

# Learner Profile Attributes in IB Teaching: Insights from a Continuum School in Turkey

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## Abstract

This article presents findings from a case study of a K-12 school in Turkey where teachers shared perceptions of how the International Baccalaureate Learner Profile attributes related to their own practice. While discussing the interdependency of the attributes, teachers considered that being an *inquirer* is the most valuable attribute for effective International Baccalaureate teachers. Participants at all grade levels believed that being *open-minded* and *reflective* were important attributes. Despite the importance of *inquiry*, participants shared that they feel most capable of implementing the attribute of being *knowledgeable*. The conceptual framework developed for this study may be used by schools and teacher educators to develop attributes of teachers who can help students become global citizens with intercultural understandings.

## Keywords

International Baccalaureate, Learner Profile attributes, international education, inquirer, caring

## Introduction

The International Baccalaureate (IB) was established in 1968 with the purpose of creating a better world through education (IB, 2017). The IB has aimed to improve students, both cognitively and emotionally, using ‘progressive pedagogical approaches’ focusing on students’ development as a whole person (Wright and Lee, 2014: 201). The IB offers four programmes: the Primary Years Programmes (PYP) for students aged 3-12; the Middle Years Programme (MYP) for students aged 11-16; and the Diploma Programme (DP) and Career-related Programme (CP), both for students aged 16-19 (IB, 2017). All four programmes share the same mission: To develop inquiring,

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**Table 1.** Descriptions of the ten IB LP attributes (IB, 2013).

IB LP attributes	Descriptions
Inquirers	We develop our natural 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 analyse 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 experience.
Caring	We show empathy, compassion and respect. We have 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 challenge and change.
Balanced	We understand the importance of balancing different aspects of our lives – intellectual, physical, and emotional – to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.
Reflective	We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

knowledgeable, and caring young people who help to create a better and more peaceful world through intercultural understanding and respect (Resnik, 2012).

To help achieve this mission the IB developed the IB Learner Profile (LP) that details ten attributes of a global citizen with intercultural understanding (van Oord, 2008). The LP attributes are found in Table 1. The current study began with the question of how do these attributes relate to educators who are teaching any of the IB programmes? To answer the question, the study involved surveying teachers within an IB continuum school: a school that was offering the PYP, MYP and DP consecutively; perspectives of IB teachers from grades K-12 were included. Before describing the investigation process, an overview of the LP attributes is provided below, which leads to the conclusion that the LP attributes should apply to teachers as well as to students. The researchers developed a conceptual framework for the study, which is described below, after which the methods section provides information about the instruments used to collect quantitative and qualitative data. After the data analysis section, the paper concludes by revisiting the question of how the LP attributes relate to effective IB teaching.

## **Overview of the IB Learner Profile Attributes: Implementation and Challenges**

As noted above, the LP attributes were developed to support the achievement of the IB's mission. These attributes are not only related to knowledge and skills but also include attitudes and values that can be placed in affective domains (Saxton and Hill, 2014). The descriptors of the LP attributes have been closely associated with international mindedness, global engagement and recognition of common humanity and shared guardianship of the planet (IB, 2017; Singh and Qi, 2013). The LP attributes combine pragmatic and ethical values that address the aim of developing internationally-minded global citizens (Wells, 2011). These attributes are intended to be developed during and beyond the IB learning experience.

Regarding the integration and practice of LP attributes, the IB leaves to schools and institutions the decisions as to how to put the concepts into practice (Bunnell, 2011; Hill, 2015; Wells, 2011). Given the potential variation in how the LP attributes are emphasized and implemented in schools around the world, some researchers have investigated whether different institutions have different perspectives on these attributes. Poole (2017) cautions that varying perceptions of the LP attributes may influence how they are interpreted and implemented. In an exploratory qualitative study across three contexts, namely India, Hong Kong and Australia, Rizvi et al (2014) found that while most teachers and students were supportive of the concept of the LP attributes, there was a wide range of opinions about their purposes. Some teachers reported viewing the ten LP attributes as academic and moral attributes, whereas other teachers considered the LP attributes as the link to international-mindedness. Regarding the varying views of students, Rizvi et al learned that students who entered IB for the first time at DP level (and were therefore new to the IB) were unfamiliar with the role of the LP attributes in their learning. However, younger students (in PYP and MYP) spoke about the LP attributes with confidence. The researchers concluded that differences in perceptions of the LP attributes are more marked within the different levels of a continuum school than they are across different countries and cultures. Billig et al (2014) investigated the understandings of administrators, educators and students about the LP attributes in five different schools within the United States (three comprehensive public high schools, one international studies public school, one parochial high school). Findings from their study indicated that implementation of the LP attributes is often restricted to the mission statement of schools and may have limited application in other aspects of the school. Billig et al found that DP teachers may not focus on the LP attributes because they are anxious about examination results and their students' academic and future careers. However, specific instructional techniques or activities assigned to students played an important role in the successful implementation of the LP attributes.

One reason for varying understandings and applications of the LP attributes may be that they are defined at a very high level of generality (Rizvi et al, 2014). Schools are encouraged to interpret and translate the meaning and significance of the LP attributes in their own national and cultural contexts. Referring to the role of the teacher and LP attributes, it follows that teachers' cultural perspectives and understandings play a role in how the attributes manifest themselves in classroom settings. Teachers' sociocultural and political features also shape the ways in which they interpret and implement the LP attributes (Poole, 2017). Moreover, their individual beliefs about teaching as well as prior learning and life experiences play a significant role in shaping the way they interpret and implement the profile. Teachers therefore have control over the way they interpret and implement the LP attributes. This control challenges teachers to be aware of their local context and interpret the requirements of the LP attributes in the context of a respectful understanding of the cultures of their students and community (Rizvi et al, 2014). At the heart of this challenge is ensuring that teachers appreciate the complexities of cultural translation in relation to the LP attributes.

## Relevance of Learning Profile Attributes for IB Teachers and Teaching IB Programmes

Understanding the LP attributes is critical for all school stakeholders in the International Baccalaureate community (Hill, 2012; IB, 2013). In earlier versions of the LP attributes, the IB used the pronoun ‘they’ in their descriptions; it can be assumed the ‘they’ were students. The most recent version uses the pronoun ‘we’ (IB, 2013). This pronoun change implies the importance of developing the LP attributes in all stakeholders. The current study interpreted this pronoun change as a call to investigate how the attributes apply to IB teachers.

One study that highlights the importance of the LP attributes for teaching was conducted by Poole (2020). In his study with a DP Art teacher at an international school located in Shanghai, China, Poole noted that the teacher frequently referenced the LP attributes when discussing her educational career. In this research context, the participating IB teacher reported shaping the Learner Profile according to her beliefs about teaching and learning underlying the potential impact of patriarchal and westernising discourses. This finding indicated that teachers’ beliefs about the subject they teach and the sociocultural and political contexts in which they are located may have an impact on their interpretation and implementation of the Learner Profile.

Although only a few studies exist that relate the specific LP attributes to teaching practice, many studies have examined the role of teachers in student learning in general (Demmon-Berger, 1986; Leithwood and Jantzi, 1990). Strong, Gargani and Hacifazlioglu (2011) conducted a study to determine how teachers’ practices affect student learning. They found that effective teachers had strong classroom management, better relationships with students, more assessment of student understanding, and more highly rated instructional delivery. Their study revealed many features of effective teachers including pedagogical skills, classroom management skills, metacognitive skills, instructional skills and social skills. Rutledge, Harris and Ingle (2010) referred to teacher effective characteristics and behaviours as strong teaching skills and subject area knowledge, communication skills and some personal qualities including enthusiasm, caring, and interpersonal skills. Some of these descriptors may be synonymous with Learner Profile attributes, but further meta-analysis of the literature is needed before this can be concluded.

Further insight into the relevance of LP attributes to teaching practice may come from the teaching dispositions literature. In some studies, dispositions embrace certain personalities, principles, points of view or values (Jung and Rhodes, 2008). Rike and Sharp (2008: 151) discovered that effective teachers should have such character-related dispositions as ‘fairness, being democratic, empathy, enthusiasm, thoughtfulness, and respectfulness’. While one may argue there are similarities between Learner Profile attributes and teaching dispositions, the terms were not used interchangeably in the literature.

Given that research into Learner Profile attributes relevant to effective teaching of the IB programmes is limited, the current study needed a conceptual framework to guide its investigation. To develop the framework, the researchers combined Bullock’s (2011) classification of Learner Profile attributes based on theoretical understandings and models with Stronge’s (2007, 2012) dimensions of effective teaching.

### Theoretical Understandings of the Learner Profile Attributes

Bullock (2011) drew connections between educational theories and LP attributes, grouping LP attributes into four dimensions: intellectual, personal, emotional, and social growth. These dimensions were in turn associated with the following four aspects of learning: Cognitive, Conative, Affective, and Culture respectively. She then related each of these aspects to an educational learning theory.

For the cognitive aspect, the fundamental theory is constructivism in which learners actively participate in their own learning process. Bullock starts her review by referring to behaviourist theory and how it was challenged by constructivism. There are references to several motivation theories and the importance of conation in Bullock's framework. The conative aspect of the framework implies that drive is a form of motivation and that effective learning occurs when a learner's drive and endeavour come together. For this reason, setting goals, getting feedback and personal reflection are regarded as key factors in the learning process. Bullock gleaned from the review that motivation to learn is formed through both social interaction with teachers and one's own emotional competences such as self-efficacy and resilience.

The affective aspect consists of the learner's personal emotions, habits and beliefs supporting the learning process. Bullock reviewed the importance of emotional skills including self-awareness, managing, and recognizing one's own emotions and resilience. At the end of the review, she matched the caring, risk-takers and balanced Learner Profile attributes with these emotional competencies. Finally, the cultural aspects emphasise the importance of school culture to effective learning. According to Bullock, 'the customary social and learning interactions, which are frequently set by unwritten rules, give a school its character as nurturing, academic, inclusive and so on' (2011: 15). An effective school offers a culture of communication, openness to change, and high expectations from learners that are closely associated with communicators and open-mindedness as LP attributes.

## Dimensions of Effective Teaching

Stronge's (2007, 2012) four dimensions aimed to measure teacher effectiveness depending on students' success. Besides instructional and management processes, affective, social, and emotional behaviours are keys to effectiveness of teachers. With this perspective, Stronge described the features of effective teachers by reviewing related research and empirical studies. In 2007, Stronge created a framework for the qualities of an effective teacher, which included the following prerequisite domains for being *Teacher as a Person*: managing the classroom environment; organising for instruction; implementing instructions; and monitoring student progress and potential.

### *Teacher as a Person*

The current study takes the *Teacher as a Person* domain for its conceptual framework. The domain includes how teachers make students feel inside and outside the classroom (Stronge, Tucker, and Hindman, 2004). Accordingly, the indicators of effective teachers as a person are that they are: 1) caring, 2) demonstrating fairness and showing respect, 3) engaging in social interactions with students, 4) promoting enthusiasm and motivating learning, 5) developing positive attitudes toward teaching process and 6) reflecting on practices. Each of these indicators are discussed further below.

Stronge, Tucker, and Hindman (2004) described caring teachers as patient, trustworthy, honest, and courageous people. These teachers listen to their students effectively, providing understanding, kindness, and encouragement. Other studies examined the impact of caring teachers on students' academic, social, and emotional impact. In one of the studies conducted in inner city schools, findings revealed that improvements in teachers' caring and fairness level contributed to the improvements in students' caring and honesty level as well as their academic success in maths and reading (Opuni, 2012). Additionally, in his review, Knobloch (2003) learned that there is a close relationship between caring teachers and a positive change in students' lives; he pointed out that teachers' motivation and passion for their subject area contribute to their students' interest in learning.

Another indicator of an effective teacher as a person is fairness and respect (Stronge, 2007; Stronge et al, 2004). The authors associated these indicators with rapport between teachers and

students, and credibility of teachers through their consistent behaviours. Several studies have explored the importance of being a fair and respectful teacher. In one study, Chory (2007) emphasised that the perception of students about the fairness of a teacher has an impact on classroom atmosphere that is significant for interpersonal communication between students and teachers. This may directly affect students' learning, motivation, and behavioural tendencies.

According to Stronge (2007), having constructive social interactions with students increases their self-esteem and sense of belonging; they feel themselves as a part of classroom culture, and this affects their academic, social, and emotional improvement. Moreover, an effective *Teacher as a Person* encapsulates more emotional skills. Teachers' enthusiasm for teaching, learning and their subject area influences their social interaction with the students and students' beliefs about academic achievement (Stronge et al, 2004). The authors arrived at this conclusion after examining many studies on the correlation between high-level motivation in teachers and high-level achievement in students. In 2000, Patrick et al conducted a study regarding whether teacher enthusiasm influences student motivation and interest, with the strongest predictor among a number of teacher behaviours for students' intrinsic motivation being teacher enthusiasm. The other behaviours included autonomy, supportiveness, competence feedback, promoting relevance, caring for students, promoting relatedness, method variation, knowledge of subject, preparedness, clarity of presentation, experiential learning, and promoting student involvement and comfort. Teachers' enthusiasm is one of the factors that affect teachers' ideas about teaching and learning. Stronge explains that this indicator refers to dedication, collaboration, leadership, professional development, and reflecting upon instruction (2007).

## The Conceptual Framework

The views of Bullock and Stronge have implications for better understanding how LP attributes are supported by teacher dispositions and teaching practises. One outcome of the current study is a framework that can be used to understand how LP attributes are manifested by teachers. In order to establish the conceptual framework for this study, the researchers first analysed Bullock's four dimensions associated with the following LP attributes: *knowledgeable, inquirer, caring and open-minded*, with their indicators. After analysis and reading of the theories with the perspective of Bullock's four dimensions, the researchers felt the need to identify how effective teachers are described in literature. As discussed above, the researchers concluded that Stronge's framework for effective teacher qualities was suitable for the purpose of the study.

The researchers then related Bullock's classification for IBLP attributes to the *Teacher as Person* domain to Stronge's four dimensions. The aim of this analysis is to draw connections between effective teacher qualities as a person and LP attributes. The study made use of the theories Social Emotional Learning (SEL) and Constructivism to find the common denominators between Bullock's (2011) framework for LP attributes and Stronge's (2007) framework for effective teacher qualities as a person. While the framework shows all the Learner Profile attributes noted in Bullock's work, the current study investigated only four of the LP attributes: Knowledgeable, Inquirer, Caring, and Open-minded, which are italicised in Table 2. The reason for this limitation was to match the attributes included in the data collection instrument developed by Walker, Lee and Bryant (2016) to those used in this study.

## Methods

While there have been a number of studies about how the IB programmes may affect students' academic success (eg, Saavedra, 2011; Saavedra, Lavore and Ivich, 2016; Sagun, Ateşkan and

**Table 2.** The commonalities between two frameworks.

Bullock's four dimensions for IB Learner Profile attributes	Stronge's Qualities of Effective Teacher – Teacher as a Person Qualities			
	Caring Fairness and Respect	Social interactions with students	Promoting enthusiasm and motivating learning	Teacher's attitude towards teaching profession
The Cognitive Aspect	Knowledgeable Thinkers			•
	Reflective			•
The Conative Aspect	Inquirer			•
	Principled			•
The Affective Aspect	Caring			•
	Risk-takers			•
	Balanced			•
Culture as an Aspect	Communicators			•
	Open-minded			•



Onur, 2016), very few studies have investigated IB teachers' perceptions of the LP attributes necessary for effective teaching in the IB programmes. To address this gap in the literature, the current study conducted a case study (Merriam, 1998; Stake, 1995) using quantitative and qualitative methods to investigate which IB Learner Profile attributes IB teachers perceive are needed for effective teaching within the context of a Turkish IB continuum school.

The following research questions were developed by researchers to guide this investigation:

1. When asked about IB Learner Profile attributes needed for an effective IB teacher, which one is most often selected by teachers within a continuum school?
  - a) What reasons do teachers provide for their most selected learning profile attribute?
  - b) Do teachers report that any of the LP attributes serve as a basis for the other profile attributes?
2. In which of the four Learner Profile attributes (inquirer, open-minded, caring, knowledgeable) do teachers indicate they are most capable?
  - a) To what extent do the responses of PYP, MYP and DP teachers differ?
  - b) What reasons do teachers provide for any differences of capabilities based on PYP, MYP and DP?
3. How do teachers explain any difference between their choice of IB Learner Profile Attributes needed for effective teaching and their perception of the IB Learner Profile Attributes in which they feel most capable?

The research questions of the study were aimed at identifying which attributes IB teachers perceived were important to be an effective IB teacher, and then at further explaining these attributes in relation to the conceptual framework of the study. Accordingly, the researchers utilised sequential explanatory mixed method design in particular 'to follow up on initial exploratory findings' (Creswell, 2012: 211). Therefore, this research had two phases: a quantitative first phase involving questionnaire administration and a qualitative second phase consisting of interviews.

All 143 teachers (61 PYP, 36 MYP, 46 DP) working at the school at the time of the study were sent information about the research, as well as consent letters they were invited to complete regarding their participation in this study. Among these teachers, 83 agreed to participate (72 [87%] female; 11[13%] male). Among the participants, 41 (49%) were PYP teachers, 29 (35%) were MYP teachers, and 13 (16%) were DP teachers. Participation in the study was voluntary, and survey responses were anonymous unless a participant volunteered to take part in a follow-up interview. Following the procedures required for approval and permission from both the Ministry of National Education and the school management team, participants were informed about the purpose of the study and indicated their willingness to participate by signing an online consent form. Through the consent form, the participants were informed about the confidentiality and anonymity of the data which they provided, and that they were able to withdraw at any point.

The questionnaire administered in the study was the *International Baccalaureate Learner Profile Questionnaire* (IBLPQ) developed by Walker et al (2016). In order to use the IBLPQ, the primary investigator contacted the authors and received their consent for using their questionnaire for this study. The IBLPQ focuses on four Learner Profile attributes: knowledgeable, inquirer, caring and open-minded. The creators of the instrument used these four attributes based on Bullock's systematic literature review about the IB Learner Profile (Bullock, 2011). There are eight items for each of the attributes, resulting in 32 questions in total. The items were descriptors of the attributes, and participants were asked the extent to which they agreed they could implement the descriptor (eg, I can explore ideas and information from a range of different sources [Knowledgeable]; I can become curious about the things I read, see and hear [Inquirer]; I can empathise with the feelings



and needs of people living in different communities and countries [Caring]; I can critically examine my own cultural values and beliefs [Open-minded]). The items use a five-point Likert-type scale with 5 indicating a strong disagreement and 1 indicating a strong agreement. The items were randomly mixed to prevent the participants from figuring out the intention of the item based on its proximity to a related item. The instrument was adapted for the current study by adding the following items at the beginning:

- Which of the IB Learner Profile attributes is the most valuable for the IB teachers to have?
- Could you explain why you chose this LP attribute specifically?

The original questionnaire was in English. The lead author translated the instrument into Turkish, and the translated version was reviewed by two bilingual experts in the field of international education. The Turkish version of the questionnaire was sent to native speakers of Turkish, and the English version was sent to non-native Turkish speakers.

The second phase of the study used convenience sampling to identify six teachers to participate in follow up interviews (two teachers from DP, two teachers from MYP, two teachers from PYP). These teachers were among those who indicated on the questionnaire that they would be open to being interviewed. The interview questions were constructed based on the results of the questionnaire (See Appendix). There were seven questions in total; the first two questions intended to explore teachers' reflection upon their own teaching practises in accordance with LP attributes. The remaining questions were designed to provide further insights into the results of the quantitative phase. To ensure the validity of the questions, they were reviewed by experts in the educational field to ensure they addressed the research questions and that they were clear and non-leading. The interview process was implemented through virtual meetings which lasted 20 – 25 minutes. Questions were asked and responses were recorded with permission.

Data from the main questionnaire were analysed using SPSS (Statistical Package for the Social Sciences v.23). After an initial descriptive statistical analysis, a one-way ANOVA was used to determine whether there was a mean difference between the IB programs in terms of Learner Profile attributes. The reliability of the instrument was assessed taking Cronbach's Alpha level using SPSS. The correlation coefficient of the summated items was found to be strong with a value of Cronbach's Alpha 0.93. This indicated that items selected for this questionnaire were aiming to measure the same construct; therefore, the reliability coefficient for internal consistency was high.

The qualitative data were analysed using a thematic approach. Braun and Clarke (2006) describe the process of transcription, coding and analysis for interpreting qualitative data. After checking the accuracy of transcription, the content was reviewed to identify key codes based on the research questions. These codes were then categorised into themes, which were then triangulated with the quantitative data to enhance the depth of the study (Cohen, Manion and Morrison, 2007).

## Findings

### *The importance of being an inquirer and an open-minded teacher*

Of the 83 teachers who participated in the study, 31 participants (37%) indicated that being an *inquirer* is the most important Learner Profile attribute needed for effective IB teachers. The next most selected qualities were *open-minded* and *reflective* with frequencies of 16 (19%) and 12 (14%) respectively. Using the study's conceptual framework, the participant explanations for choosing *inquirer* were analysed qualitatively and the themes of curiosity and life-long learning emerged. Participants also discussed the importance of open-mindedness and reflectiveness for life-long learning.

Participants tended to use the term *curiosity* as a synonym for *inquiry*. They emphasised that to keep up with the changes and deal with the challenges of the 21st century, teachers need to have a questioning way of thinking; they should be open to learning and exploring. Another theme was that inquiring teachers are *reflective*. Participants associated the inquirer profile attribute with self-evaluation; they regarded being an inquirer as the base for this reflective process to explore the needs of their students and to create solutions. They emphasised that effective teachers need to be lifelong learners. When explaining the importance of being open-minded, participants referred to recognizing and accepting differences. They noted that embracing differences within and outside the classroom fosters mutual respect. An added benefit of this respect is that it supports a positive learning atmosphere. They shared that if teachers are open-minded, they can teach rich subjects and themes related to diversity and cultural awareness.

During follow-up interviews, teachers were asked if any of the profile attributes were important for developing other attributes. Five teachers out of six interviewees reported that *open-minded* and *inquirer* could serve as foundations for other LP attributes. It is important to note that in the quantitative portion of the study, these two were most chosen as the key effective attributes for effective IB teaching.

Respondents indicated that if teachers are inquirers, they are willing to explore their practice and develop other teaching skills and attributes. Based on teachers' comments, the attribute of inquirer was found to serve as a foundation for other attributes of effective IB teachers. One of the teachers stated, 'If you are an inquirer, that means that you are ready to inquire about something, which leads you to be open-minded, reflective for what you learnt, communicator that you can share. In my opinion, inquirer involves each learning profile attribute.'

Although teachers did not exactly identify being open-minded as foundational for an IB teacher, many did state that being open-minded encompasses other profiles. One teacher explained that being open-minded allows a person to learn from others in order to make decisions and adapt one's own knowledge and experience related to others. An open-minded teacher welcomes different views and experiences. This leads teachers to inquire about their own learning and teaching processes, which promotes inference about their own experiences, defining needs and improvement of the process. As one teacher explained, 'Being open-minded leads to being an inquirer and gaining knowledge at the end of the inquiry process.'

### *Inquirer versus knowledgeable: The ideal and the reality*

The first part of the questionnaire revealed that many teachers reported being an *inquirer* as the most worthwhile LP attribute for being an effective teacher. In the second part of the questionnaire, participants were asked to indicate the extent to which they agreed they could implement descriptors of these attributes. As noted in the methods section above, the descriptors of the four different dimensions of the LP were shuffled in the instrument. During the analysis, these aspects were regrouped, and the mean responses calculated and compared (see Table 3). The mean response of the items regarding developing the attribute of being knowledgeable had the highest value ( $M=1.58$ ). This result indicated that even though participants reported inquiry as the most important attribute, they felt most capable with the attribute of being knowledgeable. A selection of items from the questionnaire is provided below.

- I can explore ideas and information from a range of different sources.
- I can explore ideas from a number of different perspectives and/or subject areas.
- I can appreciate the strengths and weaknesses of other people's ideas.
- I can change my mind on issues after considering new evidence.

**Table 3.** Descriptive statistics for four learner profile attributes.

Attribute	N	Sum	M	SD
Knowledgeable	83	131.86	1.58	0.42
Open-minded	83	125.83	1.51	0.47
Caring	83	121.50	1.43	0.40
Inquirer	83	118.25	1.42	0.38

Ironically, although many of the teachers said inquiry was an important attribute, the mean response of the inquiry-related items had the lowest value ( $M=1.42$ ). Below are selected items from the questionnaire regarding the ability to use inquiry skills.

- I can use a range of research strategies to investigate a problem.
- I know how to research a problem independently.
- I enjoy learning for myself, not just because it is required.
- I want to keep on learning new things throughout my life.

During follow-up interviews, participants were asked about the disparity of perceptions of worthwhileness versus their responses about implementation ability. All participants stated that it is the demands of the national education system that cause this difference. High stakes testing is a critical issue for students and their parents; teachers are pressured to help prepare students for national examinations. It was also pointed out that when they were students, the participants were taught to memorise facts. Therefore, how teachers were taught as students might have affected their tendency to become a knowledgeable teacher. Based on the analysis of teacher responses, it seems it is possible that teachers have a different understanding of what knowledgeable means compared to how it is explained as an LP attribute. It seems clear that they equate it with mastery of content, rather than critical and interdisciplinary thinking—which is how the LP attribute is described. Some teachers had a deeper understanding of what it means to be knowledgeable: ‘Being a knowledgeable teacher means having metacognitive skills, learning lessons from experiences and updating oneself’ (PYP teacher). Participants who chose knowledgeable as the most important Learner Profile attribute for effective IB teachers referred to the importance of being aware of their own learning process in order to be able to teach students how to learn.

### *PYP teachers and implementing the Learner Profile attribute of Caring*

Another step of the analysis involved comparing responses from teachers within and across the three programmes (PYP, MYP, DP) in a continuum school. To determine if any differences were statistically significant, a one-way ANOVA was performed. Prior to the ANOVA test, the homogeneity of variances was evaluated, and was determined to be satisfactory only for caring. Since the variances of three other Learner Profile attributes (ie, knowledgeable, open-minded and inquiry) were unequal, the Games Howell Post Hoc test was run. Results indicated no statistically significant difference between PYP, MYP and DP in terms of knowledgeable, open-minded and inquirer. However, the test did reveal a statistically significant difference across PYP, MYP and DP in terms of the caring Learner Profile attribute ( $M_{PYP}=1.35$ ;  $M_{MYP}=1.53$ ;  $M_{DP}=1.65$ ;  $p = .03$ ).

**Table 4.** Bonferroni Post Hoc Test on caring and IB programmes.

IB Programme	IB Programme	Difference	SE	Sig.
DP	MYP	.11936	.13253	1.000
	PYP	.30019	.12639	.060
MYP	DP	-.11936	.13253	1.000
	PYP	.18082	.09634	.193
PYP	DP	-.30019	.12639	.060
	MYP	-.18082	.09634	.193

Following are some of the items from the questionnaire regarding the ability to develop the attribute of caring:

- I can empathise with the feelings and needs of others in my local community.
- I can respect the feelings and needs of others in my local community.
- I can commit time and energy to help those in need.

To better understand if perceptions regarding the LP attribute *Caring* were statistically different among the populations, the Bonferroni Post Hoc test was conducted. The results from the Post Hoc test, however, did not yield statistically significant results (see Table 4). Therefore, although descriptive statistics and initial comparative analysis did indicate that PYP teachers, more than MYP and especially DP teachers, perceive a capacity to develop the Learner Profile attribute *Caring*, in subsequent analysis the significance diminished. The reason for this lack of significance may be because of the small population size.

## Discussion

### *Participants selected inquirer as the most valuable attribute for an effective teacher*

In this study, many teachers chose inquirer as the key attribute for being an IB teacher. The IB defines inquirer as the attribute of individuals who know how to learn independently and with others, learn with enthusiasm and sustain the love of learning (IB, 2019). Teachers working in IB schools may see inquirer and open-minded as having a mutual and interdependent relationship. Using the conceptual framework created for the study, the attribute of being an inquirer matches with teaching that is reflective, promoting enthusiasm and motivating learning (Stronge, 2007). Bullock (2011) relates this attribute to the conative aspect of learning involving motivational learning theories. Connecting the attribute of being an inquirer within the IB context to the conative aspect of learning means teachers recognize the importance of motivating students to sustain their learning. Keller et al (2016) also suggest that teacher enthusiasm is key for effective teachers and their teaching practice. Teacher motivation and enthusiasm for learning is effective not only for teacher self-motivation but also for promoting students' drive for learning (Moè, 2016).

### *Inquirer teachers are life-long learners and reflective*

Participants who chose inquirer as the most important attribute of an effective IB teacher associated inquiry with continuous learning. Stronge (2007) refers to the importance of teachers who are

lifelong learners in his writings, stressing that teachers serve as role models when they are inquisitive learners. Teachers in the current study expressed their quest for lifelong learning when they mentioned professional development, such as workshops and seminars.

### *Participants indicated they are most capable in the knowledgeable attribute*

Although in response to the first part of the instrument many teachers reported that inquiry is the most important attribute, the highest response means were for items relating to the knowledgeable attribute ( $M=1.58$ ). In IB-related literature, an individual being knowledgeable is one who can develop and use conceptual understanding; explore knowledge across a range of disciplines; engage with local and global issues and ideas (IB, 2013). The study's conceptual framework concurs, noting that knowledgeable is also important for teachers' reflective practices. Bullock (2011) classified knowledgeable in the cognitive aspect of learning, describing this aspect in which experiences are embraced and internalised through thinking and reflection, thereby extending knowledge, ideas, and skills (Bullock, 2011: 7). Accordingly, learners are responsible for their own method of learning through reflection and thinking processes. Similarly, Stronge (2007: 30) refers to reflective teachers who make careful review of and show thoughtfulness about their own teaching process.

Despite the role of being knowledgeable in reflective practice, the current study found that many teachers associate being knowledgeable with mastery of content within a subject area. Nonetheless, content knowledge remains an important attribute of teaching, most notably because teachers with subject matter knowledge have the confidence to go beyond textbook content and involve students in meaningful discussions and student-directed activities (Stronge, 2007).

### *Learner Profile attributes are interdependent*

In addition to asking which IB Learner Profile attribute was important to be an effective IB teacher, the study sought to explore reasons behind teachers' choices. Specifically, the researchers were curious as to whether participants indicated if any of the attributes served as a foundation for developing other attributes. Although they believed that being open-minded and inquirer could be foundational, participants emphasised that the attributes are connected and interdependent: 'Being open-minded leads to inquiry and gaining knowledge at the end of the inquiry process. However, if a teacher or a learner is not open to critical appreciation of everything around the world, it will be hard to remain as an inquirer, knowledgeable, balanced and principled person' (PYP teacher).

## **Conclusion**

Historically, the IB's Learner Profile was designed to describe attributes of a student learning in an IB programme. Recently, there have been indications that the LP attributes are important for all stakeholders, including teachers. This study sought to learn which attributes current IB teachers perceived were important, and which ones they reported they could implement. A conceptual framework was created to organise the attributes and relate them to effective teaching practices. The findings may help the IB and other international education programs to create teacher professional development opportunities that focus on these key attributes. Bunnell (2019) suggests that the dynamic and robust process for IB school authorization would benefit from providing educators with professional development opportunities related to Learner Profile attributes.

The findings of the current study suggest that fostering inquiry skills is important for being an effective IB teacher. Participants explained that through inquiry, people become more open-minded

and reflective. It should be noted, however, that although teachers in the current study reported inquiry was important, they still felt most capable with the attribute of knowledge. Perhaps in addition to ensuring future IB teachers understand content area knowledge, professional development programs should highlight the importance of being curious, critical, and reflective. Nonetheless, knowledge of subject material is important for classroom teaching. Recognizing the content area learning needs of students and being aware of their strengths and weaknesses enable teachers to direct their teaching methods and strategies accordingly. Teachers in the current study pointed out that students' learning needs may vary depending on the subject area content. In his framework, Stronge (2007) explains that effective teachers have a variety of resources and strategies they can employ to meet the needs of both the discipline and student learning (p 85).

Given the importance of being a resourceful teacher, it seems all of the LP attributes play a role in IB teaching. This observation is supported by teachers in the study pointing out the interdependencies among the various attributes. Teachers may emphasise one attribute at one time when it is needed during teaching, and feature another attribute in a different situation.

It is important to acknowledge the study's limitations. Being a case study in a particular country, the results may not be generalizable to other schools and settings. The study population was small, collected through convenience sampling. The study also had a time limitation, preventing observation of teaching practises of participants and content analysis of their curriculum-related documents. Notwithstanding these limitations, the conceptual framework developed for this study is based on a careful review of literature and can provide generalizable insights for IB teaching effectiveness. The framework matches qualities of effective teaching to the Learner Profile attributes, and can help teachers and teacher educators better recognize when particular attributes are needed. What is most essential, and clearly revealed by this study, is the critical need for teachers to develop and apply the same attributes that they seek to cultivate in their students. Only with diligent and earnest application—on the part of teachers and teacher educators alike—can the worthy vision of these education programs be achieved with fidelity and success.

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## Appendix

### Interview Questions

1. Do you think teachers should demonstrate LP attributes in their classroom/teaching practices? If so, in what ways?
2. Which ones do you exhibit/demonstrate in your teaching practices?
  - a. Can you give any examples?
  - b. Could you please share an effective teaching lesson that demonstrates/ exhibits one of the four profiles and describe how you know it is effective?

According to the results of the questionnaire, teachers in the school have stated that the most important LP attribute for effective IB teachers to have is *inquirer*. However, the findings from the questionnaire revealed that IB teachers see themselves as competent at *knowledgeable* more than the other three LP attributes that were in the questionnaire: *open-minded*, *caring* and *inquirer*.

1. Why do you think there was a difference between what teachers stated and the findings from the questionnaire?
  - a. Which one do you feel is most like you: knowledgeable or inquirer?
  - b. How would you describe a teacher who is inquirer?
  - c. How would you describe a teacher who is knowledgeable?
2. Which Learner Profile do you feel most capable of demonstrating in the classroom?
3. Within the three IB continuum programs (PYP, MYP and DP), is there a predominant/main/primary LP attribute that teachers should demonstrate/exhibit in their teaching practices?
4. Among given four LP attributes, do you think one serves as a foundation/basis for the other LP attributes?