with the program he taught, Junior Reserve Officer Training Corps (ROTC). He explained,

[T]he IB Learner Profile coincides terminology-wise a lot with the verbiage that we use in Junior ROTC. So a lot of the words cross over, so as far as using the Learner Profile

words verbatim, it's probably like a hit or miss kind of thing, but we use the Junior ROTC version of the same words that have the same definitions because it's about leadership and learning and teamwork and all these things, which a lot of the Learner Profile things are about.

As noted above, some of the case schools have adapted planning materials to require the inclusion of the LP or specific attributes. Coordinators and teachers reported that this supports LP incorporation, but they also called for more direct integration of the LP into the planning and support materials provided by the IB. One coordinator emphasized that building in these elements would help teachers see that the LP is “part of the fabric of the framework of IB, and it supports all of the other elements.” Another coordinator explained that as programs develop over time, they “tend to lean more towards the curriculum and I think you lose some of that Learner Profile and some of the things that I feel like the philosophy and...to me, the best part of IB, you tend to lose it because you're more focused on the task at hand.”

When observing in case schools, we found very little explicit use of LP attributes in classrooms with students. Each observation consisted of one class period, so these data should not be considered as broadly representative of the overall incorporation of the LP by any individual teacher or school. In each school, there were many LP and LP attribute posters in classrooms, hallways and even on the exterior of the school building. In this way, the LP was present and visible across schools and most classrooms. This fit into a generally passive approach to promoting the LP, which one coordinator described as the following:

[Putting] posters and stuff around the building and things of that nature. Every classroom has to have them so they're in every classroom you walk into here. So I mean, there is some organic ways that the students can tap into, into those attributes.

A teacher framed the use of language differently and aligned with the approach described above as seeking opportunities to highlight attributes in the natural course of instruction. He explained,

Ideally I think it's something that's like incorporated into your curriculum and that is used, and is present...I kind of use the example, in my classroom I'll kind of be like, "thank you for being a risk-taker." Or, "you did a great job communicating." Or, "way to reflect." And I'll use words like that and I don't even say "the Learner Profile."

Research Question 8. What are the specific strategies that teachers use to make students aware of the learner profile (using its terminology) and to develop learner profile attributes? While we did not observe any lessons directly and explicitly teaching about or developing students' attributes, educators from across case sites did describe a number of strategies they employ for these purposes. One administrator framed an overall goal for incorporating the LP directly into instruction, but he was clear that this was a goal still ahead for his program, not something yet realized. He told us,

When I walk around, I'm like, "Oh, I really like these learner attributes, and I'm wondering if the students really understand them." So that's for us to talk about and try to figure out. Is this something the child could describe with accuracy and try to internalize or want to internalize the attributes?

A common strategy across three of the schools is some form of "student of the month" recognition aligned to the attributes. One school held an end-of-year event last spring to recognize publicly students who demonstrated particular attributes. One coordinator described the reasoning behind these individual student recognitions. She explained,

We decided to make [student-of-the-month] universal throughout the entire school and really expose all students to these attributes because, although they are part of the IB

program and the MYP.... So, what we decided to do is we originally have “Student of the Month,” which it was just kind of choosing a student that was good for behavior and academics but...the focus we put on each the Learner Profile attributes every month.

Another common strategy heard across MYPs was the use of reflection activities or prompts at the end of units. These take a variety of forms and serve a variety of specific purposes, but teachers connected these activities to the *Reflective* attribute. One shared with us, “In physics, we do like a unit reflection at the end of each unit where we also ask them how they were...And it's kind of like giving their own opinion.” Another described her approach as follows,

I do the same thing at the end of every unit. I have like a standard like unit reflection sheet. And I have them talk about like what were three attributes that you felt like you really worked on and became through our content, through our, our objectives this year that gets reflected and three that you want to work on.... And then I use that data to inform what I'm going to touch on for the next unit as far as how I'll incorporate those into the content for that.

One school described an online system for teachers to track student demonstrations of LP attributes. The coordinator described it as follows:

We have an online system where we track behavior and Learner Profile traits and we give the students in their accounts these pluses and minuses for each attribute if they're displaying it, and then at the end of the month, now we're looking at that.

When discussing the strategies they used, many teacher focused on the raising student awareness of the LP, the attributes, and when they are demonstrating specific attributes. A teacher in a middle grades MYP described their approach as follows:

[We] have [students] circle the trait so they recognize what they were portraying at that moment or what they were demonstrating... Each classroom would have a little profile box where they would get to stick the card in and then, by the end of the month, we ... look through the box and whoever had the most cards, you know, we would choose a [student of the month].

Another school leads off each month with a short lesson segment introducing one attribute by using some form of media accompanied by a class discussion. The coordinator referred to the online collection of media, generated by the teachers and coordinator, as a “palette” to provide each teacher with several options to use. She described the practice as follows:

So, once a month, I'll give an announcement, I will send an email that Friday. I'm like, “Hey, by the way, I have this up and ready. Take a look. Maybe you want to show a video or show a quote. You are welcome to add onto it.” So, teachers added on...I showed them a video on caring. That hits home more if you just show a really quick video and you just talk about the word “caring.”

Some teachers raised problems with approaches that occasionally or periodically highlight an attribute. One teacher explained

I know at the beginning of the year is when I like explicitly taught on it and we went through the Learner Profile Attributes, the Global Contexts and stuff. But I feel like I have a hard time and struggle with how do I embed that into like my everyday lessons, and I would love to have the kids making those connections, like you said. Like, “Oh, this person's showing this and that.”

Incorporation of the LP into practice summary. Across the district and the case schools, we found wide variation in the ways the LP is incorporated into teaching practice. Educators identified facilitators and barriers to incorporating the LP. Notably, a strong MYP coordinator was noted as a key support, while the content of each subject area could provide both opportunities and challenges to incorporation. There were other issues external to individual schools that presented difficulties such as teacher turnover and limited student experience with the IB prior to high school (MYP year 4). Attributes were easier or more likely to be incorporated in some distinct differences. There are several potential factors influencing this, including teachers' experience in the MYP as well as grade range taught. We found little evidence of explicit LP language use, but teachers and coordinators described several common strategies, such as "student of the month," that do try to promote awareness of the profile among students. Taken as a whole, we find the MYPs across CPS takes divergent approaches to incorporating the LP based on difference in understanding of the LP and its purposes as well as key organizational facets related to MYP implementation.

Supports and Resources for Incorporating the Learner Profile

Finally, we sought to understand which supports and resources teachers found most beneficial to the work of incorporating the LP into classroom practice. In this area of the research, we distinguished between materials developed or professional developed offered by the IB with those material and professional learning experiences originating elsewhere. In the large majority of cases, the source of materials and experiences outside the IB was internal to a given MYP, whether through the coordinator or colleagues.

Research Question 9. Which professional development and IB-authored materials do teachers find most useful for integrating the learner profile into their teaching? Using data from

the CPS-wide Phase I survey, we multiplied teachers' responses about how frequently they access a given type of professional development (PD) or professional materials with how useful they found each. Both were scored by teachers on scales 1 through 5. These composite scores of frequency and usefulness resulted in "IB authored guides and materials," "School MYP workshops and meetings," and "Ongoing coaching from fellow teachers" to be the three highest rated supports for LP incorporation (The full report on scores can be found in Table 20 above.).

These responses fit well with what educators in case study sites relayed. One teacher stressed that she felt that the LP should "really (be) a part of our school culture...that would definitely, I think, improve the experience for our students overall." This teacher suggested reaching this goal through greater interdisciplinary collaboration. This emphasis developing school-wide approaches to LP incorporation locally was raised at each school site. One teacher noted that "probably the best resource is just us [teachers] having conversations." At another school, a teacher explained, "I think our colleagues are one of the best resources...seeing how other people incorporate Learner Profile, which I feel like that's something we could do more of." As mentioned above, teachers widely noted the central role the MYP coordinator does and should play in this work. One teacher felt that the "the main way [of learning about the LP] is through our coordinator...we do meet as like an IB team every week through training and information from our IB coordinator."

While the IB authored guidebooks were noted as useful, one consistent call across programs was for more detailed examples of attributes being incorporated into the practice. One teacher called for "access to any schools or videos of teachers who are effectively doing it. Because I've never seen it like actually in action." Another teacher echoed this request by focusing on peer observations and the use of videos. She said,

[T]he best learning I have ever done and this helped my practice is by watching other teachers, like Art teachers specifically because I'm an Art teacher. If there's a video that they want to present or they want to send us to visit where they're saying this teacher is incorporating 'x' into her practice and this is how, and, so watch it

The lowest scoring supports from our composite frequency and usefulness scores were “IAIB World School Events,” “IB MYP Annual Conferences,” and “CPS MYP Workshops and Meetings.” The first two of these were not mentioned in any case study likely because few teachers are provided financial support to attend these events by their schools. It may also be due to time constraints or that teachers are unaware of these events. The last item was only mentioned by coordinators, who are the only ones invited to district-wide sessions. The coordinators did respond that these were useful events, especially when they could network and converse with their peers.

Across the PD experiences and materials touched on through our research, we find a clear preference for school-based and, for MYP coordinators, district-based resources to support LP incorporation. While teachers find these useful and frequently access them, it should also be noted that few teachers have direct experience with PDs offered beyond Chicago. The IB guides are valued, though there were many requests for further detailed examples of how the attributes can be incorporated into classroom practice.

Chapter 5: Recommendations and Suggestions for Further Study

Based on our findings and analysis, we present several recommendations for the IB to consider. Several suggestions concern the materials and professional development offered by the IB to support Middle Years Programmes (MYP). We highlight issues for consideration as existing offerings are revised or new ones developed. We also put forward potential topics and questions for further research concerning the learner profile (LP) and the implementation of the MYP.

Explaining, Situating, and Articulating the Learner Profile

The literature review revealed three recurring themes aligned with our recommendations. These include a need for additional guidelines, additional training, and additional supports for teachers' sense-making related to the LP attributes and international mindedness. First, there is a need to update and further develop LP support materials to include attribute development into lessons regularly, recognizing where it already happens and where it can be integrated or enhanced. We suggest making this available at the LP in Action website (https://ibpublishing.ibo.org/server2/rest/app/tsm.xql?doc=g_0_iboxx_tsm_1308_2_e&part=1&chapter=1), as well as other curriculum and professional development materials.

Second, we recommend revising materials to support thoughtful implementation of the LP, as did Hacking et al. (2017). This would include designing subject guides, unit planners, and authorization protocols in such a way that they are educative in building coordinator and teacher knowledge about the LP attributes and the role of the LP in the MYP. Davis and Krajcik (2005) emphasized that educative curriculum materials support teacher learning at the same time as they map K-12 learning. However, educative curriculum is essential, it is not sufficient:

In a best-case scenario—with curriculum materials accompanied by other continuing professional development—incorporating educative elements into the materials should increase the learning outcomes over and above improvements resulting from the professional development alone (Davis & Krajcik, 2005, p. 4).

Finally, there needs to be guidance from the IB on the connections and distinctions between the LP and other widely used frameworks and constructs. We suggest that the IB consider assisting teachers understand how the LP is connected to, but different from social and emotional learning efforts, as well as positive behavior support systems. This too would be considered an educative effort that would include materials to demonstrate these similarities and differences, but also would need to be included in professional development offerings where the LP is addressed.

Viewing Attribute Assets and Development in Students

To some extent, each of the case schools approaches to the LP has a bent towards a social emotional or positive behavior support lens. In part, this can be seen as a way that local context plays a role in how IB, and the LP, is interpreted and implemented in schools (Quaynor, 2015). At the same time, there are educators in each school thinking of the LP more in line with the IB's philosophy. Indeed, there are some connections between these approaches, but there are some clear differences as well. We have already made the recommendation that the IB address this in an explicit manner through professional materials and development. Our recommendation to provide more curricular guidance on how to create opportunities and activities that allow students to develop the LP attributes stems in part from this finding. We encourage the IB to offer guidance on how IB schools can foster development of LP attributes in students that build

on their intellectual capabilities and cultural assets within their local context and that connect to a global context.

Within the guidance for incorporating the LP, we recommend that the IB be even more deliberate in its message that the LP is a framework intended to develop international mindedness. We found that to be a clear outcome in our review of the literature and review of some IB materials, but that was not a key finding in our research with schools. In other words, that outcome is not making its way to the classroom. We encourage the IB to support schools and teachers in making the goal of international mindedness through the development of the LP attributes an intentional practice.

Resourcing the LP

This study, along with others (Ateskan et al., 2016; Chatlos, 2015; Hacking et. al, 2017; Jones, 2014) finds a need for additional support and resources for IB MYP teachers to understand better the LP, its individual attributes, and how it works toward international mindedness. One of the principles that the IB emphasizes is local autonomy. This is a critically important element of IB's success. It has allowed an international curriculum framework to adapt to a range of local contexts. However, as a result this also creates a situation where local autonomy rests on local resources for implementation. In our research, we found that teachers articulated a preference for local professional development and resources. They often identified coordinator, teacher, and school-based LP resources as more effective. This raises a question about whether local resources are adequate to support the implementation of the LP or other aspects of the IB. If the coordinator is the key to supporting teachers, as our study seems to indicate, then how can IB work with districts and/or schools to better resource them to support

LP implementation? We would encourage IB to consider ways that it can provide professional development and resources specifically for coordinators in their pivotal roles within IB schools.

Issues for Further Research

First, we understand our project as filling a need for foundational, descriptive research about the LP generally and its incorporation in MYPs specifically. Further, we provide an examination of the LP as used in the case of a large urban public school district that is annually expanding its IB offerings. We hope that future researchers will take up our same goal to test our finding and confirm, refute, and/or nuance our findings by replicating our approach as well as expanding it to other IB sites. We look forward to a rich conversation on LP- and MYP-focused research.

Our literature review raised an issue that was only barely mentioned by participants in our research: the relationship between the LP and international mindedness. We believe that more scholarship on how these two core program elements relate, both in theory and in teaching practice, would be of great benefit to IB programmes and the organization.

Next, we believe that a follow up study on our construct validity survey for the LP attributes would be very useful to IB programmes. Our initial survey, designed to assist in drafting the Phase I survey, created a list of descriptions of student activities relating to each attribute. Based on the repeated calls we heard from teachers and coordinators for specific, detailed examples of the LP in practice, we believe an expanded, validated list of such constructs could be employed widely to provide concrete examples of the attributes in practice. This might be expanded to describe activities in each subject area as well.

More generally, we believe that research focused on created validated examples of the LP in practice can contribute to the creation of other tools and resources useful to the IB. For

instance, a more robust review of LP incorporation in MYPs globally should inform the tools used by authorization teams as well as by coordinators conducting self-studies. It might also inform future revisions of the LP and the guides, planners, and other materials into which it should be incorporated.

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