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A Hermeneutic Phenomenological Study into International Baccalaureate Diploma Programme Teachers' Lived Experience of Professional Growth

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A HERMENEUTIC PHENOMENOLOGICAL STUDY INTO INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAMME TEACHERS' LIVED EXPERIENCE OF PROFESSIONAL GROWTH

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DEDICATION

I dedicate this to my wonderful and supportive family without whom none of this work would have been possible. My husband and my children have been a tower of strength throughout my doctoral journey and have provided never-ending encouragement as I navigated the joys and challenges of being a student, administrator, and educator. I can never do enough to make up for everything they have done for me. My mother and sister have always been there for me, acting as sounding boards when needed and celebrating each milestone with me. I particularly acknowledge my beloved late father, a renowned professor of education, who was my inspiration throughout this process. I wish I could have discussed so many aspects of this research with him, but I think he would be proud of what I've accomplished.

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NOMENCLATURE

CP	Careers Programme
DP	Diploma Programme
IB	International Baccalaureate
IBEN	International Baccalaureate Educator Network
IBO	International Baccalaureate Organization
MYP	Middle Years Programme
PYP	Primary Years Programme

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Abstract

The International Baccalaureate (IB) program provides an inquiry- and concept-driven approach to teaching and learning in primary and secondary schools around the world. This educational philosophy is often different to teachers' previous training and experience, yet little research has been done into how continuing professional development addresses the challenge of understanding and implementing the IB program. The purpose of this hermeneutic phenomenological study was to explore the professional learning experiences of IB Diploma Programme (DP) teachers in international schools. Semi-structured interviews were conducted with seven teachers from five different schools and all six IB subject groups who had several years' experience of teaching in the IB program. Explication of data showed that DP teachers found aspects of official IB workshops to be helpful, but these trainings were insufficient in themselves for the ongoing, job-embedded learning required to understand and implement the IB educational philosophy. While andragogical principles were found to be beneficial in formal learning sessions to guide teacher growth, heutagogical practice, or self-initiated and -directed learning, leads IB teachers to seek out informal professional growth activities that enable them to develop both individually and collectively in their school contexts.

Keywords: professional development, International Baccalaureate, Diploma Programme, hermeneutic phenomenology, andragogy, heutagogy

CHAPTER 1. INTRODUCTION

Education is not a static construct; it needs to adapt and transform to serve society's changing needs. Recent decades of rapid scientific and technological advancement have led to a higher degree of global mobility and connectedness in today's world (Rizvi, 2017), which has transformed the possibilities for learning, while simultaneously changing the kind of preparation that students need for their future (Darling-Hammond et al., 2017). Whereas in the past, countries developed their own education system that emphasized national values and policies, educational leaders have increasingly seen the need to focus on broader skills such as cultural proficiency and critical thinking, which are believed will better equip students for the new globally connected world (Tawil, 2013). Fernekes (2016) has argued that global citizenship needs to be a priority in education, so that students can embrace diversity and learn how to find solutions to the humanitarian and environmental issues that face our world, and which cross political and cultural boundaries.

One example of a program that aims to prepare students in this way is the International Baccalaureate (IB). This non-profit program was founded in 1968 to cater for the large number of transient expatriate families around the world (Resnick, 2009). The mission of the International Baccalaureate Organization (IBO) is to "create a better and more peaceful world through intercultural understanding and respect" (IBO, n.d.-a, para. 4). This has proven to be appealing to a wider population than just expatriates, and there are now more than 7,500 schools worldwide that offer this program (IBO, n.d.-e).

The IB philosophy of education is a holistic one, with students supported in developing the knowledge, skills, and dispositions that will enable them to be "active, compassionate and lifelong learners" (IBO, 2017b, p. 7). The IB program consists of four frameworks designed for

different ages of students: the Primary Years Programme (PYP) for students aged three to 12, the Middle Years Programme (MYP) for 11- to 16-year-olds, and the Diploma Programme (DP) and Careers Programme (CP) for students between the ages of 16 and 19. (It should be noted that while the American spelling of "program" is used throughout this dissertation, the IBO uses the spelling "programme" in its official publications.) Each of the four frameworks emphasizes balance between academic, social, emotional, and physical skills, and promotes inclusion and an approach to learning that is based on constructivist principles (Ledger, 2017). Table 1 provides an overview of the main components of each of these programs:

Table 1

Components of Each of the Four IB Programs

	PYP	**MYP**	**DP**	**CP**
Age range	3-12	11-16	16-19	16-19
Culminating learning experience (student-centered inquiry projects)	• Exhibition (collaborative)	• Personal project (individual) • Community project (collaborative)	• Extended essay (individual) • Subject-specific inquiry projects (combination of individual and collaborative)	• Reflective project (individual)
Primary organizer	Transdisciplinary themes as basis for program of inquiry: • Who we are • Where we are in place and time • How we express ourselves • How the world works • How we organize ourselves • Sharing the planet Subject knowledge and skills:	Key concepts: • Aesthetics • Change • Communication • Communities • Connections • Creativity • Culture • Development • Form • Global interactions • Identity • Logic • Perspective • Relationships • Systems	Core: • Theory of knowledge (interdisciplinary) • Extended essay • Creativity, Activity, Service (CAS) (collaborative) Six subjects chosen from: • Language A1 • Second language • Individuals and societies • Experimental sciences • Mathematics and	Core: • Personal and professional skills • Service learning • Language development • Reflective project Career-related study Minimum of two DP courses

	PYP	MYP	DP	CP
	• Language • Social Studies • Mathematics • Arts • Science • Physical, Social and Personal Education	• Time, place, and space Related concepts (from subject groups) Global contexts • Identities and relationships • Orientation in space and time • Personal and cultural expression • Scientific and technical innovation • Globalization and sustainability • Fairness and development Subject-group objectives: • Language A • Language B • Humanities • Sciences • Mathematics • Arts • Physical Education • Technology	computer science • The arts	
Approaches to learning (apply to all four programs)	• Thinking skills • Research skills • Communication skills • Social skills • Self-management skills			
Approaches to teaching (apply to all four programs)	• Based on inquiry • Focused on developing conceptual understanding • Developed in local and global contexts • Focused on effective teamwork and collaboration • Differentiated to meet the needs of all learners • Informed by assessment			

Learner Profile (applies to all four programs)	IB learners strive to be: • Inquirers • Knowledgeable • Thinkers • Communicators • Principled • Open-minded • Caring • Risk-takers • Balanced • Reflective

Adapted from IBO, 2015a; IBO, 2015b; IBO, 2018b; IBO, 2021b.

As Table 1 shows, even though there are differences in the implementation of each of the four IB programs, they are aligned philosophically with each other through the approaches to learning, the approaches to teaching, and the learner profile. The attributes of the learner profile are not officially assessed, but they guide the everyday way of being in an IB school. These are the dispositions that IB students strive to demonstrate over the course of the program: inquirers, thinkers, communicators, risk takers, knowledgeable, principled, caring, open-minded, well-balanced, and reflective (IBO, 2017a). The IBO refers to the learner profile as the "mission in action" (IBO, 2015b, p. 8), as these attributes enable students to achieve the aims of the program discussed earlier. The approaches to teaching outline the holistic educational philosophy that underpins the IB framework. These explain that all instruction should be inquiry-based, conceptual, contextual, collaborative, differentiated, and informed by assessment (IBO, 2021b). The five interrelated approaches to learning encourage student engagement in thinking, research, communication, social and self-management (IBO, 2018b). According to the IB documentation, by combining these approaches to learning with the learner profile, students can become self-regulated learners who are able to co-construct their knowledge with peers and teachers.

Statement of the Problem

The IB program seeks to provide an inquiry- and concept-based approach to teaching and learning in primary and secondary education and focuses particularly on developing international mindedness and global competencies (IBO, 2017b). Even when educators embrace this educational philosophy, it has not always proven easy to implement in practice (Tsakiris et al., 2017), particularly because the six specified approaches to teaching are different from the way many teachers were trained (Doherty & Shield, 2015; Resnick, 2012; Ryan et al., 2014). This situation may change in the future, as a small number of universities around the world are now offering an IB certificate in teaching and learning as part of their undergraduate and graduate teaching training programs (IBO, n.d.-f). The majority of teachers, however, rely on professional development workshops provided by the IBO as part of the school registration and ongoing accreditation process. IB teachers are meant to attend a workshop when they first start teaching in the IB program, with follow-up workshops at least every five years after that (IBO, 2018e). These workshops are one-time face-to-face or online events providing 15 professional development hours over the course of three to four days (IBO, n.d.-i). While the aim of these workshops is to introduce teachers to IB philosophy and practices (IBO, n.d.-h), studies have shown that this is not sufficient as teachers require sustained and context-specific support for effective and authentic implementation (Tsakiris et al., 2017).

Professional development has undergone many changes in the last couple of decades, mainly driven by the theories of social constructivism (Brand & Moore, 2011; O'Dwyer, 2018; Pitsoe & Maila, 2012), principles of adult learning (Darling-Hammond et al., 2017; Gregson & Sturko, 2007; Kelly, 2017), and the opportunities opened by advances in technology (Mai et al., 2020; Trust et al., 2016). While there is still a place for the one-off workshop model (Timperley et al., 2007), there are now numerous other ways for teachers to develop their professional

learning, including new forms that did not exist when the IB first started. Research tells us that adults have different learning motivations (Passmore & Hart, 2019; Thomson & Turner, 2015), and multiple avenues for professional development need to be offered because teachers will respond differently to it (Desimone & Garet, 2015). There are numerous ways in which both formal and informal learning opportunities can be provided, beyond traditional concepts of what professional development "should" look like. Although a great deal of research has been undertaken in recent decades into effective models of teacher professional development, few studies have looked at the IB program specifically (Lalwani & Fox, 2020). Because interviews provide deeper insights into the complex activities and experiences that comprise teacher professional learning, a phenomenological investigation is best suited to explore and identify the specific issues that IB teachers face as they seek to improve their implementation of the IB program and their own instructional practice. Understanding the lived experiences of professional development will assist IB teachers to find opportunities beyond official workshops that will support their individual and collective growth. By illuminating the specific issues of IB teachers' professional learning activities, school and IB leaders could also implement a wider range of support systems and growth opportunities for educators.

Brief Literature Review

The IB program requires schools to align with its educational philosophy according to its published Standards and Practices (IBO, 2018e). This poses several challenges at both the organizational and the individual levels. IB schools are situated in 160 countries (IBO, n.d.-e) and consist of both public and private institutions. In some countries, schools are still required to adhere to national curriculum guidelines in addition to the IB program, and in certain parts of the world there are few opportunities for interaction with nearby schools offering the same program. For educators themselves, the differences between the IB educational approach and teachers'

previous experience may be difficult to overcome. Whereas the adoption of a new curricular program in other circumstances may require teachers merely to modify their instructional methods, the IB requires a shift in philosophical approach (Dickson et al., 2018; Savage & Drake, 2016). This requirement to possibly change one's beliefs about education is more challenging to effect than a change in behaviors (Twigg, 2010). Approaches to teacher professional development that work for other instructional programs may not necessarily be the most effective approach for the IB program.

As Lalwani and Fox (2020) pointed out in their review of the literature, while there is a great deal of research related to professional development in general, there are few studies that look at the IB specifically. Studies on individual aspects of the IB, such as international-mindedness (Christoff, 2021) or inquiry learning (Twigg, 2010), make mention of professional development in passing, but this was not the primary focus of the research. One thing that these studies have in common is their emphasis on the challenges of adopting the IB approach to teaching, and their resultant urging of the importance of providing appropriate professional development that prepares teachers for the demands of the IB program.

As already described, the traditional approach to professional development in the IB is the workshop model. In 2019, the IBO commissioned research to look at the impact of these offerings, using pattern matching and program evaluation techniques to compare its workshops with empirically based best practice in professional development (Calnin et al., 2019). It was found that, while overall these workshops provided effective training, there were aspects of best practice that were not possible within this model, including opportunities for practice and feedback and the building of connections between the training and educators' everyday work. A particularly interesting finding of the study was that the workshops had a small effect on

teachers' attitudes and beliefs about the IB. This certainly urges the need for exploration of other forms of relevant professional development to fulfill this important purpose.

One important aspect of the IB program is its emphasis on collaborative learning. Built on social constructivist principles, the IB encourages schools to become a "community of learners" (IBO, 2021b, p. 10), with school leaders, teachers, students, parents, and local community members working together with a shared purpose. In their review of the features of high-quality professional development, Calnin et al. (2019) included the importance of training as a collective endeavor and suggested that groups of teachers from the same school or department could perhaps attend the workshops together. Yet collaborative learning goes beyond being in the same room as each other. Savage and Drake (2016) found that teachers often took away different things from IB workshops leading to a lack of uniformity in application of the learning, a finding which was confirmed by Tsakiris et al. (2017). Instead, collaboration needs to be ongoing, and teachers need to work together to bridge the theoretical learning with their everyday practice (Lalwani & Fox, 2020). Many collaborative forms of professional development have emerged in recent decades, including professional learning communities (Kelly, 2017; Lin et al., 2018) and online networks (Trust et al., 2016). Collaboration is important so that teachers can consider multiple perspectives (Kelly, 2017) and increase their job performance and satisfaction (Vangrieken et al., 2015).

There are other reasons why it is important to consider options other than the traditional workshop model. Just as the IBO encourages a holistic approach to student learning, Chen and McCray (2012) showed that a "whole teacher" approach is necessary for effective and lasting professional development. Teachers need opportunities to learn from each other, both within their own schools and with external networks (García-Martínez et al., 2021; Oddone et al.,

2019), learning new strategies and approaches (Desimone et al., 2013) and being able to receive feedback as they attempt to implement their new learning in the classroom (Darling-Hammond et al., 2017). This integrated approach to learning happens in both formal and informal settings and is driven in large part by each teacher's own desire to grow (Boelryk & Amundsen, 2016) as well as their individual learning preferences and attitudes (Passmore & Hart, 2019; Chen & McCray, 2012). Research into how these important approaches to professional learning apply to educator growth in the IB program would therefore provide valuable information to schools, teachers, and even the IBO itself, on how best to enable teachers to adopt the IB philosophy and approaches to teaching and learning and develop their own practice.

Purpose of the Study

The purpose of this qualitative hermeneutic phenomenological study was to explore the professional learning experiences of IB DP teachers in international schools. Although the educational philosophy is the same for all four IB programs, the structural differences mean that the professional learning experiences may differ between programs. For example, the understanding needed to implement the PYP's transdisciplinary approach, where the curriculum is based on holistic units of inquiry which are based on six given transdisciplinary themes, is very different to the understanding needed to incorporate the theory of knowledge in individual subject areas through an interdisciplinary approach in the DP. As phenomenological research seeks to identify the common essence of experience, only teachers from one program, the DP, were therefore selected for inclusion in this study. By interviewing DP teachers from international schools who believe they effectively incorporate the IB philosophy into their practice, it was possible to illuminate the different professional learning experiences that they undertake. These experiences included both those provided formally by the IBO and individual schools as well as those sought out by individual teachers.

Research Questions

To understand the variety of ways in which IB teachers develop their practice, the study included one central research question and three sub-questions. The overarching research question was: What is the lived experience of professional growth for DP teachers as they seek to understand and implement the IB program and philosophy?

The sub-questions were:

1. What are the professional learning needs of IB teachers?
2. What are the formal and informal professional learning activities in which IB teachers participate?
3. How and why do teachers choose which professional learning activities they undertake?

Research Approach

Given the complexity of the learning process, both for teachers in their professional growth and for their students, a phenomenological approach was adopted. Phenomenology is a philosophical tradition that seeks to examine the lived experience of a phenomenon, with the underlying belief that behavior is influenced by this experience rather than an external, objective reality (Cohen et al., 2007). This methodology allowed the researcher to consider the phenomenon from a holistic perspective, using the participants' depictions of their lived experiences to describe the phenomenon in detail and draw out the common essence of their experiences (Creswell & Poth, 2018).

The grounding philosophy for this study was Heidegger's hermeneutic phenomenology. Heidegger (1982) argued that it is not possible to separate oneself from the act of being within the world, which he referred to as *Dasein*. In hermeneutic phenomenology, therefore, the researcher's preconceived knowledge, also known as foresight or fore conception, is an important part of the research process. Further discussion of this framework will be provided in

chapter 3. It is common for studies that use this philosophy to include one or more additional frameworks (Peoples, 2020). The theoretical framework of social constructivism was therefore also used in this study, as it aligns closely with the IB philosophy of learning. This provided the lens through which to understand teachers' experiences of professional learning in the social context of their school and the IB program as a whole. Further discussion of this framework will be provided in chapter 2, as well as the theories of andragogy and heutagogy, which describe the principles through which social constructivism is applied to adult learning. The hermeneutic phenomenology and social constructivist frameworks were used individually and in concert with each other throughout the process of data analysis, also known as the hermeneutic circle (Gadamer, 2004), to understand the elements of teacher professional learning experiences as well as the essence of the whole experience.

In keeping with phenomenological methodology, the research design consisted of semi-structured interviews undertaken with seven IB DP educators working in international schools. Participants were selected for the alignment of their instructional beliefs and practices to IB philosophy, and the study sought to describe how these teachers developed as professionals in order to implement the philosophy in practice in the classroom. Further information about the selection of participants and the delimitations and limitations of this research will be provided in chapter 3.

Researcher's Background

The researcher has over 15 years of experience as an IB educator, having taught in the PYP, MYP, and DP programs. The researcher's commitment to the IB philosophy has been demonstrated by previous action research into concept-based learning in the DP curriculum which was presented at the 2019 IB Global Conference. In addition, the researcher regularly works as an assistant DP examiner for annual IB external examinations and has been trained as a

DP workshop leader, though she is not currently facilitating any professional development sessions. The researcher is at present working as an administrator in an international school and is particularly dedicated to providing effective and supported forms of professional learning for teachers.

The interest in the topic of this study stems from the researcher's commitment to the IB educational philosophy and objectives, yet an observation in several schools and among a range of teachers that this philosophy is often challenging to implement in practice. Some teachers have been known to reject approaches that are espoused in the IB, such as inquiry-based learning and transdisciplinary learning, because they have not found them to be effective. Yet, there is empirical evidence that these approaches are beneficial when they are implemented authentically (Dickson et al., 2018). This has led the researcher to surmise that quality professional development is imperative in order to build belief and confidence in the IB teaching approaches and philosophy. The formal workshops provided by the IB are rigorously designed and evaluated and have been found to be effective by researchers (Calnin et al., 2019). However, the researcher has also anecdotally heard from numerous teachers and administrators that they desire opportunities for long-term, context-specific growth, and many teachers still feel confused and frustrated when they return to their schools after attending an IB workshop and they need support in implementing the philosophy in practice. The researcher's stance is that professional growth is possible, and indeed vital, for IB educators, but further exploration of teachers' lived experience is necessary to understand the hindrances and opportunities that will enable individuals, teachers, schools, and IB leaders to improve this provision in the future.

Definition of Terms

The following definitions of terms are used in this dissertation:

Professional learning/Professional development: The terms professional learning and professional development are often used interchangeably in the literature, as will be the case in this dissertation. Guskey (2000) provided a much-cited definition for this concept: "Professional development is defined as those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students" (p. 16).

Formal professional learning: This refers to "learning activities that are structured in terms of time, space, goals, and support. It is undertaken intentionally in order to develop knowledge and competences" (Kyndt et al., 2016, p. 1113). Formal professional learning activities consist of workshops, courses, and other training sessions (Richter et al., 2011) where "leaders have the agency to initiate and control learning experiences" (Barton & Dexter, 2020, p. 93).

Informal professional learning: This is characterized by "a low degree of planning and organizing in terms of learning context, learning support, learning time, and learning objectives" (Kyndt et al., 2014, p. 2393). It is a type of "self-directed learning, where teachers exercise their agency to choose how and when they seek professional knowledge" (Barton & Dexter, 2020, p. 93). Informal professional learning may include reading curriculum materials, observing other teachers, collaborating with colleagues, and other forms of job-embedded, self-initiated learning (Richter et al., 2011).

International school: Although Hill (2015) pointed out the difficulties in providing one common definition for all international schools, in this dissertation the term will refer to "traditional", non-profit schools that cater for the children of expatriates from a range of different nationalities (Hayden & Thompson, 2013).

Significance of the Study

The requirement for teachers to align themselves with the IB educational philosophy and adopt appropriate instructional approaches provides an imperative for exploration of teacher growth and adaptation. Limited research has been undertaken around professional development in the IB program, even though related studies have reported teachers' desire for improved learning opportunities. Alignment with the IB philosophy requires a change in attitudes and beliefs in addition to the adoption of new teaching approaches, and the holistic, social constructivist principles that underpin the IB program encourage a collective and collaborative approach to educator growth. The IBO's commissioned investigation into the workshops they provide revealed some shortcomings in this particular model of professional development, particularly in terms of long-term implementation and feedback structures. These findings align with recent research on effective forms of professional development that make use of social connections both within schools and wider networks, and which take into consideration the different learning styles and approaches of individual teachers. Investigation into how IB teachers incorporate these different models of learning is beneficial at several levels. Firstly, it is needed to inform IB leaders as they refine their professional development model beyond traditional workshops. Secondly, it can provide helpful guidance for schools on how to encourage their educators to develop their understanding and teaching of the IB program. Finally, this important research can support IB educators in finding appropriate ways to incorporate the beliefs and practices of the IB philosophy in a way that best supports their individual learning needs.

Summary

This chapter provided a brief overview of the study, including background information on the IB program, the problem to be addressed, a brief review of the literature on the topic, and

the purpose of the study. The research questions were presented, the research approach was described, and, in keeping with phenomenological investigation, the researcher's background was outlined. To provide clarity, important terms used in the dissertation were defined, and the significance of the study was described. The next chapter will examine and synthesize the scholarly literature on the IB program and professional development as well as the theoretical framework that was used to inform the research.

CHAPTER 2. LITERATURE REVIEW

The purpose of this qualitative hermeneutic phenomenological study was to explore the professional learning experiences of International Baccalaureate (IB) Diploma Programme (DP) teachers in international schools. In chapter 1, an overview of the IB program's social constructivist approach to education was provided and it was posited that this is often very different to teachers' own prior education and teaching experience. Chapter 2 will explore how a similar learning philosophy can be applied to teacher professional learning. First, the challenges that teachers face in implementing the IB philosophy will be examined as well as discussion of the limitations of current professional development offerings in overcoming these challenges. The theory of social constructivism will then be introduced as the lens for exploring the characteristics of effective professional development, followed by the various forms of activity this might take. It will be shown that there are numerous forms of professional learning available to IB teachers, beyond the limits of formal workshops which have previously been the sole focus for studies on professional learning in the IB program.

Implementing the IB Educational Philosophy

The overview provided in Table 1 of chapter 1 showed that, while there are differences in the culminating learning experiences and organizing structures of each of the four IB programs, they are tied together philosophically through the approaches to learning, the approaches to teaching, and the learner profile. Savage and Drake (2016) argued that it is not sufficient for teachers merely to learn *about* the IB philosophy, they also need to "buy in" to it (p.16). Without a full understanding of the theories behind any educational philosophy, attempts to change instructional practice risk being superficial and lacking in impact. In their review of the limited amount of literature relating to teacher development in the IB, Lalwani and Fox (2020) could not

find any studies which described the connection between the theory behind IB philosophy and practice in schools. This may not be a problem in schools which already follow a student-centered philosophy. For example, Wright et al. (2016) found in an analysis of IB-sourced data of 175 schools in 54 countries that 88% had adopted the MYP because they valued its philosophy. However, for many teachers, the IB philosophy is very different from their own teacher training and previous experience (Lester & Lochmiller, 2014; Savage & Drake, 2016; Twigg, 2010). Storz and Hoffman (2018) found in their interviews of new MYP teachers in an urban United States school that not all teachers agreed with the IB philosophy, and thus found it challenging to align with their own personal teaching beliefs. Even when schools are willing to adopt the new philosophy, the process of implementation is challenging and requires a commitment to professional development and leadership support, as Lester and Lochmiller (2014) found in their case study of Colombian schools which adopted the PYP program.

A concerning finding is that even though the IB Standards and Practices require schools to align their mission and vision with IB philosophy (IBO, 2018e), not all teachers necessarily do so, even after they have attended official training. Pendergast et al. (2014) found in an international school in Japan that teachers' own pedagogical preferences, not the program itself, determined students' experience in MYP and DP Mathematics. Alford et al. (2013) similarly observed a lack of meta-cognitive activity and problem solving in 85 IB classrooms in Texas, despite these being key IB approaches to learning. It should be pointed out, however, that these findings were based on a limited number of observations in a relatively small number of schools in a single geographic location, even though the schools were selected for their racial and cultural diversity. Neither of these studies suggested reasons for the disparities between teaching practice and IB philosophy.

A recent study did provide one possible reason, however, for the disparities between teaching practice and IB philosophy. In her limited case study of three MYP teachers in the United States, Christoff (2021) described the different perceptions and beliefs that teachers bring to one element of IB philosophy: global mindedness. Christoff argued that personal beliefs and experiences define whether teachers take a reactive or a proactive approach to IB philosophy in their teaching. This viewpoint may well be influenced by Christoff's apparent understanding of how IB philosophy is implemented in a school. She referred to the "purchase" of the IB framework (p. 105) in the introduction to her article, as well as "buyers of IB" (p. 106) and "buying an international program" (p. 112). This is quite a different belief to Savage and Drake's (2016) recommendation of "buy-in" and would certainly influence a teacher's approach in implementing a new philosophy. Indeed, Jamal (2016) suggested that there are several schools whose motivation for adopting the IB program is more about status and attracting new students than deep belief in its education philosophy.

The implication that teachers' beliefs are preordained and difficult to change was echoed in an earlier study by Twigg (2010). This limited narrative inquiry into the personal and professional characteristics needed to adopt a student-centered, inquiry-based approach to pedagogy, as espoused in IB philosophy, led Twigg to recommend that schools develop tools to ascertain whether teachers and administrators they wish to hire have these characteristics already. If this is indeed the case, however, it could be argued that there is little need for professional development, which Christoff (2021) urged needed to be provided, and the focus instead should shift to initial teacher training.

Twigg's (2010) study did investigate the relationship between teachers' prior training and their need for professional development. This research consisted of a single site case study to

investigate teachers' adoption of one of the IB approaches to teaching, inquiry, in a PYP school. While teachers in the study from Australia and the United Kingdom believed their teacher training had prepared them well for this approach, educators of other nationalities had to rely on in-service professional development opportunities to build their confidence with inquiry teaching. Twigg also found that the school's professional community played a large role in assisting teachers through the change process. Opportunities to work and reflect collaboratively had a significant impact on teachers' ability to implement inquiry in their classrooms. This is a form of professional development, which implies, contrary to Twigg's recommendation that teachers need to be hired according to their alignment with IB philosophy, that it is possible for teachers to develop and change their beliefs. While the scale of this single site study means there is limited generalizability to other contexts, and while admittedly in the decade since the paper was written there will no doubt have been changes to many countries' teacher training programs, the findings do align with those of other studies related to teachers' proficiency with elements of IB educational philosophy. For example, in an empirical phenomenological study of 24 PYP practitioners from around the world, Savage and Drake (2016) found that even teachers with several years of PYP experience struggle with transdisciplinary teaching, another important element of IB philosophy. Several participants in the study felt their professional development had not sufficiently addressed this approach to teaching, and they needed further guidance and support. In the study of MYP implementation by Storz and Hoffman (2018), even though the principal believed the school had provided extensive professional learning opportunities for teachers, 50% of them disagreed that the IB-provided workshops had been helpful. Only 40% of teachers agreed that they were able to integrate the learner profile into their teaching, and 32% agreed that the IB increased opportunities for collaboration, both foundational elements of the IB

philosophy. These findings demonstrate the need for further research into professional learning opportunities in the IB program.

Theoretical Framework for IB Professional Development

In their discussion of best practices in professional development, one of the challenges that Desimone and Garet (2015) brought up was that studies have shown that it is more difficult to change one's teaching and learning approach than it is to change procedural classroom behaviors. This is because the former type of professional development needs to have an underlying theory of change (that is, a theory of how participants change their understanding, or learn new knowledge and skills) as well as a theory of instruction (that is, a theory of how the particular approach will influence student outcomes). If either theory is wrong, the authors argue, the professional development will fail in its purpose. The IB theory of instruction, which includes reasons why the six approaches to teaching and the five approaches to learning are valid for achieving the goals of the IB program, has been carefully considered by IB researchers. Details of this theory of instruction have been provided in the documentation for each of the four IB programs (IBO, 2015b; IBO, 2018b; IBO, 2018c; IBO, 2018d; IBO, 2021b) as well as in additional publications which provide further details of the philosophical foundations of elements of the IB approaches to teaching and learning (e.g., IBO, 2017b; IBO, 2019a; IBO, 2020b; IBO, 2021a). It is less clear what theory of change is used to underpin the professional development model. Given that the IB philosophy of learning is rooted in social constructivist theory (Ledger, 2017), it is appropriate to consider this as one theory of change in IB teacher professional development. Cordingley et al. (2015) suggested that studies into effective professional development show that alignment between student learning principles and professional learning principles is crucial, which supports the argument that social constructivism should underpin both student and teacher learning in the IB program.

Social Constructivism

The theory of social constructivism is generally associated with the psychologist Lev Vygotsky, though it had its roots in earlier educational thinking. Piaget (1952), for example, believed that people construct new knowledge by building on previous experiences. He adopted a cognitive approach by describing the processes by which we do this as assimilation and accommodation. Vygotsky (1978), however, emphasized the social aspect of constructivism, arguing the important role of the community in "making meaning". Like other constructivists, Vygotsky believed that learners need to be actively engaged in creating new understandings, and he also emphasized the benefit for both learners and mentors as they engaged in this process together. This concept had its roots in Dewey's (1922) transactional theory, which stated that we are inseparable from the environment or the context in which we learn. This was taken further by von Glasersfeld (1989), who argued that all learning is bound by our prior experiences, the physical world, and the social world in which we find ourselves.

Pitsoe and Maila (2012) pointed out that moves towards a constructivist learning philosophy for students require a similar change in approach to teacher professional learning. Given the IB program's emphasis on inquiry-based, collaborative learning, for example, it makes sense that adult learning would be founded on the same principles. Pitsoe and Maila therefore proposed that professional development should be based on a bottom-up approach that enables teachers to create their own understanding through challenging their beliefs and building knowledge in a holistic, contextual manner. Through incorporation of these constructivist elements, these authors argued, professional development can achieve its main purpose of social and global transformation. This implies an emphasis on collaborative rather than individual growth.

The value of collective endeavor is supported by research over several decades. Little (1982), for example, compared 105 teachers in different schools and found teacher collaboration to be the significant difference between successful and unsuccessful schools. In successful schools, teachers had a common language for talking about teaching practice, they collaborated closely on lesson planning, assessment, and reflection on teaching and learning, and they spent time in each other's classrooms, observing and giving feedback to each other. More recent research has supported this finding, with Pil and Leana's (2009) large scale study of more than 1000 teachers in 130 New York public schools showing that teacher collaboration has a significant impact on student achievement. Coburn et al. (2012) found that strong interactions between teachers, where there were members with high expertise, allowed sustained instructional reform. Kraft and Papay (2014) similarly showed that, over time, teachers who work in supportive collaborative environments improve their effectiveness significantly more (on average, 38% more) than teachers in less supportive schools. In their discussion of high-performing international education systems, Jensen et al. (2016) reported that teachers in Shanghai and Singapore are evaluated on their collaborative skills and involvement, and this, it was argued, is a strong contributor to the high achievement of their students. Oddone et al. (2019) declared that the rapid changes in educational contexts of the last few decades urge the importance of viewing teachers as "connected professionals." These authors suggested that many of the previously discovered characteristics of effective professional development can be encouraged through collaborative engagement, both online and offline. In their empirical case study of 13 teachers in various international locations, these researchers found that collaboration between teachers enabled them to "enhance their pedagogical knowledge and practice, develop

perceptions of themselves and others as teachers, and contribute to the wider teaching profession and beyond" (p. 105).

While many studies extol the benefits of collaborative learning, there is some evidence that collaboration in itself does not necessarily lead to improved practice. An example of this is the study by Moulakdi and Bouchamma (2020) into the effects of professional learning communities on student outcomes in public elementary schools in Cameroon. In this quasi-experimental study, the researchers compared pre- and post-test scores in Mathematics and French for students whose teachers participated in a professional learning community over the course of a full school year against a control group whose teachers did not engage in this kind of professional learning. The professional learning communities consisted of teacher participation in regular, three-hour collaborative meetings in which teachers discussed student work as well as new pedagogical strategies. By the end of the year, both the experimental and the control groups had shown growth, and there was no significant difference between the groups, despite the perceived success of the collaborative activity. The researchers attributed this to the fact that it takes time for the impact of professional learning communities to be observed in measurable outcomes.

Similarly, Nelimarkka et al. (2021) found some caveats to the effectiveness of teacher collaboration on social media sites. The researchers employed a mixed-methods design to explore eight years of posts, comments, and reactions of members in a self-organized pedagogy-focused Facebook group. While the benefits of this form of online collaboration were acknowledged, the authors also pointed out that significant attention is needed to ensure that social media networks provide the type of professional learning that has the most impact. In other words, membership of the network alone does not guarantee that learning occurs, and not

all online networks focus on the kind of knowledge that actually has an impact on teacher practice.

It is clear that collaboration in itself may not be sufficient to ensure effective learning. As some studies of unsuccessful collaboration show (Cordingley et al., 2015), collective endeavor needs to be carefully structured and nurtured. Saphier (2022) provided suggestions for developing a strong collaborative culture, including nurturing a caring and supportive work environment, providing opportunities for teachers to observe each other, developing a safe environment where risk-taking is encouraged and supported, encouraging inquiry and reflection, joint analysis of student assessments, and fostering a climate of open and frank communication. Donohoo et al. (2018) provided an additional point that it is important to have a shared purpose and set of beliefs.

Collaboration is an important element of social constructivism, but equally vital is the belief in the construction, rather than mere acquisition, of new learning. In a broad exploration of how social constructivist elements might be incorporated into professional development, Brand and Moore (2011) worked with 30 elementary school teachers from one school who participated in two years of professional development activities based on social constructivist principles. These activities included inquiry-based workshops, grade-level study groups, team planning, and collaborative discussion groups about implementation of instruction. Using the constant comparison method, this study found that professional learning which incorporated learner-centered collaborative group settings, and which provided opportunities to analyze critically their instructional practices and challenge preconceived ideas about teaching strategies, led to changes in teachers' philosophy, instruction, and the learning environment.

These findings aligned with those of a more recent study by O'Dwyer (2018). This researcher highlighted the issue that teacher professional development does not always lead to positive outcomes for students. She proposed that professional learning needs to connect directly to teacher experiences and practices if it is to have a positive impact on student outcomes, and she sought to investigate how constructivist elements can contribute to this. In order to do this, she undertook a longitudinal case study of chemistry teachers from six high schools across Ireland who participated in three and a half years of sustained professional development designed and facilitated by the researcher herself. Constructivist elements of this learning experience included presentation and modeling of the new skills, practice in a real setting, and feedback on that practice. It was found that these elements did bring about change in teachers' attitudes and beliefs, classroom practices, and student outcomes.

So far, positive aspects of social constructivism have been shared, but it is also important to consider possible weaknesses of this theory. Social constructivism has been criticized for its emphasis on the process of learning at the expense of the specific content needs of the individual (Jenkins, 2001) as well as its inability to provide precise pedagogical tools for linking learning in the external and internal worlds (Fox, 2001). These criticisms may be addressed by the model proposed by Boelryk and Amundsen (2016), which outlines the three dimensions of teachers' professional practice. The first, individual dimension, encourages reflection on personal elements such as individual goals, values and experiences. The second, social dimension includes interpersonal elements such as classroom dynamics and collegial interactions. The third, contextual dimension relates to school-embedded features including classroom design and resources, and school policy and curriculum requirements. The authors recommend that teachers

adopt a holistic way of looking at their professional development that encompasses all three of the dimensions.

While the social and contextual dimensions of Boelryk and Amundsen's (2016) model are addressed through collaborative professional learning activities, the individual aspects of professional learning, seen through the lens of social constructivism, can be developed by building self-efficacy and encouraging personal reflection. Self-efficacy was defined by Bandura (1997) as one's belief about one's own capabilities, and one's ability to produce action that results in intended outcomes. In terms of adult practice, this means that teachers must believe they have the ability to influence student learning and achievement (Bruce et al., 2010). Research has shown that teachers with high self-efficacy are more motivated to take part in professional development activities and risk trying new things in their classroom (Azukas, 2019; Thomson and Turner, 2015). Bandura explained the reason for this:

> Human attainments and positive well-being require an optimistic sense of personal efficacy. … Self-doubts can set in quickly after some failures or reverses. The important matter is not that difficulties arouse self-doubt, which is a natural immediate reaction, but the speed of recovery of perceived self-efficacy from difficulties. (Bandura, 1989, p. 1176)

According to Bandura (1997), people's beliefs in their own efficacy come from four sources: (a) mastery experiences, (b) vicarious experiences, (c) social and verbal persuasion, and (d) emotional states. A mastery experience occurs when successful performance results from setting a goal and persisting through challenges to achieve it. Vicarious experiences occur when we observe colleagues modeling a particular practice or strategy. Receiving positive feedback is a form of social and verbal persuasion that can become a self-fulfilling prophecy (Eden & Zuk,

1995), and experiencing positive physiological and affective states, such as success and confidence, can increase our self-efficacy (Bandura, 2008).

The second important aspect of individual growth is personal reflection. This is a vital part of professional development, because, as Larrivee (2000) suggested,

> Unless teachers develop the practice of critical reflection, they stay trapped in unexamined judgments, interpretations, assumptions, and expectations. Approaching teaching as a reflective practitioner involves fusing personal beliefs and values into a professional identity. (p.293)

Schön (1983) described two kinds of reflection: reflection in action and reflection on action. The former relates to active evaluation while we are in the process of doing something, which helps us to make in-the-moment decisions. Reflecting later on the outcome of our action is also important, with a view to improving our performance in the future. Dewey's (1933) understanding of reflection was closely related to the process of inquiry. Dewey believed reflection started with a puzzling problem or event, and, through a process of investigation and analysis, one could develop an understanding of the issue and thus come up with an appropriate plan of action. The role of reflection in this process is to build on one's prior knowledge of the issue and, through the process of discovery, construct a new understanding.

Reflection and self-efficacy may thus be understood as ways in which individuals build an understanding of what and how they themselves need to learn as professionals. The process through which they construct this understanding, however, is, according to social constructivist theory, best undertaken in a collaborative way. As Ghaye (2011) pointed out, reflection should be seen as a type of discourse. Reflective conversations can be held privately at first, but collaboration with others is also important in order to consider different perspectives and

experiences. Similarly, at least two of the sources of self-efficacy, vicarious experiences and social and verbal persuasion, require input from others.

Social constructivism thus forms the theoretical framework for this dissertation's exploration into teacher professional learning in the IB program. It is worth considering, in addition, two theories which are based on social constructivist principles, but which relate particularly to adult learning: andragogy (or adult learning theory) and heutagogy.

Andragogy and Heutagogy

Much professional development is guided by Knowles' (1970) theory of andragogy, which describes the methods and practices of adult learning. Knowles conceived of learners as self-directed and autonomous and saw the role of the teacher as a facilitator of learning rather than the traditional presenter of content. The main principles of andragogy that he proposed are that adults need to reflect critically on their learning and form their own understandings and meanings of knowledge, rather than accepting it without question from an authority figure. Adults need to be involved in setting their own goals, finding relevant resources, and ultimately evaluating the learning process and outcomes. Throughout this process, the learning environment plays an important role. Adults learn best in a climate that fosters mutual trust and respect. In addition, even though personal experiences and individual goals form an important part of learning for them, adults also need opportunities to collaborate and communicate with others in their learning experiences.

A summary of Knowles's six principles of andragogy is given below:

1. Adults learn what they need to know.
2. Adults have their own self-concept and thus take ownership for their own learning.
3. The role of adults' prior experiences is very important.
4. Adults must be ready to learn.

5. What adults learn needs to be directly applicable to their life or work situation.
6. External motivators are important for adults, but intrinsic motivation is more powerful. (Knowles et al., 2015)

Gregson and Sturko (2007) conducted a case study on teacher professional development that was designed on these six principles. Career and technical education teachers in two United States universities participated in specially designed experiences facilitated by fellow teachers who were considered to be master educators. The researchers found that "when principles of adult learning inform and shape professional development experiences for teachers, teachers are able to reflect on their practice, construct professional knowledge with their peers, and develop more collaborative relationships with their fellow teachers" (p. 1).

Kelly (2017) similarly found that professional development that was based on these principles was effective in changing teachers' assumptions, expectations, values, and beliefs. She conducted a qualitative case study that involved semi-structured interviews and focus group interviews with eight teachers who participated in a two-year professional learning community that focused on student literacy. Kelly argued that this form of sustained professional learning was effective in addressing and solving school challenges, particularly through its emphasis on critical reflection and collaborative discourse.

In 1970, Knowles described andragogy as being in opposition to pedagogy, the more usual term used for the theory of teaching, but the revised version of his book in 1980 shows that he later considered them as being on either end of a continuum (Henschke, 2008). Viewed in this way, pedagogy is defined as the transmitting of information in a logical sequence, while andragogy is concerned with providing ways for learners to acquire the knowledge and skills that they need (Holmes & Abington-Cooper, 2000). Blaschke (2012) took this continuum of learning

one step further and added a level beyond andragogy, called heutagogy. The term heutagogy was first adopted by Hase and Kenyon (2007), who described it as a holistic approach where the learner is "the major agent" in their own learning and where new knowledge and skills build from personal experiences (p. 112). On her learning continuum, Blaschke described pedagogy as "engagement" with learning, where less mature learners still require guidance and scaffolding from an instructor. Andragogy is identified as "cultivation" of learning, where learners are more self-directed but still need a degree of guidance from an instructor. At the level of heutagogy, or "realization", people have full agency and self-determination over their learning (Blaschke, 2019, p. 8).

These different approaches to learning, it could be argued, are appropriate for learners of any age, and depend on the nature of the knowledge and skills that need to be learnt as well as the maturity and motivation of the individual learner. It can be seen that both pedagogical and andragogical approaches are encouraged for IB students. Direct instruction, or pedagogy, is appropriate for some kinds of knowledge (IBO, 2018b) while learner-driven inquiry, which aligns with andragogical principles, is encouraged at other times (IBO, 2020a). Both types of learning are also appropriate in teacher professional growth, with Akyıldız (2019) arguing that heutagogy is most closely aligned with the expectation of self-determination that teachers have of their own learning. The importance of this self-determination is supported in the writings of Houle (1961) and Tough (1971) as well as Knowles (1970).

Characteristics of Effective Professional Development

As the above discussion of social constructivism, and the related theories of andragogy and heutagogy, has shown, studies have been able to explore how professional development that is founded on these principles can lead to effective growth outcomes for teachers and their students. As a result, researchers have been able to recommend certain characteristics that should

be present for professional development to be effective. For example, in their seminal study of 1,027 mathematics and science teachers in the United States, Garet et al. (2001) investigated the structural and core features of professional development that impact teacher and student outcomes. They found that the most effective professional development is sustained in duration, enables collective participation of teachers who work together, focuses on academic subject matter, provides opportunities for active learning, and is integrated into teachers' daily working lives. In a later investigation, Ingvarson et al. (2005) found similar results in a survey of 3,250 Australian teachers. This research, using four replications of the same study, looked at the impact of professional learning on teachers' knowledge, teachers' practice, student learning outcomes, and teacher efficacy. It was found that professional development which focused on content, which provided opportunity for follow-up and active learning, and which developed professional community had the greatest impact on the measured outcomes.

These two quantitative studies are examples of the large number of investigations into the core characteristics of effective professional learning experiences. Several reviews of this literature have been conducted, and the findings are largely similar. Table 2 below provides the findings from several well-known reviews of research into effective professional development characteristics.

Table 2

Findings of Reviews of Research into Characteristics of Effective Professional Development

Cordingley et al. (2015)	Darling-Hammond et al. (2017)	Hammer (2013)	Walter & Briggs (2012)
• Sustained duration (at least two terms,	• Content focused • Incorporating active learning • Collaborative	• Focused on both content and content pedagogy • Coherence with school goals and curriculum	• Concrete and classroom-based • Led by external experts

Cordingley et al. (2015)	Darling-Hammond et al. (2017)	Hammer (2013)	Walter & Briggs (2012)
preferably a year) • Includes follow-up, consolidation and support activities • Direct relevance to participants' everyday experiences • Shared sense of purpose • Alignment of teacher learning with student learning outcomes	• Job-embedded • Involves modeling and coaching • Including opportunities for feedback and support • Sustained duration (over weeks/months/years rather than days)	requirements • Opportunities for active learning (including reviewing student work, practicing new skills and obtaining feedback, engaging in oral and written discussions, and planning implementation of new learning • Collective participation (with others from the same school or department) • Lasting at least 30 hours in duration and sustained over one or more school years	• Teacher choice in areas to develop and activities to undertake • Collaborative (teachers working with peers) • Includes mentoring and coaching • Sustained over time • Supported by effective school leadership

The commonalities between these reviews show that effective professional development needs to include the following characteristics:

- be of sustained duration, not a once-off occurrence
- encourage collaborative learning
- include mentoring, coaching, and feedback
- relate to teachers' everyday experiences and specific school and classroom context and content

The alignment of these characteristics with social constructivist theory, and Knowles' six principles of andragogy in particular, is clear. Social constructivism proposes that learning is active (i.e., involving opportunities for trying things out and receiving coaching and feedback from others), and constructed through interaction and discourse with others (i.e., collaboratively). Knowles' (1970) emphasis on adults' need to know, readiness to learn, building on prior

experience, and the applicability of learning to everyday life and work is achieved in professional development that is job-embedded and continuous. These characteristics therefore form a helpful foundation for planning professional learning activities for teachers. Chen and McCray (2012), however, cautioned against taking too simplistic a view of these features. They argued that they will be ineffective if they are used only to plan for the acquisition of teacher knowledge and skills. They conducted a study in 80 public schools in Chicago which had been found to be effective in raising teacher proficiency as well as student achievement in early mathematics. The approach used in these schools included many of the above characteristics of effective professional development, including opportunities for teachers to practice their learning in their classrooms with the support of knowledgeable peers and mentors, but attention was also given to the development of teacher attitudes, through learning labs and on-site coaching. This led the researchers to encourage a holistic approach to teacher learning which, in addition to proven characteristics of effective professional development, also considers teacher attitudes towards the program.

Now that the theoretical framework underpinning adult learning has been discussed, and the characteristics of effective professional development have been identified, it is possible to explore the different formats or types of professional learning that are possible for IB teachers to increase their knowledge, skills, and attitudes related to the IB program. These forms will first be discussed in a generic manner, and then specific ways that these formats can be incorporated into IB professional learning will be explored.

Different Forms of Professional Learning

Traditionally, professional development consisted of one-off workshops and conferences (Barrett & Pas, 2020). Much research has shown the limitations of this kind of training (Darling-Hammond et al., 2017) with common reasons for its ineffectiveness including its lack of impact

on wider school culture (Sparks, 2005), the dearth of opportunities to apply learning in practice (Gulamhussein, 2013), and its fragmentation from holistic teaching practice (Phillips, 2003). It has been suggested, however, that teachers' professional learning includes both traditional, formal training as well as informal, on-the-job learning (Borko, 2004; Knyd et al., 2015; Shirrell et al., 2019). Linking to social constructivist theory, García-Martínez et al. (2021) emphasized the important role that social activity plays in the "continuous process of personal and professional transformation" (p. 632) and suggested that this social cooperation exists both within and beyond schools, and in both formal and informal settings. Informal opportunities include conversations with colleagues, lesson observations, information sharing, and seeking advice from peers (Thurlings et al., 2015). These important practices do not always happen instinctively, and effective collaboration needs to be nurtured and structured within the school system and culture.

In his seminal book on professional development, Guskey (2000) suggested a broad range of learning activities which schools and individuals can consider:

- training
- observation/assessment
- involvement in a development/improvement process
- study groups
- inquiry/action research
- individually guided activities
- mentoring (p. 22)

While some of these activities might be formally organized by a school or organization, such as training and involvement in a development or improvement process, many of these formats may

be undertaken by teachers either in formal or informal ways. For example, a school might formally mandate that teachers meet regularly in study groups, but equally a teacher may establish their own group of colleagues that meets informally or even online after hours. Regardless of whether the professional development is formally or informally structured, it is important that teachers have access to different kinds of learning, because people do not all respond to various types in the same way (Desimone & Garet, 2015; Kennedy, 2016; Kyndt et al., 2016). It does need to be noted, however, that education has changed quite substantially in recent decades, as was discussed in the introduction to this dissertation, with technology opening up new ways of learning. Guskey's list is still relevant as a basis for thinking about different forms of professional development and will now be discussed in greater detail. Some of these forms, however, have been transformed from Guskey's original conception because of the emergence of new technology platforms.

Training

As has been discussed above, training generally consists of workshops and conferences, either provided by an external expert or facilitated by someone within the school. In their reviews of the literature on professional development, Cordingley et al. (2015), Timperley et al. (2007), and Walter and Briggs (2012) found that external experts are important in order to bring specialist content knowledge and multiple and diverse perspectives to the training. These specialists also have thorough knowledge of adult learning methods, including how to challenge beliefs and practices and build new values. It is particularly helpful when these experts establish long-term relationships with the school (Walter & Briggs, 2012), because it is important that the training aligns with the school's purpose and context (Cordingley et al., 2015). Research has shown that workshops are most effective for building a shared knowledge base (Guskey, 2000), but less effective for developing more challenging instructional strategies (Desimone & Garet,

2015). Training is most effective, however, when it incorporates exploration of the theory behind new practices with opportunities for modeling, feedback and reflection (Joyce and Showers, 2002).

The high cost of traditional workshops and conferences has been cited as a significant limiting factor (Barrett & Pas, 2020; Lipsey et al., 2012; Osman & Warner, 2020). In their recent study, Barrett and Pas (2020) found that workshops cost between $138.29 and $158.45 per educator per contact hour in 2017-18 US dollars. They also pointed out the cost to student learning, when instructional time is lost by teachers attending workshops. Maher and Prescott (2017) suggested that video conferencing, also known as synchronous online training, is a way to overcome these challenges, as well as provide learning opportunities for teachers in more remote geographical locations.

Training does not only have to be a one-off occurrence, however. In her study of twelve teachers engaged in three years of school-designed continuing professional development, Forrest (2018) found that brief training sessions from time to time can be beneficial, as long as they included research, theory, and practice and were backed up by opportunities for teachers to discuss their learning between sessions. This study related to teacher practice in the IB program, and the sustained use of collaborative and discussion protocols was found to build teachers' understanding of student-centered educational philosophy. Teachers were able to try out new strategies in a supportive environment and integrate their learning into their school's specific context. The challenge of providing opportunities like this, however, is having a skilled facilitator in the school. This may be an administrator who is knowledgeable about the IB philosophy, or perhaps the school's appointed IB coordinator. This role is a requirement of the IB program, and it is intended to be both an administrative and a pedagogic leadership role (IBO,

2015b). Jamal (2016), however, pointed out that coordinators are often recruited from the school's teacher population, and they may be inexperienced in adult learning principles.

Observation/Assessment

As was discussed earlier, Bandura (1997) listed vicarious experience as an important way to develop self-efficacy. A key example of this type of experience is teachers observing each other in action in their classrooms. The observer can increase their professional knowledge and learn new strategies (Dos Santos, 2017), and the preparation of feedback increases their reflective capacity (Day, 2015). There are also benefits for the person being observed, who can gain new insights into their practice from the feedback they receive (Showers & Joyce, 1996). A challenge to this form of professional development is that it can be difficult for teachers to find time in their schedules to observe each other and to meet to discuss what was seen (Guskey, 2000), and some teachers do feel anxious about opening their classroom to others (Dos Santos, 2017). Dos Santos found that motivation for peer observation can be increased by putting a clear protocol in place. Many decades ago, Goldhammer (1969) outlined the steps for effective observations of teacher practice as (a) pre-observation, (b) observation, (c) analysis and strategy, (d) conference, and (e) post-conference analysis. Since then, many protocols have been developed along these lines, with the common elements being the development of a trusting relationship and a focus on reflection (Nguyen, 2021).

Some studies suggested there is increased student achievement after peer observations have been put in place. For example, in a two-year study of 82 secondary schools in England, Burgess et al. (2020) found that low-stakes peer observation improved student achievement in the classes of both the observee and the observer. Other research demonstrated benefits for collaborative relationships and teacher self-efficacy beliefs. Language teachers in Iran, for example, reported better communication among teachers and an improved atmosphere of

collaboration as a result of peer observations, as well as gained confidence and more sense of purpose as a teacher (Motallebzadeh et al., 2017).

Involvement in a Development/Improvement Process

Another form of collaborative professional learning occurs when teachers are involved in a development or improvement initiative in their school. Guskey described this form of professional development as a group of educators who are brought together to "develop or review a curriculum, design a new program, plan strategies to improve instruction, or solve a particular problem" (Guskey, 2000, p. 24). The advantage of such groups is that members will increase their knowledge and skills as they work together to refine or create the product or solve the issue, benefiting from the many different perspectives and experiences of each member of the group. A limiting factor is that membership of these groups must necessarily be restricted and therefore not everyone on the faculty can benefit. In addition, unless thought is given to the process of the group's work, there is a danger of "groupthink" setting in (Forsyth, 2019), where a desire for conformity or harmony may lead to decision making that is not based on evidence but rather on persuasive voices.

While such groups still play an important part in internal school improvement, it has also been argued that schools need to learn from each other as well, with between-school and beyond-school partnerships becoming increasingly important (Chapman & Muijs, 2014). One form of networking that has emerged is the community of practice, which can occur both internally and externally in school contexts. Communities of practice were first proposed by Lave and Wenger (1991), who believed that learning is created through collaborative interactions and particularly those that are situated in the workplace. Situated learning, they argued, means:

> The individual learner is not gaining a discrete body of abstract knowledge which (s)he will then transport and reapply in later contexts. Instead, (s)he acquires the skill to

> perform by actually engaging in the process, under the attenuated conditions of legitimate peripheral participation. (p. 14)

These authors suggested knowledge is not just created through social collaboration, but also by interacting with the specific context, and its associated norms, challenges, objects, and language. Paavola and Hakkarainen (2005) provided an alternative way of looking at this. Instead of a "monological" approach to learning which is concerned with acquiring knowledge, social constructivists propose a "dialogical" approach which incorporates social learning. Paavola and Hakkarainen offered in addition a "trialogical" approach, in line with Lave and Wenger's theory, in which learning is collaborative and also involves shared objects and artifacts (Paavola & Hakkarainen, 2005, p. 539).

Zepeda (2015) stated that communities of practice are important because they network people (both colleagues and people who don't work together), they are situated in a shared context (which facilitates the exchange of ideas and information), they enable dialogue (on specific problems or shared interests), they stimulate learning (with opportunities for mentoring, coaching, and reflection), and they enable members not only to learn from each other but also to generate new knowledge. Teachers in communities of practice report appreciation of the safety and reassurance they feel in the group (Akinyemi et al., 2020) and belief they are supported in improving their instructional practice (Mai et al., 2020). Sometimes, however, cliques can form, and membership can become exclusive (Blankenship & Ruona, 2007). Internal power struggles can limit effectiveness and growth of the group (Contu & Willmott, 2003).

Study Groups

Whereas the previous form of professional development involved a small group of educators working on a particular issue, study groups can involve larger numbers or indeed the whole faculty. Guskey (2000) suggested that, while everyone is working on the same issue or

concept, teachers should be divided into smaller groups, each of which choose a particular element of that issue or concept to focus on. Again, the advantages of this are that teachers can learn from each other and develop their knowledge and skills through inquiry, but the groups need to be structured so that everyone contributes equally. There is a danger in groups like this that certain personality types or authority figures can take control and move the group in a direction that aligns with a personal agenda rather than what is best for the group (Lin & Lee, 2018; Sagor, 2009), or that some teachers may lack investment in the group's work and be uninvolved (Brodie, 2021).

One kind of study group that has become particularly popular in the last two decades is the professional learning community. These groups are "school environments where teachers work collaboratively in purposefully designed groups to improve student achievement" (Massey, 2009, p. 119). The concept was first proposed by Hord (1997), who declared a need for opportunities for professional development that were collegial, based on a shared vision, and which involved collective learning and visitation and review of colleagues' teaching practice. Hord called on school leaders to provide the operational and personal support necessary to establish such communities. DuFour et al. (2016) built on this idea and provided clarity on the guiding principles for professional learning communities. First, the work of these communities should focus on student learning. Second, they should be collaborative and there should be an understanding of collective responsibility. Third, there needs to be an orientation to results.

Professional learning communities have been shown to increase student achievement (Burns et al., 2018; Vescio et al., 2008), improve instructional practice (Borko, 2004; Vescio et al., 2008), have a positive impact on teacher self-efficacy (Owen, 2015), and play a role in overall school improvement (Lee & Louis, 2019). However, as has been argued previously,

collaboration in itself does not lead to effective teacher growth, and these communities need to have strong structures in place related to inquiry, discourse, and reflection if they are to be effective (Trotman, 2009).

Inquiry/Action Research

While professional learning communities promote inquiry into specific student learning needs, there are broader forms of action research which can serve as important professional learning opportunities for teachers. In action research, teachers decide on an issue or problem that they want to investigate or solve, and collaboratively they research information about this topic and come up with possible actions that they then try with their students before analyzing the results (Calhoun, 1994). In this form, professional learning aligns with heutagogy, with learners choosing to explore issues that are particularly relevant to their current situation, as well as taking ownership of their growth and building their own new understanding. Sagor (2009) suggested that our changing educational needs and the rapid rate of knowledge growth, as was discussed in the introduction to this dissertation, means that professional development must now focus on generating new knowledge. He further argued that it needs to be recognized that, given the different contexts of schools, instructional strategies that may be effective in one school may not work in another. Professional development therefore needs to focus on learning rather than training. Action research is an effective way for this new knowledge and understanding to be created.

Action research can be done either individually or in small groups. Vetter's (2012) case study of a single teacher undertaking this kind of professional development, however, showed that regular reflective discussions with other teachers doing action research was vital for the researcher's transformation. Vetter described the process of change through action research as "dynamic, interactive, and complex" (p. 44) and the collaborative interactions played an

important part in the learning process. Action research can be challenging, as teachers struggle to find time to meet with their colleagues (Glanz, 2016) and do not always have the skills to complete the research, including reviewing literature and analyzing data (Wulandari et al., 2019). The advantages, however, are that teachers develop their self-efficacy, and improve their ability to reflect on their practice and make decisions, while the focus on school improvement benefits their organization's climate and culture (Sullivan & Glanz, 2014).

Individually Guided Activities

Richardson (2003) argued that, while collaboration is needed for organizations to move together towards a common purpose, individual teachers also need to construct a personal understanding of instructional practice in their own classroom. The principles of andragogy and heutagogy, as have already been discussed, encourage adults to set their own goals and find appropriate learning activities that align with particular needs. Teachers should have some degree of agency over what professional development they undertake, according to Richardson, as long as they have developed reflective practices so they know their areas of greatest need. Knowles (1970) stated that adults need to be motivated in order to learn, and thus personalized approaches to professional development are appropriate (Passmore & Hart, 2019; Thomson and Turner, 2015). Schifter (2016) suggested, however, that most people need a degree of accountability to keep up their learning momentum, as well as assure high standards of student learning.

Thus, collaboration with others often remains a necessary element of individually motivated learning. This has led to the term personal learning network being coined to describe the connectivist approach that many teachers employ in their professional learning (Tobin, 1998). Whereas communities of practice and professional learning communities, which have previously been discussed, bring together teachers who have a common purpose and often use a

single platform for collaboration, personal learning networks instead refer to a "set of nodes and links with affordances for learning" (Wenger et al., 2011, p. 9). In recent years, technology has transformed how we are able to connect with each other. Social networks, collaborative websites, live communication tools, and virtual reality applications are just some of the ways we can now network with people around the world. These tools enable teachers to use a variety of in-person and online resources as needed to achieve their specific learning goals (Trust et al., 2016). The appeal of this individually guided approach to professional development is evident: "Just as the students have a vision for personalized learning that is socially-based, un-tethered and digitally-rich, so do their teachers for their own professional development" (Project Tomorrow, 2012, p. 9).

Many studies have shown that teachers find the self-directed learning possible through online networks to be a valuable form of professional development. In her five-month case study of three Australian teachers who initiated their own online personal learning networks, Tour (2017) found this type of professional learning activity to be social, personalized, active, reciprocal, ongoing, and relevant. Holmes et al. (2013) analyzed the online activity of 30 influential Twitter educators and found that this cost-effective platform gave teachers ownership of their professional growth, allowing them to learn and gain relevant information as well as receive social support as professionals. Platforms such as Twitter and Facebook allow for instant access to a network of teachers around the world and are easy to use and convenient (Mai et al., 2020). Benefits of these networks include supportive, collegial relationships (Booth, 2012; Macìa & García, 2018) and the development of a teacher's professional identity (Robson, 2016), both of which are important ways of building self-efficacy. Networks also offer opportunities to ask questions (Tsiotakis & Jimoyiannis, 2016), discuss various teaching topics (Krutka and

Carpenter, 2016), and exchange information and resources (Bett & Makewa, 2018; Macìa & García, 2018).

Not all such networking is effective, however. Killion (2013) warned that the quality of online material varies widely, and virtual discussions have been criticized for their poor content (Kelly & Antonio, 2016; Tsiotakis & Jimoyiannis, 2016) or for not focusing on relevant topics (Duncan-Howell, 2010). Indeed, a frequent complaint is that the vast amount of information available on the Internet can be overwhelming (Davis, 2015; Rosell-Aguilar, 2018; Tsiotakis & Jimoyiannis, 2015), and Elliot et al. (2010) warned that strong digital literacy skills are needed to evaluate the reliability of content found. As with all forms of collaboration, a foundation of trust and respect is essential (Henschke, 2014) and Booth (2012) suggested that this is harder to achieve in online environments. In a multiple case study of successful online learning communities, Booth found that having an active, experienced community moderator was essential in establishing the purpose of the group and ensuring appropriate collaborative behaviors. Other research has supported the importance of community moderators (Wenger et al., 2009). Lundin et al. (2017), however, refuted previous research criticizing the quality of discourse in social media groups, and argued that these are ideal platforms for the kind of teacher-driven, focused, and sustained discussions that are needed for professional growth. Carpenter and Krutka (2015) further suggested that social media groups can combat the isolation that some teachers feel, and through exposure to both like-minded and diverse perspectives these networks allow educators to consider novel ideas as well as advancements in educational practice.

Mentoring

The final form of professional learning, mentoring, refers to more experienced colleagues working with teachers who are newer to the profession, providing influence, guidance, and

direction (Guskey, 2000). In IB schools, mentors may be an administrator, the IB coordinator, or another experienced colleague. Peiser et al. (2018) described how mentors are well placed to provide the connection between theoretical knowledge and practical application that is so important in professional development, but they also warned that not all mentors understand this aspect of the role or have the time to accomplish it adequately. In his study of 101 mentor teachers in Australia, Hudson (2013) found that mentoring also acted as powerful professional development for the mentors themselves, as it enhanced communication and leadership skills as well as pedagogical knowledge.

Closely related to mentoring, Joyce and Showers (2002) recommended peer coaching as a way for teachers to practice and develop new classroom skills. In the last two decades, many schools have modified the peer coaching approach and now employ dedicated instructional coaches to fulfill this important function (Woulfin & Rigby, 2017). These coaches are usually experts in instructional or practice or curriculum, who work with teachers on an ongoing basis to improve their teaching.

There is much research that shows that coaching is an effective approach to improving teacher instructional practice and thus forms a valuable alternative approach to traditional professional development. Kraft et al., (2018), in their meta-analysis of 60 research studies, found a positive effect size of 0.49 on teachers' instructional practice. Some researchers suggest that coaching is a valuable follow-up to other forms of professional learning (Darling-Hammond et al., 2009; Reinke et al., 2014; Teemant, 2014), as it provides focused, personalized support over a sustained period of time. While some research shows that instructional coaching has a positive impact on student achievement (for example, Allen et al., 2011; Neumerski, 2012), Kraft et al. (2018) found it has a smaller effect size of 0.18, implying coaching benefits teacher

practice more than student growth. Another criticism of coaching is its high cost. Knight (2012) found it to be up to 12 times more expensive than other forms of professional development, and Barrett and Pas (2020) worked out coaching costs $169.43 per teacher per contact hour in 2017-18 US dollars, which is 7-22% higher than their findings for other forms of professional development.

IB Professional Development

As the above discussion showed, there are numerous forms of professional development available. This means there are multiple avenues open to IB educators, beyond traditional workshops. A more detailed discussion of how these models apply to professional development in the IB program now follows.

IB Workshops

IB workshops are provided in three languages (English, Spanish, and French) and are divided into three levels or categories (IBO, n.d.-i). Category 1, for teachers or administrators who are new to the IB, focuses on the IB philosophy. Category 2 addresses IB standards and practices and explores classroom practices and assessment in more detail. Category 3 explores the topics of the previous category in greater depth. It can be seen that subject content is not specifically addressed. This is no doubt intentional as the PYP and MYP are only curriculum frameworks which do not specify specific content to be covered (Dickson et al., 2018), but some teachers are intimidated by the amount of content that needs to be covered in the DP (Awang et al., 2019; Hallinger et al., 2011). In addition, much research has shown that it is important for professional development to address teachers' content knowledge (Darling-Hammond et al., 2017). It may be assumed that teachers develop their content knowledge in non-IB professional development, but no research exists to show that this is indeed the case. It is important to ascertain that teachers are developing their content knowledge, as strong disciplinary knowledge

is an important requisite, particularly in the DP where specific content is prescribed in the program (Hill, 2012). Borko (2004) further argued that all teachers need a deep knowledge of their subject if they are to help students examine and build the connections between ideas that is central to developing conceptual understanding.

IB workshops are facilitated by experienced, practicing teachers who have undergone several rounds of a selection and training process (IBO, n.d.-g). While these individuals may have proved themselves as practitioners in their subject area, they are not necessarily experts in adult learning principles, which Cordingley et al. (2015), Timperley et al. (2007), and Walter and Briggs (2012) found to be important for trainers. IB workshop leaders deliver pre-designed content that has been piloted and which aligns with IB standards and practices, although workshop leaders do have some flexibility in personalizing the training according to their own presenting style and the particular needs of workshop participants. In 2009, the IBO expanded its traditional offering of five-day face-to-face workshops by adding online training which takes place over several weeks (McClurd, 2016), and in 2021, because of the Covid-19 pandemic, it added three- or four-day virtual workshops (IBO, n.d.-j). Unlike the online courses which are asynchronous, these virtual workshops comprise a blend of synchronous and asynchronous learning activities for participants. All these offerings provide approximately 15 professional development hours which are concentrated into a short time frame.

Recently, the IBO commissioned a study into the impact of its professional development model. Calnin et al. (2019) pointed out that large numbers of educators participate in IB workshops every year, and through their research they wanted to explore what the IB professional development model looks like in theory and how this model compares to literature-defined best practice in teacher growth. The researchers also aimed to investigate the difference

in educator knowledge, attitudes, and beliefs before and after IB training, and the extent to which the workshops resulted in changes in instructional practice, both in the short- and long-term. The research consisted of a multiphase mixed-methods study that started with pattern matching to compare practice with theory. Researchers then surveyed 108 workshop participants in each of the three IB categories (1, 2, and 3) and programs (PYP, MYP, and DP) both before and after the training, to ascertain their knowledge, attitudes, and beliefs related to their learning. A comparison group of 63 teachers who did not attend the workshops also completed the survey. Finally, seven members of the workshop participant survey group were purposively selected for interviews to explore these topics in greater depth.

The thorough review of literature conducted by the researchers provided a list of nine critical features of effective professional development: sustained length, integration of practice and feedback, job-embedded learning, coherent curriculum and content, collective endeavor, engaged and effective school leadership, targeting of beliefs and attitudes, acknowledgement and support of cultural diversity, and embedment of principles of andragogy. The theory-to-practice comparison found concerns related to many of these critical features, except for curriculum and content coherence, collective endeavor, and making use of the principles of andragogy. The teacher surveys and interviews showed that workshop participants were significantly more positive in attitude towards the IB approaches to teaching and learning after the training, but only somewhat positive towards workshop content and strategies. It should be emphasized that the effect sizes were small, and the researchers admitted that the changes in attitude may not have been caused by the workshops themselves. The surveys also showed that participants had a stronger negative outcome expectancy belief after attending a workshop (that is, the view that implementing the learning from the workshop would require a large input of time and energy

that would detract from other commitments) but participants were significantly more confident in their own ability to put their learning into action. Finally, the surveys showed that participants had only slightly higher scores related to content knowledge after as compared to before the workshop. As a result of these findings, the authors were able to make six important recommendations for future consideration by the IBO:

1. Integrate opportunities for practice and feedback.
2. Support workshop leaders to target teacher attitudes and beliefs throughout the workshop process.
3. Consider whether workshop length is sufficient to effect sustained change in teacher practice and student learning.
4. Support greater connections between professional development and educators' everyday workloads.
5. Explore strategies for building shared understanding of professional development content among networks of teachers within schools.
6. Explore strategies for embedding supports that allow workshop leaders to acknowledge and adapt based on participants' diverse cultural contexts. (Calnin et al., 2019, p. 76)

Other studies that mention IB professional development similarly revealed mixed opinions about the value of the training received, including Storz and Hoffman (2018), discussed at the beginning of this chapter, who found that 50% of teachers in their research disagreed that IB-provided workshops had been helpful. Despite the challenges related to inquiry and transdisciplinary teaching and collaborative practice previously discussed, however, there is evidence that some teachers do believe their IB training helped them focus on new teaching approaches. Perry et al. (2018), in an IB-commissioned study, found that MYP teachers believed

their training had exposed them to inquiry methods and skill development rather than just content. Despite this, the teachers still requested more support and exemplars from the IBO in assisting them to manage the demands of the program.

Calnin et al. (2019) pointed out that, each year, the IBO organizes more than 4,500 workshops worldwide which are attended by over 80,000 educators. Concern has been expressed in a number of studies, however, about the high cost of these workshops (Awang et al., 2019; Christoff, 2021; Jamal, 2016; Perry et al., 2018). In reflecting on the high cost of both program implementation and professional development for teachers, one study participant in an Australian public school commented:

> I feel like [the IBO] doesn't necessarily acknowledge the diversity of situations that schools find themselves in. It became very evident to me that as a public school, and with all the restrictions around being a public school and money, we don't have the opportunities to take the MYP to that next level that I've seen schools that are well funded achieve. (Perry et al., 2018, p. 2)

While most studies that refer to professional development in the IB program consider only workshops and other formal trainings, there are other opportunities for professional learning that are provided by the IBO which will be discussed next.

IB Conferences

The IBO hosts both regional and global conferences each year. The organization states that these conferences "identify best practices for the ways we educate students, giving practitioners the opportunity to exchange valuable ideas on international education" (IBO, n.d.-b). Keynote speakers lead plenary sessions while IB educators and other professionals can apply to present to smaller groups of delegates on topics of their choice that relate to IB philosophy or practice. This provides an opportunity for IB teachers who engage in action research to share and

discuss their findings with others, providing a valuable form of active professional learning. No research has yet been conducted into teachers' experience of professional learning through either presenting at or attending these conferences.

IBEN Membership

Experienced IB teachers can apply to become members of the IB Educator Network (IBEN) through a number of roles including workshop leaders, school visitors, and consultants (IBO, n.d.-g). These roles involve applying or sharing expertise with other teachers and schools, and they are rewarded with financial compensation. Just as mentoring was shown to benefit both mentor and mentee (Howard, 2013), so does being an IBEN member double up as a form of professional learning. A recent study of 1,014 educators in 682 schools in 93 countries found that the benefits of IBEN membership included increased professional knowledge and pedagogic skills, access to up-to-date resources, mastery of the core concepts of IB philosophy, and collaborative interactions as part of the IB network (Chadwick et al., 2018).

IBEN educators undergo continuous training and evaluation, of which self-reflection is an important element. For example, workshop leaders have to successfully complete several rounds of training, which includes evaluation of practice presentations, before they are appointed to lead official workshops. In addition, they are evaluated by both participants and field representatives during every workshop they give. In considering how this contributes to an educator's professional learning, it is clear that this structure aligns with the characteristics described earlier as necessary for effective growth: it is ongoing, collaborative, includes mentoring and feedback, and relates to teachers' everyday experiences as IB educators.

IB Documentation

It has been argued throughout this chapter that many forms of professional development exist beyond traditional, formal models such as workshops. It has also been suggested that not all

forms of professional learning need to be facilitated by experts, but rather, educators can take initiative for their own learning (in line with heutagogy). Richter et al. (2011) suggested that one form of informal professional learning that individuals can engage in on their own is reading relevant resources. One possible source for this information is the official documentation provided by the IBO. The organization has published a wealth of literature on each of its programs (IBO, 2015a; IBO, 2015b; IBO, 2018b; IBO, 201b) as well as individual aspects of its philosophy such as inclusion (IBO, 2020b) and approaches to learning (IBO, 2019b). The depth of discussion of educational concepts varies between program guides, with the PYP containing the most detail as it contains the largest number of separate guides which cover multiple aspects of IB philosophy; for example, approaches to learning (IBO, 2019b), inquiry (IBO, 2018a; IBO, 2019c), learning and teaching (IBO, 2018b), the learner (IBO, 2018c), and the learning community (IBO, 2018d). The IBO recently commissioned a British national agency to audit the articulation of the approaches to teaching over the range of publications. These researchers (The National Recognition Information Centre for the United Kingdom, 2020) used direct referencing, keyword referencing, and thematic referencing to analyze all IB curriculum documents for mention of the approaches to teaching. It was found that it would be helpful for further description and explanation of the IB educational philosophy to be provided, including clearer articulation of the constructivist foundation and its importance. It was also suggested that components of this philosophy, such as the approaches to teaching, could be more strongly embedded in the documents. This recommendation aligns with Jamal's (2016) perspective on the role the IB publications play in supporting and guiding teachers in their implementation of the program. For example:

> Analysis of IB documents reveals that, with the exception of the phrase 'intercultural understanding and respect' in the IB mission statement, there is little mention of the pivotal role of intercultural education in IB curriculum documents. Intercultural education is inextricably linked to the IB mission statement, and the paucity of its inclusion in IB curriculum documents is seen as a deficiency in the quality of guidance provided to teachers. (p. 28)

This implies that while official IB documents are an important source of information about the IB philosophy and other elements of the program, they may not be sufficient in themselves to support teachers in their professional learning.

IB Networking Resources

IB educators who work in a registered school have access to a website called My IB. Formerly known as the Online Curriculum Centre, My IB is described as "a resource-sharing and networking portal accessible exclusively to IB teachers worldwide. This is a platform where IB educators may exchange resources and ideas, collaborate with other IB teachers, and access IB curriculum documents, exemplars and sample Unit planners" (Jamal, 2016, p. 26). In 2021, the IBO launched a new, free form of self-paced and self-directed professional development, "where IB educators can access thousands of resources to support teaching in their programme and subject, connect with and learn from peers, and elevate their expertise by contributing their teaching and learning insights within a global network of educators" (IBO, n.d.-c, para. 1). At the time of writing, this platform is still in the early stages of development, currently being trialed in the English language by DP History, Mathematics, Core, and Physics teachers. When it is fully functional, it is expected to contain a large number of resources created by practitioner content developers relating to various aspects of IB pedagogy.

Conclusion and Summary

Lalwani and Fox (2020) could only find one critical article and two research papers that related to professional learning in the IB program. Jamal's (2016) article encouraged the IBO to deepen its curriculum documentation in order to better support teachers in their implementation of the IB philosophy. Forrest (2018) investigated school-organized ongoing professional learning sessions, and Storz and Hoffman (2018) discussed the shortcomings of IB-provided trainings. It can be seen that beyond traditional conceptions of formal professional development, there are numerous other forms of professional learning available to IB teachers and there is a need to research how teachers make use of these in their practice. This literature review shows that multiple approaches to professional growth need to be taken in order to address the social constructivist elements of adult learning, requiring a combination of formal, facilitated learning activities (aligned with andragogical principles) as well as teacher-initiated, informal approaches (as proposed by the theory of heutagogy). This holistic approach will enable teachers to construct their own meaning of the IB approaches to teaching and learning within the collaborative context of the IB structure.

This chapter started by identifying the challenges that teachers face in implementing the IB educational philosophy, citing several studies which found that educators seek further opportunities for professional learning beyond the official IB workshops. The theoretical framework used as the lens for the ensuing examination of professional development was discussed in detail, followed by a summary of the main characteristics that research has shown are necessary for effective professional learning to occur. The various forms of professional development that encapsulate these characteristics as well as the principles of social constructivism and andragogy were then provided, with a discussion of how these particular models apply to professional learning in the IB program. It was argued that a social constructivist

approach to professional learning requires consideration of multiple forms, both formal and informal, which will enable teachers to construct individual understanding of the IB philosophy and program elements through collaborative and contextual learning endeavors. It is these multiple forms that will be investigated in this research study. Chapter 3 will discuss the methodology used for this investigation.

CHAPTER 3. METHODOLOGY

The purpose of this qualitative hermeneutic phenomenological study was to explore the professional learning experiences of International Baccalaureate (IB) Diploma Programme (DP) teachers in international schools. It is believed that a holistic portrayal of the phenomenon of both the formal and informal learning opportunities undertaken by IB practitioners will enable individual teachers, their schools, and even the IBO to seek out professional development formats that promote individual growth in alignment with the IB educational philosophy. In seeking to understand this phenomenon, the study used one main research question: What is the lived experience of professional growth for DP teachers as they seek to understand and implement the IB program and philosophy? Sub-questions were:

1. What are the professional learning needs of IB teachers?
2. What are the formal and informal professional learning activities in which IB teachers participate?
3. How and why do teachers choose which professional learning activities they undertake?

This chapter describes the study's research methodology and includes discussion of the following topics: rationale for research design including the hermeneutic phenomenological approach, description of the research sample, methods of recruitment and data gathering, explication of data, issues of trustworthiness, ethical considerations, and delimitations and limitations of the study.

Rationale for Qualitative Research Design

Qualitative research aligns with the constructivist paradigm, in which the ontological perspective is that reality is not objective but rather is created, transformed, and understood by individuals and groups as they interact with the world around them (Creswell & Poth, 2018). The

researcher engages in interpretation of this constructed reality through participation in the natural setting and observation of the phenomenon from the perspective of the research subjects (Fraenkel et al., 2018). The intent is, through discovery and description, to provide a holistic depiction of the phenomenon and its meaning for the participants of the research (Morrison, 2012). This is in contrast to quantitative research, where the researcher tests hypotheses in the search for objective truth.

Professional learning is a complex topic to research. Guskey (2000) argued that any evaluation of professional development needs to take into consideration multiple influences on student outcomes such as school culture and organizational policies, in addition to the quality of the professional development itself. Boelryk and Amundsen (2016) suggested that research into professional learning should take into account the full range of personal, social, and contextual aspects involved. A qualitative approach is therefore most appropriate to uncover the multiple facets of professional learning and provide a rich, holistic description of participants' experiences. In addition, a qualitative approach enables the researcher to "understand how events, actions, and meaning are shaped by the unique circumstances in which these occur" (Maxwell, 2013, p. 30).

There are several different types of qualitative approach (Creswell & Poth, 2018), and these were considered at the start of the design process. Ethnography is used to explore the shared patterns of individuals within a particular culture group, but, given the fact that international school teachers come from a range of different cultures and often move frequently between different countries, the study did not focus on culture and thus this type of research was not appropriate. A case study, which includes in-depth exploration and description of a single case or multiple cases within a specific context, was not used because the research focused on

the lived experiences of teachers and considered the multiple school contexts in which they work and have worked. Rather than looking at any one particular school context, this study considered the professional learning of teachers within the holistic context of the international school system, as defined in chapter 1. Grounded theory, which utilizes the analysis of collected data to formulate new theories, was not considered an appropriate approach, because theories already exist about teacher professional development. Finally, a narrative approach would have allowed the story to be told of one teacher's experience of professional learning in the IB. Given the many influences on teacher growth, however, including social, personal, and occupational aspects, the researcher preferred not to be limited to just one person's story, but instead seek to find the commonality of several teachers' experiences, which could be more helpful in supporting larger numbers of IB practitioners to improve professional development activities. Thus, it was decided a phenomenological approach would be most suitable for exploring this common essence. As van Manen (2016) explained, "phenomenology aims at gaining a deeper understanding of the nature or meaning of our everyday experiences" (p. 9). Additional reasons for adopting this methodology are given in the next section.

Rationale for Phenomenological Methodology

Having roots in philosophy, phenomenology describes the common essence of participants' experience of a single phenomenon (Creswell & Poth, 2018). There are different forms of phenomenological research, and thus it is important to outline the philosophical approach that provided the basis for this study.

Husserl (1931) first proposed transcendental phenomenology as a move away from the positivist emphasis on empirical science, advocating instead for a return to the search for wisdom that had preoccupied early Greek philosophers. Rather than reverting to the subjectivity which is often a characteristic of qualitative research, however, Husserl and his followers encouraged the

suspension or bracketing of preconceptions and judgements in order to be open to seeing the world as it is; in other words, an objective perspective of the participants' subjective experiences. Husserl's student Heidegger, however, did not believe it was possible to ignore one's existing knowledge and experience, arguing that the researcher is always present in the world and consciousness which he studies (Heidegger, 1927/1982). He thus proposed hermeneutic phenomenology as an alternative form, in which the researcher makes their personal biases explicit, and, during the process of data analysis, they reflect back and forth between the research data and their own interpretation of that information based on their prior experience of the phenomenon in question. It is this latter approach to phenomenology which formed the foundation of this research study. The researcher has worked in IB schools for more than 15 years and has extensive experience of professional development from the perspective of teacher on the one hand, and facilitator and coach on the other. It is believed this wealth of knowledge enabled the researcher to extract significant meaning from the participants' accounts of their own professional learning experiences which is considered one of the strengths of the hermeneutic phenomenological approach (van Manen, 2016). The sections below will give further details about the various stages of the research design, including the initial review of literature, the research sample, the recruitment of participants, the method for gathering data, and the explication of data.

Inclusion of Literature Review

Before proceeding with the actual gathering of data, a review of selected literature was undertaken. There is some disagreement on the appropriateness of this step in a phenomenological study (Fry et al., 2017). Despite this being a conventional element of research, providing valuable insight into previous findings on a topic (Creswell & Poth, 2018), it has been argued that phenomenological researchers need to keep an open mind as they embark on a new

investigation (Dunne, 2011). Given that this is a hermeneutic phenomenological study, however, and in agreement with Heidegger's (1927/1982) belief that it is almost impossible for investigators to have a complete absence of knowledge or bias regarding a particular topic, the researcher felt it appropriate and indeed necessary to review relevant literature as part of the study. Brinkmann and Kvale (2018) argued that, in research that uses interviews as the primary data collection tool, it is vital for interviewers to have a thorough conceptual and theoretical understanding of the subject matter in advance, so that interviews can be designed with a particular thematic focus. Interviews that are not adequately focused, according to these authors, run the danger of providing only superficial or irrelevant data.

It has been suggested that phenomenological studies begin with the researcher being "swept up in a spell of wonder" (van Manen, 2016, p. 26). Initial exploration delved into research on professional development in a variety of educational contexts. As a clear pattern of models and elements related to effective adult and professional learning emerged, the researcher began to question how these often-cited characteristics aligned with her own experience of professional growth as an IB teacher. Further investigation into research on professional development in this particular context revealed a dearth of studies related to the IB program. A broader range of literature was then consulted, including articles related to various aspects of IB implementation which encompassed elements of teachers' professional learning. The review of literature thus encompassed studies related to IB education in general, teacher professional learning in the IB, and the characteristics of effective adult and professional growth in more general contexts. This review revealed the need for further exploration of IB teachers' experiences of professional development.

Research Sample

Purposeful sampling is most often used in qualitative research because it allows the selection of participants with rich experience of the phenomenon under investigation (Creswell & Poth, 2018). One type of purposeful sampling, criterion sampling, is particularly relevant in phenomenological research to ensure that all participants have experienced the phenomenon (Marshall & Rossman, 2016). For this study, therefore, the sample consisted of IB DP teachers currently working in international schools who had engaged in a range of professional learning activities. In addition, convenience sampling was used to select a heterogeneous group of participants, providing breadth in terms of cultural background, age, number of years teaching, and subject area. Guidelines suggest that phenomenological studies should include between three and ten participants (Creswell & Creswell, 2018) and Charmaz (2006) recommended that data collection should cease when there are no new insights to be achieved. In keeping with these suggestions, the researcher stopped collecting data when it was felt that saturation point had been achieved, and the final number of participants in the study was seven.

Recruitment of Participants

To recruit participants, the researcher reached out to DP teachers in five international schools in different countries who were known to fulfil the criteria of having taught the IB program for a minimum of two years and being involved in various forms of professional development. In addition, these teachers taught in each of the six IB subject area groups, were diverse ages, had taught for different lengths of time, and came from various countries. Creswell and Poth (2018) suggested that, in phenomenological research, heterogeneity of participants can provide richer description of the common essence. Information about the study was provided to all prospective participants (see Appendix A) and those who agreed to participate were asked to complete the informed consent form (see Appendix B).

Data Gathering

Interviews are the most common data collection tool in phenomenological studies as they permit the methodological spontaneity that is so essential in this type of research (Giorgi, 1985), and they also allow participants to provide first-hand accounts of their lived experiences of the phenomenon being investigated (Creswell & Poth, 2018). The advantages of this method are that a large amount of data can be gleaned swiftly, and the researcher is able to follow-up immediately on any of the interviewee's comments and probe particular areas in more depth (Marshall & Rossman, 2016). On the other hand, interviews can be limited by the willingness and ability of the participants to share relevant information, which may depend on the degree to which they are articulate or perceptive (Creswell & Creswell, 2018). It is therefore important for the interviewer to focus on building trust at the start of the interview and use good listening and probing skills to encourage depth of information sharing (Brinkmann & Kvale, 2018).

The interviews in this study utilized a semi-structured protocol, allowing a combination of planned questions which addressed the research questions as well as a disciplined naturalness in which participants could share other information which often ended up being relevant to the study (Giorgi, 1985). The researcher conducted one semi-structured interview with each participant, lasting between 33 and 58 minutes. Interviews were all done over the internet, given the dispersed geographic location of the participants, using the online service Zoom to enable face-to-face interaction which was recorded for later transcription. This approach is advantageous in terms of providing ease of access to participants and allowing them to choose a convenient time for the interview as well as a familiar, comfortable location (Salmons, 2015). An interview protocol, as recommended by Brinkmann & Kvale (2015), was used, containing questions related to the study's central research question and sub-questions, as well as suggesting prompts to go into further detail on participants' responses. The interview protocol was

developed according to the framework suggested by Seidman (2013), although all the stages of Seidman's three-interview process were combined into one session. This framework started with an exploration of the participant's life history in relation to teaching in the IB program, then asked for detailed description of the participant's experience of IB professional development, and finally required the participant to describe the outcomes of their experience (i.e., the implementation of their learning). It should be noted that hermeneutic phenomenology seeks to investigate the concrete ways in which phenomena are experienced rather than participants' interpretations of them (van Manen, 2016), and this was reflected in the interview protocol. The protocol is provided in Appendix C.

The interviews were transcribed to allow coding and thematic analysis to be undertaken. The researcher first manually transcribed the aural component of each interview, omitting filler words, such as "um" or "ah", unless the researcher considered their inclusion to provide insight to understanding a particular statement. The transcript was then compared with the video recording, and non-verbal communications, such as nodding or laughing, were added to the written record. Participants were asked to verify the accuracy of the transcripts, also known as member checking. While transcripts will always be "impoverished decontextualized renderings of interview conversations" (Brinkmann & Kvale, 2018, p. 107), it is believed that recording as much data as possible from the interview provided a rich foundation for data analysis.

Explication of Data

The processes of both analysis and synthesis of data were used, because in hermeneutic phenomenology the parts inform the whole and the whole informs the parts (Grbich, 2012). Peoples (2020) suggested the use of the term explication for this process, which is defined as "investigation of the constituents of a phenomenon while keeping the context of the whole"

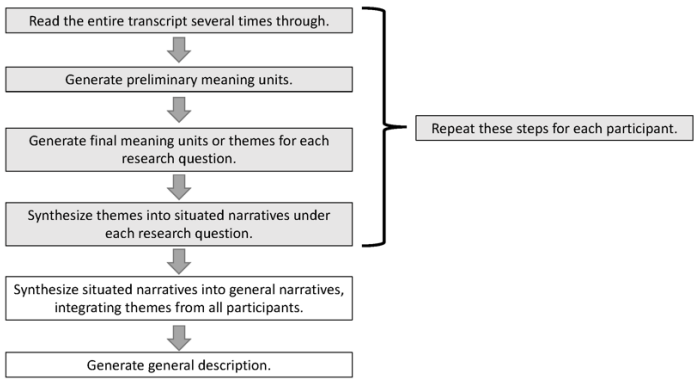
(Hycner, 1999, p. 161). Based on advice from Peoples (2020), the following outlines the steps that were utilized in the explication process for each interview transcript:

1. The entire transcript was read several times through.
2. Preliminary meaning units were generated. These reveal particular traits of the phenomenon being investigated.
3. Final meaning units were generated for each research question. These are also known as themes and describe the meaning behind the participant's description of their experience (van Manen, 2016).
4. Themes were synthesized into situated narratives under each research question. Situated narratives provide specific details of the participant's experience for each theme, using direct quotes from the interviews.

After these steps were completed for all transcripts, the researcher synthesized the situated narratives into general narratives, integrating the main themes from all the participants. The general narratives were used to generate the general description, which united the major themes into a cohesive whole. Figure 1 gives a graphic summary of this data explication process.

Figure 1

Data Explication Flow Chart



Adapted from Peoples, 2020, p. 58.

Journaling played an important role in the explication process (Grbich, 2012). The researcher, before starting the analysis of data, journaled pre-understandings about the phenomenon. This is appropriate in hermeneutic phenomenology so that the researcher can deliberately put their biases in front of them. The journaling process continued throughout explication, in order to keep track of changes in the researcher's thinking about the phenomenon, which naturally occurred as a result of reflecting on it (Gadamer, 2004). Changes in thinking required constant revisiting of participant data and revision of meaning units as part of the hermeneutic circle which underpins phenomenological data explication (Heidegger, 1927/1982).

Issues of Trustworthiness

Whereas validity, reliability, objectivity, and generalizability are key concerns in a quantitative study, Lincoln and Guba (1985) argued that the criteria by which a qualitative investigation should be judged include credibility, dependability, confirmability, and transferability. These authors used the term trustworthiness to encompass these principles.

Credibility refers to the believability of the findings of the study and relates to the concept of internal validity in a quantitative study. In order to provide credibility, prolonged engagement in the field of study was necessary (Creswell & Poth, 2018). Sampling criteria, as discussed earlier, were used to ensure that participants were experienced in the phenomenon under investigation. Interviews were selected as the primary collection tool to gather data directly from the source, providing the teacher's own verbalization of their lived experience. Reliability of the transcription process was provided through member checking; that is, getting participants to check the accuracy of the transcripts. Peoples (2020) advised this is an important step in ensuring trustworthiness but warned against asking participants to verify the interpretations. Giorgi (2006) explained, "Participants are surely privileged when it comes to what they *experienced*, but not necessarily concerning the *meaning* of their experience" (p. 358).

Dependability refers to consistency in the research process and aligns with reliability in quantitative research. A detailed explanation of the methodology and process that was followed in this study has been provided in this chapter. In chapter 4, a detailed audit trail will be provided to demonstrate how each step of the research process was conducted and how key decisions were made (Creswell & Poth, 2018). Discussion of the rationale and consequences of these decisions will allow the reader to understand the logic behind the interpretations and conclusions made from the data (Marshall & Rossman, 2016). As Giorgi (1975) explained, the key criterion for trustworthiness in phenomenology is whether the reader of the study in "adopting the same viewpoints articulated by the researcher, can also see what the researcher saw, whether or not he agrees with it" (p. 96).

Confirmability refers to the extent that the findings can be corroborated, and parallels objectivity in quantitative research. To protect the research from personal bias, the researcher's background, outlined in chapter 1, laid out inherent biases, and further assumptions will be discussed in the next chapter. As mentioned earlier, journaling was an important part of the explication process, allowing researcher experiences, assumptions, and views to be regularly reflected upon and used to create the questions necessary to revise thinking as part of the hermeneutic circle. As thoughts were adjusted, new interpretations were generated and constant shifting between the parts and the whole gradually allowed the meaning to become clear.

The final aspect of trustworthiness, transferability, refers to the applicability of the findings, and relates to generalizability in quantitative research. The constructivist tradition assumes the absence of an absolute reality and therefore the aim of this study was not to generalize findings to the full IB international school educator population. Instead, the phenomenological approach provides a thick description of the lived experience of the study

participants, from which readers of the study can extract meanings that may be relevant to alternative contexts. The participants all currently work in non-profit international schools, as defined in chapter 1, but their different backgrounds that may inform their current experiences include the country they come from, their teacher training experience, and their current school culture and practices. Information about the participant demographics is therefore provided in chapter 4 so that the contextual relevance is clear.

Ethical Considerations

Approval to undertake this research was acquired from the researcher's university Institutional Review Board after outlining the procedures put in place to protect the human subjects participating in the study. In order to minimize risk to study participants, certain measures were implemented according to recommended ethical guidelines (Busher & James, 2012; Creswell & Poth, 2018; Fraenkel et al., 2018). Participants who were selected for the study were sent a consent form which outlined the purpose and design of the research and asked for their voluntary participation. Subjects were asked to make themselves available for an online interview lasting approximately one hour, which would be recorded. Participants were assured that all data would be anonymized and kept in two password-protected computer locations (one primary and one remote backup) to which only the researcher had access. Data will be destroyed three years after the publication of this dissertation.

Limitations and Delimitations

There are limitations that are inherent to qualitative research methodology as well as some that are linked to this particular study design and the researcher has thought about ways to minimize both kinds of limitations. In particular, the issue of researcher subjectivity is common in qualitative studies, but measures to account for this (i.e., journaling and provision of an audit trail) were implemented, as recommended in the literature on phenomenological research. Prior

to conducting the participant interviews, the researcher responded to the same interview questions in order to lay open any preconceived notions, biases and assumptions. While this is close to the concept of bracketing which is used in classic phenomenology, Vagle (2018) preferred to use the term bridling to describe this process where "the focus remains on becoming much more familiar with one's judgments so they do not compromise one's openness to the phenomenon" (p. 39).

The study involved seven participants from different international schools. This sample size is adequate, given that the aim of phenomenology is not to make generalizations to a broad context but rather to discover the essence of experience of a small number of participants. The sample size and the use of semi-structured interviews enabled deep exploration and description of participant experiences. Given the extensive time demands of conducting these interviews and analyzing the data, a small sample was therefore acceptable (Creswell & Poth, 2018). It is a limitation of the study, however, that the findings cannot be generalized to the full population of IB DP teachers. However, as van Manen (2016) pointed out, "the tendency to generalize may prevent us from developing understandings that remain focused on the uniqueness of human experience" (p. 22).

The purposeful sampling method employed in this study is also a limitation as it introduces the possibility of bias. Criterion and convenience sampling are commonly used in qualitative research rather than a random sample, as it is necessary to find participants who can provide relevant data according to the research question. The use of purposeful sampling is therefore necessary. Steps were taken to minimize the risk of bias, however, by including participants who are diverse in age, gender, nationality, location, and experience.

Information was gathered through interviews conducted on the online Zoom platform. This causes a limitation due to the possibility that not all non-verbal communication may have been transmitted over the internet. The advantage of this platform, however, is that it allowed participants to be included who live in a range of geographic locations, thus increasing the diversity of experiences being brought to the research. In addition, some participants may have felt uncomfortable with the interview process or with the platform, and there were varying degrees of articulateness and perception, so the researcher did everything possible to put the participants at ease at the beginning of the interview and use probing questions to elicit further information as needed.

In order to provide as rich a description as possible, participants were sought from a range of nationalities and in a number of different schools. To achieve the study's aim of finding the common essence of their experiences, however, certain delimitations were put in place. All participants have at least two years' experience teaching the DP, as it is believed by the researcher that newer teachers may not yet have had time to understand how their professional growth influences their implementation of the IB program. In addition, all participants have expressed a commitment to the IB educational philosophy as well as an interest in their own professional growth as educators. Finally, all participants are currently employed as DP teachers in an international school (as defined in chapter 1).

Summary

In summary, this chapter outlined the methodology used for this hermeneutic phenomenological study into the professional learning experiences of IB DP teachers in international schools and how these experiences have informed their implementation of the IB program and philosophy. Seven purposefully selected participants comprised the research sample, and data were gathered through individual semi-structured interviews. The hermeneutic

circle informed the data explication process, with the researcher considering both the parts and the whole of participant experiences, combining techniques of analysis and synthesis in looking at the data gathered. Researcher experience and reference to the literature also informed the hermeneutic circle. Issues of trustworthiness are important in qualitative research, and this chapter discussed how credibility, dependability, confirmability, and transferability were addressed in the study. In addition, it was demonstrated how ethical treatment of participants and their data was ensured, and the limitations and delimitations of the study were identified. The next chapter will present the findings of the study and provide an audit trail to support the explication of data.

CHAPTER 4. FINDINGS

The purpose of this qualitative hermeneutic phenomenological study was to explore the professional learning experiences of International Baccalaureate (IB) Diploma Programme (DP) teachers in international schools. The preceding three chapters provided the rationale for the study, a review of literature on the topic, and a description of the philosophical and methodological approach and design applied to the investigation. Chapter 4 describes the sample of research participants and how data was gathered, before presenting the findings of the explication process and explaining how the grounding philosophy was applied.

Participant Demographics

Seven current IB DP teachers working in five different international schools participated in this study. In order to keep participants' identity confidential, the description of demographics will be aggregated.

The participants varied in age from 34 to 54. Table 3 shows a breakdown of their ages.

Table 3

Participant Ages

Age	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**
Number of participants	1	1	2	2	1

Participants came from six different countries: Belgium, Chile, India, United Kingdom (two participants), United States of America, and Zimbabwe. They had been teaching between 13 and 24 years, with a mean length of 19, and they had been teaching in the IB program between 7 and 17 years, with a mean length of 12. The participants had taught in between one and five different international schools, with a mean of 3.3. The international schools they had taught in, both

presently and in the past, were situated in China, India, Jordan, Kuwait, Oman, Malawi, Peru, Qatar, South Africa, Tanzania, Thailand, United Kingdom, Vietnam, Zambia, and Zimbabwe.

Research Methodology Applied to the Data Explication

All seven participants in this study were interviewed individually on a single occasion using the online Zoom application. Participants were able to choose the date and time for the interview and they could select the location where they felt most comfortable conducting the conversation. One hour was scheduled for each interview, but in the end the conversations ranged from 33 to 58 minutes. Video recordings were made of each interview and a separate audio recording was made on a different device in case of technical failure. In the event, none of the backup audio recordings was needed as all video recordings were of good quality. Both video recording and audio backup were deleted after the interviews were transcribed, as promised to participants.

Within a day of completing each interview, the researcher produced manual transcriptions. During this step, unnecessary or irrelevant words such as repetitions and filler words like “um” were deleted. For example, this was the verbatim statement made by one participant: “Everybody was you know all about IB and how you know that it was the most marketable thing so yeah that's that's pretty much the simple answer.” This was rewritten as, “Everybody was all about IB and how it was the most marketable thing, so that’s the simple answer.” The transcriptions were then checked again while relistening to the recordings to ensure that all information was captured. At this point, member checking was carried out, with each participant being given a copy of the transcription to check and edit as necessary. Only one participant pointed out a minor change to one word in her transcript, which was amended accordingly.

After reading through the first participant's transcript several times, the researcher identified 40 preliminary meaning units. Table 4 gives an example of this process.

Table 4

Example of Generation of Preliminary Meaning Units

Participant Words	**Preliminary Meaning Unit**
At first, I had to do quite a bit of reading and I think observations are pretty good. Unfortunately, due to time constraints and timetables that are designed, it has been quite difficult for me to be able to leave the classroom and go somewhere else. It's always a bit of a challenge to find time because it's not so much about the lack of time, but it's about the appropriate time. Because when I'm teaching, for instance, there is a teacher that I would like to team up with to do an IDU [interdisciplinary unit], and I can't see that teacher because we are teaching at the same time.	• Learning needs of IB teachers • Observing colleagues • Challenges to collaboration
So those are the challenges. I teach in a small school; we are like 400 students altogether so hence in the secondary area we don't have as many. But it seems to be related to the fact that we always mention lack of time, but I don't mean the lack of time. We have the time, but the problem is the way we allocate the time is not correct. Then you end up trying to steal time. So you meet over the weekends or after school, trying to collaborate with other teachers. The collaborative part is really, really important.	• Challenges to collaboration • School support for IB teachers • Self-initiated learning • Importance of collaboration

With subsequent participants, the same meaning units were used although minor amendments were made to some of the wording and a couple of new meaning units were added. To generate the final meaning units, after all transcripts were coded, the preliminary meaning units were grouped together according to similar concepts, and then sorted into three main categories which aligned with the three research sub-questions. This process was informed by the hermeneutic circle, with the researcher considering both relevant phrases extracted from the transcripts as well as the context of the whole of the participants' interview. The final meaning units are shown

in Table 5. It should be noted that the software program NVivo was used to facilitate this part of the data explication process.

Table 5

Final Meaning Units

Research Sub-Question	Final Meaning Unit (Theme)	Preliminary Meaning Unit
1. Professional needs of IB teachers	• Becoming an IB teacher	○ Country of teacher training ○ Getting into an IB school ○ Non-IB teaching experience
	• Preparation for IB teaching	○ Challenge understanding IB requirements ○ Content knowledge in the IB ○ Learning about the IB ○ Learning needs of IB teachers ○ Teacher training preparation for IB
	• Courses taught within the IB program	○ Teaching multi-programs within IB ○ Teaching multiple subjects
2. Types of professional development undertaken	• Collaboration with other IB teachers	○ Collaboration–content ○ Collaborative department culture ○ Community connections ○ Department meetings ○ Importance of collaboration ○ Mentors ○ Observing colleagues ○ Personal networks ○ School support for IB teachers ○ Sharing knowledge with others
	• IB workshops	○ IB workshops attended ○ Online workshops–experiences ○ Workshops–content ○ Workshops–experiences ○ Workshops–making connections

Research Sub-Question	Final Meaning Unit (Theme)	Preliminary Meaning Unit

	• IB-related resources	○ IB conferences
		○ IBEN membership
		  • Challenges to joining IBEN
		  • IB examining as professional development
		○ My IB
		○ Subject guides

	• Other professional development	○ Non-IB professional development ○ School workshops ○ Social media ○ Sustained, job-embedded learning
3. Reasons for choice of particular professional development	• Access • Funding • Relevance • Time • Self-Initiation	○ Challenges to attending professional development ○ Challenges to collaboration ○ Limitations of online resources ○ Go-to for questions ○ Reasons for attending IB workshops ○ Reasons for professional development format ○ Self-initiated learning ○ Funding of professional development ○ School-supported professional development

At this point, the researcher generated situated narratives, which consisted of organizing participants' experiences thematically for each of the final meaning units. General narratives were then created, unifying participants' accounts into a general description of their experiences for each set of themes which were grouped together to align with the three research sub-questions. Peoples' (2020) guidance on the use of the words "most" (for saturated themes), "many" (for 50% or more appearance), and "some" (for unsaturated themes which were nonetheless relevant) was utilized. The final step of the analysis was to write the general

description, which moved away from individual participants' specific accounts and aimed instead to discuss the themes that were implicit in all or most of the participants' descriptions of their experiences. The objective was to extract the common essence of the participants' experiences in a cohesive general description and thus answer the overarching research question.

Throughout the process of data explication, the researcher adhered to the procedures of hermeneutic phenomenology by journaling after conducting each interview and after extracting the meaning units from each transcript. Table 6 gives an example of a post-interview memo and an extract from a post-coding memo, in which the researcher reflected on the meaning of the experiences described by the participant. This is an important aspect of bridling (Vagle, 2018).

Table 6

Examples of Researcher Journaling

Type of Memo	**Journal Memo**
Written immediately after interviewing one participant	He learnt most of what he knows about teaching (in general and in the IB) from a former master teacher who he observed frequently. He has a few teachers who he relies on and reaches out to when he needs clarification or assistance–one is the moderator of the IB online forum, others are people he found himself who he has never met in real life.
Written after extracting the meaning units from the same participant's transcript	He shows a strong capacity for seeking out learning opportunities for himself, rather than relying solely on provided workshops or school support. He uses his initiative to seek out people and places to provide the answers he's looking for. He gave up his free time to observe an experienced colleague, and he has reached out to teachers in [name of city] and [name of country] who he doesn't know, as well as a former workshop leader, to get guidance on teaching issues. He thus demonstrates himself to be a lifelong learner as well as someone who values learning from and with others.

In addition to journaling, the researcher had made several assumptions in advance of conducting the study. These are discussed after the findings have been presented.

Presentation of Data and Results of Explication

The main research question was: What is the lived experience of professional growth for DP teachers as they seek to understand and implement the IB program and philosophy?

The sub-questions were:

1. What are the professional learning needs of IB teachers?
2. What are the formal and informal professional learning activities in which IB teachers participate?
3. How and why do teachers choose which professional learning activities they undertake?

As recommended by Creswell and Poth (2018), the sub-questions provide insight into different aspects of the overall lived experience sought as the main purpose of the study. Therefore, the discussion of findings will first address each of the sub-questions before culminating in the main research question.

Research Sub-Question 1: What are the professional learning needs of IB teachers?

The preliminary meaning units were refined to three final meaning units, also known as themes. The distribution of themes according to each participant (P1 to P7) is shown in Table 7. It can be seen that all three themes were mentioned by each participant.

Table 7

Table of Themes for Research Sub-Question 1

Theme	P1	P2	P3	P4	P5	P6	P7
1. Becoming an IB teacher	x	x	x	x	x	x	x
2. Preparation for IB teaching							
1. Prior teacher training	x	x	x	x	x	x	x
2. Learning about the IB program	x	x	x	x	x	x	x
3. Courses taught within the IB program	x	x	x	x	x	x	x

Situated Narrative

Theme 1: Becoming an IB Teacher. The participants all came to teach in the IB program through different circumstances. One participant, a trained teacher, was working as an administrative assistant in an international school which offered the DP program. By the time a teaching position opened, she had already spent much time familiarizing herself with the IB philosophy and requirements and so was ready to take on the role. Another participant, who had industry experience but no formal teaching qualification, paid for himself to take an IB workshop. He spoke about his desire to work in an IB school: "At that time I was hearing a lot about the IB, and when I went to one of the … [international school] job fairs, everybody was all about IB and how it was the most marketable thing." Despite his lack of experience and relevant certification, this teacher came across an "empathetic, big-hearted person who was willing to give me a shot." He was offered an unpaid internship as a teaching assistant at an IB international school, but within just a month he had proved himself capable, and he took over as teacher of the class because the former teacher's schedule was over capacity. (It should be noted that many international schools do not require teachers to have formal teaching qualifications. Instead, a bachelor's degree in the subject being taught is generally the minimum requirement.)

Another of the participants similarly spoke of her desire to get into the IB system and the challenge of doing so: "We were in American system [international] schools. … And for us, it felt like all the upper tier schools were more IB… And the double-edged sword was, you can't be an IB teacher because you don't have experience. Well, how do you get that experience?" This participant therefore paid herself to attend a DP Theory of Knowledge (TOK) workshop, but it was only later that a school superintendent took a chance on her and gave her a job in a school that combined the American curriculum with the IB program.

Another of the participants spoke of the status of IB schools and his desire to work in them: “I was always interested in the IB. I had a sense that the career opportunities would be a little broader in the IB system.” This participant also adopted a proactive approach and applied and was accepted to become an IB examiner. After marking IB exam scripts for several years, this teacher was successful in securing an IB position in a large international school. The participant believed his experience as an examiner was key to acquiring his first IB teaching job: “I think that’s probably what got my CV [curriculum vitae] seen when I applied to [name of school]. ... Even though I hadn’t taught IB Diploma, I had that experience and knowledge of the exam, having examined it.”

While the previous examples demonstrated how teachers with a certain knowledge of the IB program started teaching it, not all participants were familiar with it when they were hired as IB teachers. One participant, an experienced teacher in a different national system, described how her career trajectory had unfolded: she had started teaching in international schools, “and then I realized that if I wanted to go into bigger schools, they were offering the IB. And so I needed to get that knowledge, and to access those bigger schools I needed IB experience.” This teacher applied to an IB school and was apparently hired for her expertise in her subject area as well as, she believed, the diversity she brought to the department:

> I think it was to my advantage the fact that I am a non-native English speaker, and that I am female in the [traditionally mostly male subject area] department. I think they saw this as a strength and they thought, she’ll get trained for the IB, knowing that there was a very strong head of department.

Another participant who was experienced in a different curricular program was selected by her (non-international) school to be one of a few teachers to implement the IB program. This pilot

involved a small cohort of students in the school, with the IB program running alongside the traditional curriculum. This teacher spoke about her excitement at being involved in the implementation of the new program:

> It was quite a thing to bring into the school system. … The head was eager to get a few people who were really keen on that whole idea of an international outlook and who were quite ambitious for the school. … It was really exciting and very different. It felt exciting that we were pioneers at the school.

The final participant had a somewhat different, unexpected route into the DP program. He was a Middle School teacher who, with just a couple of months' notice, was asked to teach a DP course in a different subject area to his specialty, due to a staffing issue in the school to which he was moving. The participant, not surprisingly, described this situation as "nerve-wracking," though he did add, "but I've been loving it since."

Theme 2: Preparation for IB Teaching. The second theme relates to how teachers prepared to become IB teachers, and this discussion is divided into the areas of prior teacher training and teachers' learning about the IB program.

***Sub-Theme 1: Prior Teacher Training*.** Some of the participants spoke about the IB educational philosophy being quite different from the system in which they had been trained. One of the participants who trained in the United Kingdom spoke about the "shift from that content focus to concepts becoming really the driving force in your teaching and planning and assessment." Other participants similarly commented on the conceptual approach to education being different to their teacher training experience. The participant from Chile mentioned the "approaches to learning" and the "concept base" as being new to her, while the teacher who trained in South Africa described the training in her subject area as being more technical: "I

remember it wasn't very conceptual. It was more the practical elements of [subject area] teaching."

At the same time, however, most teachers did feel their teacher training had incorporated at least some elements of the IB philosophy. The second, slightly younger participant from the United Kingdom spoke about his training focusing on "assessment for learning and inquiry-based learning." The teacher who trained in South Africa described her experience of a more culturally diverse program: "When I did my training, there was a growing realization of making it more relevant to a broader scope of people. When I did it, it was in 2000, so post-Nelson Mandela." This participant also described the program's student-centered approach:

> There were some interesting things about activities and ideas we could use. They did do interesting things, like you'd have to do a self-assessment: you had to assess yourself and then the lecturer would assess you afterwards. You'd have conversations, and there was a portfolio. There was some really cool stuff.

Two of the participants believed their teacher training had prepared them well for the IB educational approach. The teacher who trained in Belgium described how her background aligned with the IB philosophy, even though it was aimed at a different educational program:

> The one thing that was clear through my studies is that you always have to think about what is in the best interest of the student. But that doesn't matter what program it is, and so that is one thing that I kept in mind. My training was also a lot about student engagement and student inquiry: you do not provide a course as a lecture. And that is very much IB-like.

One of the participants, despite having taught for a decade, had just recently completed his teacher certification. Of all the teachers, his training seemed to align most closely with the IB

philosophy, perhaps because the program he chose is particularly geared towards international school teachers. The participant described the alignment between his program and the IB philosophy:

> I would say it's pretty close. When I look at the lesson plan template and the unit plan template, you can actually draw parallels between an MYP [Middle Years Programme] unit planner and what they have given. There are essential understandings, there is which 21st century skills are you incorporating into this, how are you accommodating or modifying for special learning needs kids, ELL [English Language Learner] students. So all of those, you can put them side by side, and you can draw a line between each component of both. And they obviously encourage inquiry-based learning and being lifelong learners, so in terms of the philosophy there is a lot in common.

When asked if he wished he had done this training earlier in his career, the participant replied, "Absolutely. Some of the things I learned by making mistakes. I think I would have saved some time for me and my students."

This experience of recent international school focused teacher training contrasted with the participant who did her training in a traditional United States university approximately fifteen years earlier. This participant said, "My American education was so American. And I realized that that was not really going to help me at all with DP."

Sub-Theme 2: Learning About the IB Program. Most of the participants spoke about the challenges of adjusting to the IB program. One teacher mentioned the challenge of coming to grips with the language of the IB program: "I can still viscerally feel the overwhelming list of all the jargon between MYP and DP … It was just lingo overload. I thought I was going to die." Another spoke about the logistical demands: "I don't think I was ready to encounter all the

technicality of following documentation, because IB is heavily loaded on documentation that you have to comply by." Another participant similarly expressed how she felt about the rigidity of her course:

> I just know that I had a gap. I wanted to make sure that I was delivering the content that the IB was asking. … I couldn't make it up, I couldn't go into, well, we can also look at this, this is interesting. If it's not part of the course, you don't really have time to go outside the curriculum.

Another participant explained the challenge of multiple demands imposed by the IB program:

> With all of the different command terms and the range of questions and the range of skills that students were expected to do in the DP as opposed to just the content, I found it quite difficult at first to know how to adapt my teaching to build up those different skills and allow students to answer questions from different perspectives.

One participant described how it took several years for her to come to grips with the DP curriculum. At first, she said she was very focused on the DP Internal and External Assessments (IAs and EAs): "I know I didn't have as much flexibility and the ability to pivot with all that because I was still just trying to amass content knowledge and the program knowledge." She described feeling "debilitated" because of the need to "just constantly be constructing and building and never getting to the point of refining and being able to really reflect on stuff to get a handle on things." With time, however, this improved: "It was by my third year that I felt I had permission to just teach and not … just focus on the IAs and EAs all the time."

Not all subject areas have specific content defined in their syllabus and this was also a shift for some of the participants. It does appear, though, that this change in approach was welcomed. One participant stated,

> Prior to [the IB] we were doing the [national curriculum program], and you had really selected units. So you're doing these three texts; it was quite precise in the selection of texts. In terms of doing the DP, in terms of the subject content, as a department we were just amazed that there was so much we could do; so many choices. And there was this whole idea of all that was out there, which can be intimidating but it's also quite exciting, and I think my department was really excited about that.

A teacher in a different subject group similarly described his experience:

> Going from [the national curriculum program], which is very prescriptive in terms of content, to being told, okay we've got these overarching concepts, we've got these overarching themes, but within that there's a lot more freedom in terms of what one could teach in terms of content, because nothing is really prescribed.

This participant described his move to the IB program as "a real eye opener" and explained,

> As a young teacher at the time … I found that to be almost liberating. It was a way of thinking about teaching and learning that I found refreshing. I still think those first three years teaching MYP and DP in [name of country] was probably the most rapid growth I had as a teacher.

This participant also attributed his growth to moving from the British national school system to the more internationally oriented IB program. He spoke about his first three years as an IB teacher in his first international school:

> I think I grew a lot in those three years, and I think a lot of that was also just working with colleagues in a more truly international environment. So, in the British system, working with lots of Commonwealth teachers–South Africans, Aussies, Kiwis, Brits–then working with more Americans, Canadians, people from India, China: a much more

> diverse teaching body, with people coming in with their own ideas. And especially the North American colleagues who really did put new ideas on the table, and just different attitudes to what education is and should be; it was quite exciting actually during that time. Now it's sort of normal, but I remember in those first three years … a real illuminating experience.

In addition to the diversity of IB colleagues, some participants mentioned the international focus of the curriculum in various subject areas as being new to them. One participant said, "I had no clue what people were talking about when they were throwing out names and theorists and world theater traditions. It made me realize my own education was so limited, and that's what made me excited." Another participant spoke of a British university lecturer who visited her school just after they started offering the IB program and said, "I'm not sure about this world literature." One teacher spoke about the real-world application of knowledge in one of the components in his subject area, Computer Science: "For students to have a real-world client and for them to make a product for a real-world client, I don't think any other curriculum even approaches, forget about has a component like that." And finally, one participant spoke about the emphasis on the whole child which he felt was unique to the IB program: "There's so much more than just content: the focus on ATLs [Approaches to Learning] and the Learner Profile. I really do think it builds much more confident, engaging, creative people."

Theme 3: Courses Taught Within the IB Program. All the participants in this study had taught more than one course or subject area during their time as an IB teacher. In addition, all participants had taught MYP in addition to DP in at least one of the schools they had worked in. One of the participants had been hired as a DP Spanish Ab Initio teacher, but later landed up teaching MYP Individuals and Societies (I&S) and DP Spanish B. She explained this situation as

"I suppose in a small school they're always looking for teachers who can actually offer a little bit more than just one aspect of teaching or one area." This appears to be a common phenomenon, with a Mathematics (Math) teacher being asked to teach DP Economics and only later MYP Math and various DP Math courses (Math Studies, Math Analysis & Approaches, and Math Applications & Interpretation). One participant taught DP Theory of Knowledge in addition to DP Geography and MYP I&S, and another participant taught DP Information Technology in a Global Society as well as DP Computer Science. The Group 1 teacher had taught DP Literature, DP Language & Literature, DP Theory of Knowledge, and MYP Language & Literature. The Group 6 teacher had taught both DP and MYP Language & Literature in addition to DP Theatre. (Note: The IB program uses the British spelling of theater for this course.)

General Narrative

All the participants appeared to consider working in an IB school as a worthy achievement, with many of them speaking of the high regard in which these schools are held. Four of the participants took the initiative to learn about the IB program in anticipation of opportunities becoming available in the future, while three were provided with training in conjunction with positions they already held. All participants had remained in IB schools after moving into the system. They described feelings of excitement, nervousness, and being overwhelmed when they first started teaching the IB program, and all of them related how they had had to adjust their teaching practice to align with the IB philosophy. Some of the shifts included the IB emphasis on concepts instead of content, the IB focus on learning (i.e., promoting the role of the student) and not just teaching and the teacher, the IB philosophy of inclusiveness, and the move in many IB subjects from prescribed, often Western-centered content to broad choice in a variety of global contexts. All participants demonstrated flexibility in their teaching assignments, having taught more than one course within the IB program. This

ability to offer more than one subject area is an advantage in the international school system, where organizations generally have a higher turnover of teachers than is the case in national schools.

Research Sub-Question 2: What are the formal and informal professional learning activities in which IB teachers participate?

The distribution of themes according to each participant for this sub-question is shown in Table 8. Although not all participants mentioned each of the sub-themes, it can be seen that elements of each main theme were mentioned by all participants at least once.

Table 8

Table of Themes for Research Sub-Question 2

Theme	P1	P2	P3	P4	P5	P6	P7
1. Collaboration with other IB teachers							
i. Departmental collaboration	x	x	x	x	x	x	x
ii. Other in-school collaboration	x	x	x	x	x	x	x
iii. Mentors	x		x	x	x	x	x
iv. External collaboration	x		x	x	x		x
2. IB workshops							
i. Workshop content	x	x		x	x	x	x
ii. Learning from other participants	x	x	x	x	x	x	x
iii. Workshop experience	x	x	x			x	x
iv. Online workshops	x			x	x	x	x
3. IB-related resources							
i. IB-provided resources	x	x	x	x	x	x	x
ii. Examining as professional development	x	x	x	x	x	x	x

Theme	P1	P2	P3	P4	P5	P6	P7
4. Other professional development							
i. Social media groups	x	x	x	x	x	x	x
ii. Non-IB professional development	x					x	x

Situated Narrative

Theme 1: Collaboration with Other IB Teachers. All the participants mentioned that there were other IB teachers in their schools with whom they could collaborate. The precise nature of this collaboration took a variety of forms.

***Sub-Theme 1: Departmental Collaboration*.** Some participants clearly enjoyed working with the colleagues in their department. One participant said, "We have really a nice collaborative vibe within the department," while another said, "I feel like that is really important, having someone to bounce ideas off." One teacher further explained why she appreciated collaborating with her team:

> That is how I find that a department works. It's that you just go to one another, and there is no shame or being afraid to ask, you just say it as it is. And if I mess up or there's something I'm missing, you just say it.

Depending on particular school situations, however, collaboration is not always possible. The Computer Science teacher, for example, found himself without a department to collaborate with because his subject was not included in the Group 4 timetable structure. Another participant also found himself as the only teacher of his particular subject for the following year. When asked if his experience was that it was common in his group (Individuals & Societies) for teachers to be working alone, he answered:

> I'd say it's not uncommon. I'd say most schools encourage … at least two teachers teaching within a subject. However, with smaller classes, History tends to often be quite a small cohort of students, often Geography as well, … it's not uncommon to have people as solo teachers of DP classes. I'd say the popular ones are Economics–you'll generally have a team of two or three, and Business tends to be quite big. But it depends on the size of the school, of course.

Clearly, the degree to which collaboration occurs within departments depends partly on the subject area as well as the school size. This was certainly the case for the Group 6 teacher. She described collaboration with MYP theater colleagues in a previous school: "I had colleagues who were amazing with sharing. … It was so great to be on a team of three teachers per grade level. … We gelled; we became really good friends. … We were always in each other's space." This did not occur at the DP level in her present school, however, where she was the only teacher of her subject: "The hardest thing for me is I feel very lonely here."

The content of departmental collaboration varied between participants, depending on whether their colleagues taught the same or different courses as them. Where more than one teacher taught the same course, participants described use of collaborative time for both short- and long-term planning. One participant explained:

> It's a combination of things because we look at the oral calendar, and then we just decide, okay, what is coming up, maybe in August, September, October. Or sometimes it's according to a unit, or sometimes it's according to the quarter. So it just depends on what are our goals for the upcoming semester.

She also explained that sometimes teams needed to support each other with logistical tasks: "It could also be administrative stuff, like ManageBac, that many people are comfortable with, and

some people don't really like the system." Another teacher gave the following answer when she was asked if she worked closely with the colleagues in her department:

> Absolutely. Because you always discuss exactly what will be covered. I mean, especially with colleagues when you have parallel classes. Then you always make sure that you teach exactly the same on an everyday basis, and then you have the exact same assessments, so you coordinate to make sure that one is writing the test and that you are providing the same resources.

A teacher in a different subject area stated:

> Standardization of assessments and seeing that we are on the right track for grading is really important. And then in designing the course, I think it's so helpful just looking at the texts together. I don't think that each teacher has to teach exactly the same thing–I find that quite difficult–but there needs to be some elements of commonality, especially if kids are moving between Higher Level and Standard Level and you've got separate classes, for example. So there should be some commonality, but it's super helpful if you can bounce off ideas about designing the course. That, I think, is really helpful.

Another participant also mentioned the importance of collaboration for ensuring alignment between different courses and, in his case given the restructuring of his subject area in DP, between different grade levels:

> In Maths, especially for the MYP and DP, there's quite a lot of collaboration in terms of planning and overviews, to make sure that the MYP units will support the new Applications and Analysis courses. And discussing what sort of skills we feel that the students need more support with before they reach Grade 11, so that we can work backwards. Also making sure that, at least at the start of Grade 11, the content lines up

> quite nicely across all the DP Maths classes to allow students to have some movement there.

This teacher did add, however, "Once it gets into the actual teaching in the day to day, there's not quite as much regular collaboration; it's more the overview things."

Singleton teachers, those who are the only ones in their school teaching a particular course, reported less collaboration at the departmental level. One such participant, for example, stated, "I'd say between Group 3 classes at the Diploma Level there generally isn't a huge amount of collaboration." This teacher said in the past his department had tried to collaborate:

> One thing we tried to do in [name of city] was, there are some themes which are common to most of the Group 3 subjects–for example, you'll find the idea of economic development being big in Geography, big in Economics, certainly relevant to History. What we tried to do was get guest speakers in and then we'd invite students from multiple DP classes to be together in that context. But beyond that, I haven't taught in a school where there's a great deal of Diploma collaboration.

This participant did not seem to mind this lack of collaboration at the Diploma level, saying it was more necessary in the MYP but in the DP, because the content is mostly prescribed, "being a lone-wolf teacher on that is okay." Another participant did not agree with this sentiment: "This year it's a little bit odd for me, because I'm the only DP Literature teacher and that's the first time that's ever happened to me. … I'm really struggling actually; it's been the toughest time." The Group 6 teacher similarly lamented the lack of stimulating departmental collaboration. She said the limited amount of collaboration that did occur in her current school mostly centered around logistical issues, like organizing the DP Art Show.

Many of the participants' schools facilitated departmental collaboration by providing common planning time during which meetings could be organized. One teacher said, "We have a block allocated every two weeks and one block is like 70 or 75 minutes"; another said his department similarly meets "once every eight-day cycle." In both these schools, the meetings were mandated by administrators. The first teacher commented:

> The only thing that I didn't enjoy is it sort of looked like somebody was patrolling us, because the principal would come and sit with us. ... And I would be like, why? We are professionals, we don't need to be patrolled. But I suppose when you want to standardize things, it's actually a good idea. At the beginning, you feel awkward, but then after a while it's like second nature, and I think that is why it's important to actually have procedures that you know are implemented.

The second teacher said of his school's meeting requirements, "There's definitely been a push … to have much more effective collaboration. So, much more organized agendas, more regularly timetabled collaborative meetings, and so on."

A third participant spoke of her experience of collaboration in a former school: "I think that's when it works really well, when there's common planning time." She also explained that in her current school, small group meetings (for example, Grade 11 teachers) would meet more frequently than the whole department. The purpose of these meetings was to "have similar assessments on the same day and moderate together." The collaboration of smaller groups within the department was also mentioned by another participant, who described how those teaching the same course as each other would meet several times a week to make sure they were covering the course at the same speed and in the same way.

***Sub-Theme 2: Other In-School Collaboration*.** When asked about ways in which their schools supported their growth as IB teachers, participants gave mixed responses. One said, "Whenever I've asked for support it was provided, but I had to initiate it. Nobody has ever come to me and said, hey, how about this PD [professional development] or have you looked at this?" Another teacher who worked in the same school replied to the question asking if the school gave any help by saying, "As a school, no. As a school, they just want you to deliver the course and have the best results possible. I find that it's always down to your colleagues." In contrast, one of the participants spoke about the ways in which leaders in her school promoted professional collaboration, not just through mandating collaborative time, but also by guiding teachers in how to accomplish this effectively:

> In our orientation program, it was so impressive: they said, this is what we expect, these are the norms of collaboration, this is what good teachers do. All these clear expectations, it was super helpful. And how do you deal with certain colleague issues? Explicitly, this is how we do it, which I really liked.

This participant also spoke about the role of inclusion services teachers, explaining, "There's lots of support staff that come into the classes with you, and they are in those meetings as well." Only one other participant mentioned collaborating with support personnel, saying, "I had a really dynamic relationship with the learning support teacher, and we used many co-teaching models."

Three participants did speak about the role the DP coordinator played in helping them in their work. In all cases, this support included help with logistics and administration. One teacher, for example, explained: "When there are changes, she forwards messages to pertinent colleagues or departments, and then we read the latest information. Or something may have changed, like when we had the change with the exam in the first year of Covid." Another teacher said,

> It's so key to have a good IB coordinator. Because there's the hands-off approach where it just feels like, give me your results to load on IBIS, that's all they really care about. And then there's people who I feel are micromanaging. So it's a real balance, I feel. At my last school in [name of country], what I really loved, to give a perfect example, was the IB coordinator was super organized. You want someone who's on everything and sends reminders–a quick email update with reminders of just what we need, the deadlines, also helping with the overall structures. It's all very well that you can have a clear structure for your classroom, but it's bringing everything together–all the assessment calendars clear for everyone.

The final participant to mention the role of the DP coordinator said: "Anything to do with assessment calendars and progress reports and check-ins for individual DP students, those are communicated directly with the DP coordinator. And they're very good about passing on any relevant information, any updates from the IB." This same participant then added, "I wasn't actually aware of the process to be an IB examiner … but they were pushing the vacancies and explaining how to sign up for that, and really trying to help the DP teachers here in their professional development."

Only one participant mentioned the role her principal played in supporting her as an IB teacher, saying, "Her words matter to me." She said there had been days when "I felt like I had no clue what I was doing" and hearing her principal say "I trust you" had made all the difference. This participant also commented on how an administrators' well-meaning hands-off approach to teachers can actually be harmful: "When they trust you, they just leave you alone and think you're okay. And I don't know of many teachers who admit they're not okay." This teacher spoke of how educators "put a face on" to pretend they've "got it all figured out," when really

"nobody admits they don't know." The participant said she would love for her DP coordinator "to come in and see what I'm doing. I would love for somebody to ask me, how's it going?"

Two of the participants had previously worked in different Asian cities, where they had both been involved in job-alike sessions organized by their schools. This was described by one of the teachers as, "Being a big city with many IB schools, we would get together, at least for Diploma, not so much for MYP. … We'd meet up … and we'd have these afternoons just collaborating as a subject group." The other teacher gave more details about these sessions:

> They'd usually be hosted by one of the schools in [name of city] or the surrounding area, and probably scheduled once a year for each subject. The best ones were quite strictly run and had an agenda and quite strict timings laid out. And we'd discuss things like the latest subject reports and look at how we could interpret the feedback and alter our guidance or change our teaching to meet the IA criteria better, or to fill in the gaps that the examiners had noticed. That was always really useful on the subject guides, and then usually there would be time built in for sharing resources, which also is really useful.

Both participants mentioned that they had not had the opportunity to continue this kind of collaboration since moving out of Asian international schools.

Sub-Theme 3: Mentors. All but one of the participants spoke about colleagues who had mentored them in the IB philosophy. For one participant, this was quite broad: "A lot of the teachers at this school here have been examiners as well, so they've given input. To me, it's all about this reservoir of knowledge to tap into." Another mentioned how grateful he was for mentorship when he first moved into the IB program: "Thankfully when I did arrive at that school there was another Economics teacher … and they were able to support me quite a lot."

Another participant spoke about the support she received when she started teaching a new subject for which she had not done any training:

> Prior to me taking over, I had a dear colleague that was departing. Because, you see, most of the collaboration will always happen between colleagues on a day-to-day basis. And we were co-teaching that year and I got to know a whole year of the syllabus of I&S, so I wasn't really stone-cold when I took over, and then I had to continue on my own.

Two of the teachers attributed their success as IB teachers to their mentors. The first said,

> There was a very strong head of department, and he is the one that taught me everything. He made it so easy for me. He would make it clear about what I had to teach, and he would write the assessments for me. He said, these are the assessments, that's what you need to get them ready for.

The second participant similarly spoke in glowing terms about his mentor, who taught a different subject in the classroom next door to his:

> I attribute most of my qualities to how I learned from him. He was this person who would embody a lot of the IB attributes. … I would say I learned more from him than from any actual workshop. But then, I didn't know what I was learning from him, that was the interesting part. He would make students think, for example, by asking them questions and then later when I heard about being an Inquirer I was like, huh, that's what he was trying to do there. At that time, I thought, maybe all teachers are like this, or all international teachers are like this. But it was just his way of making his students think and making his students question. And then as the buzzwords started coming through, through workshops and when we had [teacher collaborative time], I would make those connections as to that's what a teacher should do when they are in the classroom. He

> would constantly be reading, and he would constantly attend, not necessarily IB workshops, but some kind of PD. So he was a lifelong learner. And he would sit and give feedback for his History students and I thought, wow, he spent three hours on one student essay. So again, that was something I didn't pick up on but later I would make those connections with the philosophy itself.

This participant explained that he was able to spend so much time watching his colleague "because I was teaching only a half-load; the rest of the time I would basically go and sit in his class and look at how he would interact with his students and how he would bring in the IB philosophy." Only one other participant mentioned getting into other teachers' classrooms, although she said, "I think observations are pretty good. Unfortunately, due to time constraints and timetables that are designed, it has been quite difficult for me to be able to leave the classroom and go somewhere else."

One participant had not had the opportunity to have a mentor, but she mentioned that she felt that would have made all the difference to her development as an IB teacher. She said, "I had support, but I didn't have mentoring. And to me there's a really big difference between those two things." She added, "I was sort of surviving and clawing my way through in [name of country]. I was really desperate for a mentor, someone to collaborate with."

Sub-Theme 4: External Collaboration. Some participants were also able to learn from experienced teachers outside their own school. One teacher described how she met somebody in a similar role at an IB workshop and they stayed in touch afterwards: "He provided really great tools for me and just overall guidance when I had some doubts or I needed some clarification." Another participant similarly described how he had kept in touch with the leader of one of the workshops he had attended. He explained, "He happens to be the moderator for the IB forum as

well, so that worked out well. … He's my go-to person." This participant also related how he reached out to experienced IB teachers around the world:

> I've collaborated with teachers I haven't even seen in real life. There are teachers in [name of city in different country] who have guided me just because I shot them an email. … And there is another teacher in [name of country] who has given to me in so many areas.

This sharing of knowledge and resources between IB teachers in different schools was also mentioned by another participant:

> My head of department just sent me a whole bunch of files that she got off her other friend who teaches in [name of country] for a text that I think I might want to use. She said, oh I got this from her, it looks great.

The participant from Group 6 described the significant impact on her practice as an IB teacher from having access to an external expert she met at an international school conference. She brought this expert to collaborate in her school as an "artist in residence."

While these examples relate to participants benefiting from others' expertise, one participant mentioned how she herself shared her knowledge and experience with a teacher who was new to the IB:

> Nearly three years ago, I was on holiday in [name of country]. And on the trip, there were two young ladies and one of them was a teacher at an international school. … And it was just a coincidence she was brand new in the MYP and was so lost. And I felt for her. … I could just feel that she didn't have support. And so I said to her, let me share with you all that I have for MYP because I have MYP 1, 2, 3, 4, 5, I've done all the unit planners, I have done it all. And then, in the MYP, it's always the investigation that's tricky. So I

> said, let me share the investigation that I have done. And she just couldn't believe it, that I would just share that with her. And I said, well, it's not mine, you just share, and then you eventually will share it with somebody else.

This participant added that she wished this was not a one-off occurrence, saying, “I wish I could help more that way.”

Theme 2: IB Workshops. All of the participants had attended more than one IB workshop in person, and five had participated in online IB workshops.

Sub-Theme 1: Workshop Content. When asked about the content that they particularly appreciated in workshops, several participants mentioned topics related directly to their subject syllabus and how to implement this in the classroom. One participant said what she found helpful in workshops was “Understanding the syllabus and … the teaching approach,” while another said, “Activities planning resources,” which apparently meant teachers having the opportunity in the workshop to plan together how to implement the syllabus. This idea was echoed by another participant, who explained,

> It was so great to sit there, because this is a new course … and then someone takes you through designing the course. So you sit there for an afternoon with these new colleagues that you’ve met and you brainstorm the design of the course, and then you give it to the session leader and they go through it and give you advice. That’s so helpful; it happens there and then. It’s real practical things to help you as a teacher.

Another of the participants said what she enjoyed was “the workshop leader being amazing at explaining, okay, so this is what the guide says, but this is what we should really be doing in practice.” One teacher said,

> It's also great when you have trainers who are in the classroom. That's what I love as well: they've got the practical experience. The people leading the workshops are pretty much all teachers, as far as I know; that's certainly been my experience.

This comment reinforced the focus on practical, relevant guidance that other participants also found helpful when they attended workshops.

Another topic that was mentioned by several participants as being particularly beneficial was understanding the assessment for that subject. One participant said, "Often a big focus is assessment. I don't think I've ever been to a workshop that hasn't involved some kind of collaborative activity assessing student work, and that can be hugely useful." Another teacher said, "I've really liked it when we go through samples–this is what this has got–and we discuss that. That's really helpful. And what are the key things that examiners are looking for." A third participant said, "A better understanding of the assessment criteria for the Internal Assessment is the thing that's helped me the most." A fourth participant added,

> The thing is in IB when you want to understand the criteria, I find that at times, it can be a little bit subjective, because what is "mostly," what is "frequently," what is "consistently?" So [going through samples] is definitely something that has given me a lot more insight into understanding assessments.

The participant from Group 6 described how all DP Theatre workshops have now been taken over by the International Schools Theatre Association (ISTA) which means "they have really subject-specific things that can help you," such as learning "[Japanese theater form] kyogen from a person who is trained in it." ISTA also offers workshops that students attend with their teachers called Theatre Arts Programme Symposiums (TAPS), and these provide learning from several different artistic perspectives: "You're working with four to five [professional] artists instead of

one person the entire time" and then "an ISTA pedagogue helps the kids to transfer all that professional training and learning into how you could maybe apply this with your assessments. That's a big deal. As teachers, the level of PD just skyrockets." This appeared to be an improvement from previous non-ISTA DP workshops, which the participant said had helped with "unpacking certain things" but not "in the art or the craft of designing learning."

Sub-Theme 2: Learning from Other Participants. All participants mentioned learning from other teachers as an important aspect of the IB workshop experience. One participant summed this up as "the peripheral learning beyond the focus of the workshop is important as well–the networking and the sharing of resources." Another participant explained,

> I do appreciate the fact that when I meet with others, for me the best thing is to actually gather all the resources that the facilitators provide and establish connections with other teachers. That is the first thing that I try to do. They usually have a Padlet and that is great, and then they leave the Padlet open for like 30 plus days, so we have an opportunity to download all the information. I like that.

One teacher explained how the participants at a workshop played an important role in his learning:

> It's the collaborative piece with the face-to-face workshops that's useful, and the chance to ask questions and hear other people's questions, because other people ask questions which perhaps one hasn't thought of, and getting an answer is good. It's interesting, I'd say in a lot of workshops the workshop leader is really the facilitator–the answers can come from anywhere in the room. I think the workshop leader may not be the expert in the room. Hopefully they're the expert facilitator, but if you've got 20 people, perhaps

> ranging in experience from a couple of years up to decades, there's generally a lot of knowledge in those rooms.

This experience was similarly stated by another participant:

> The great thing about those workshops is the interaction with other teachers. You learned so much more from other experienced teachers and them giving you examples of things they use in class or how to use the calculator or some ideas for the entire assessment. And it's really the exchange with the other teachers that you benefit from a lot.

This learning from others was possible even in the synchronous online environment. One participant said,

> The most valuable piece … was that we were put into breakout rooms quite often to just talk with the other teachers. So, once we learned a chunk, it was like, okay, now go in this breakout room and talk about what resources you have or could use. Or, thinking about the old guide and what those challenges were, now with the new guide, how could you shift and move this forward, so you don't feel like you're revamping everything? So, to have a lot of breakout sessions to talk through things was helpful.

Another participant also spoke about being able to benefit from other teachers' experience and expertise within the IB program:

> I often revert back to things I know have worked. Because also, working at schools where you have to order texts in November for the following year, … it's a real commitment in your school budget; you have to justify it. So it's always so helpful when you've spoken with someone and they say, this really works; so you're taking on advice and sharing in that way.

One participant said the best thing about one of the workshops she attended was learning from other, more experienced teachers:

> The bigger piece for me was the teachers who had been in the pilot of this new syllabus. Oh my gosh, to hear their insight, I was taking down every note, word for word. Because they're the ones who've had to work through it and they're already these teachers who have so much experience that the IB has called on before. And they're all examiners, so you feel like what they have to say means a lot because they're the ones applying it in the classroom. I think that that was my bigger takeaway more than some of the other stuff.

Other participants spoke of how they appreciated being able to connect with such diverse participants at the IB workshops. One said,

> The first training I went on, what I thought was interesting was just that there's so many different types of people. Because you come from this very little school in [name of country] and everyone knows the same kids and the same schools … so it was amazing to go to that training. … It was quite intense, but I did feel this excitement. There were all these different people and … people were sharing what they do, that kind of excitement.

Another participant explained,

> It's an opportunity to have in one room a much larger number of specialists, teachers and whatever the focus of the workshop is, than you have in a normal context. And also, being with teachers from different contexts, you'll have teachers who are teaching in European schools where you have a very different kind of school culture environment; you get to interact with people who are teaching the same course but in different contexts and they bring new ideas to the table.

On the other hand, however, one participant liked it when all teachers at a workshop had more-or-less the same familiarity or experience with the IB, which made the sharing of ideas and resources more relevant:

> The in-person ones I felt were really effective when there were groups of people that had similar class loads, similar levels of experience. There was a lot of sharing of ideas and a lot of discussion, and so on. When there were groups with people who were very new to the Diploma course, then the course tended to just be delivering information. It varied a lot in the courses I've done according to how experienced the other members were.

One participant went so far as to say the other participants in the workshop contributed significantly to the enjoyment of the workshop as a whole:

> My experience of professional learning is much more about who you do the learning with and how much buy-in there is with the other people on your courses, or the engagement with the instructor. And that sometimes can make a lower-level training, like a Cat. [Category] 2, be much more rewarding and you get much more growth than a Cat. 3 even, where that connection and the buy-in maybe isn't as strong.

Another participant similarly suggested that the facilitator as well as the other teachers in the workshop played a significant role in the benefit of the experience:

> I don't want to give the whole credit to IB; it was mostly my workshop leader and all the teachers who showed up to the workshop who were so amazing. … The workshop definitely helped, but it wasn't really the content of the workshop, it was more teachers telling how they approached certain units, and how they saw some problems we were all facing.

Sub-Theme 3: Workshop Experience. There were a number of different factors that influenced participants' experience of IB workshops. First, teachers who were new to the program often found their first workshop challenging. One participant said,

> It was absolutely overwhelming because I had no clue. I was just going back to teaching after a few years and, on top of that, I had to learn on a super high-speed mode, without having taught IB, all the documentation and read the guide and everything.

Another participant explained that the timing of her workshop may have influenced how she experienced it as a new IB teacher:

> They asked me to go to one of those workshops, but I didn't really learn anything from there. I often feel that those workshops, you learn more when you actually have had some experience about it, and then it makes it more real and then you can relate to it; you can ask questions.

This feeling was echoed by another participant who said after her first workshop she had "no clue what I was doing. You really do have to be at least one or two years in to get it, because there's a lot of assumptions about the lingo or the jargon." A fourth participant similarly found his first workshop to be somewhat unhelpful:

> There was a little bit about the content, but the trainers sort of assumed that we were all experienced with that. So they jumped into how to make connections between different topics and how to evaluate from different perspectives. And I did feel a little bit left behind on that one. … At the time, I didn't feel that that one met my needs entirely.

Even participants who were experienced with the IB program, however, sometimes found workshops did not meet their needs. One participant explained,

> The issue with an IB workshop is they start off big; it's that kind of whole philosophy thing first. Sometimes you just want to focus on a specific question type or a specific aspect of the syllabus, and I think Category 3 workshops do try to do that. But for a lot of teachers, I think, a couple of hours on a Wednesday afternoon on Zoom with somebody who's an expert on whatever–Geography field work in the IB–that could be much more valuable than a two-and-a-half-day workshop which is more general in scope.

One participant said that his enjoyment of a workshop had a lot to do with the skill of the facilitator:

> I think any workshop is as good as the workshop leader, to be honest. I've done workshops where you had hugely experienced workshop leaders who are on it. I have been to workshops which have been a bit frustrating because there's been a sense that maybe the workshop leader doesn't have as much to offer as one would perhaps wish.

For another participant, however, her enjoyment of the workshop had more to do with the collaborative opportunities available:

> I find a difference between small and big sizes of workshops. For instance, I have attended online, and we were 50 plus people from I don't know how many countries. And it was very collaborative because you were always put in a group, and everybody was chatting and we all had to contribute. But I didn't feel it was as taxing as the last Personal Project workshop I attended, where we were only six people, and it was very heavy going. It was Cat. 3. So sometimes you were working with a partner but many times we were working on our own. It was very intense.

Another participant confirmed the importance of collaboration and particularly the social aspect of the workshops:

> I think the cliché is that these workshops are sort of jollies for teachers–you get on a plane, and you're put up in a hotel and you're busy in the day and … I think that people would argue that that is important–that kind of social dimension to these workshops.

This was the only participant to mention the extra-curricular (i.e., social) aspect of attending a workshop in person.

Sub-Theme 4: Online Workshops. All the participants who had attended online workshops found them less enjoyable than face-to-face workshops. One participant described his experience as follows:

> It was not engaging at all. It was basically a teacher or the facilitator posting a bunch of content for us to read, and there were some discussion forums and that was it. So, in terms of real engagement amongst teachers who were doing the same workshop and peer feedback, for example, there was nothing.

Another participant said:

> I did find it very taxing. Now that I have almost two years of experience teaching online, it's not really a big deal and it's like second nature, and I can do it due to Covid–thank you, Covid! But, seven or eight years ago, it was very, very taxing and I just felt that it was totally rushed. ... During the training, it was quite stressful because we were not given a lot of time for prep … It was a little stressful because we were not accustomed to online.

Another teacher similarly spoke of the challenges of learning online while one is also teaching:

> I think it's quite tough, it really requires a bit of resilience actually. Because it felt longer, even though it isn't obviously–it's just chunks of time to make up the three days you would do at the normal one–but it feels quite laborious. So my experience with that one

> was that I felt like I was trying to do everything else. I couldn't devote the time I wanted to it.

As with the previous participant, this teacher also provided the caveat that their experience of an online IB workshop happened before Covid-19 changed how we work online: "Things have moved on so much that actually the virtual stuff, compared to when I first did it, is now a lot better I think."

One participant found the online format used in IB workshops to be satisfactory, although not necessarily the pacing of the course:

> The platform was fine, and it was pretty easy to navigate from what I remember. It was spread out over a few weeks, and we were given tasks where you need to respond to two other people's comments on this question, and post your own thoughts, and so on. I felt that it was spread out a bit too much, and I know this was the same as a few other people in the course. We found ourselves just the day before we were due to have the comments, that's when everybody wrote the comments. We didn't really need the week and a half to do it.

This participant also added, "I felt [it] was a little bit 'tick the boxes' to get the certificate."

Two of the participants had attended virtual IB workshops, which, unlike the usual online workshops, were provided synchronously. The first teacher provided the following description of his experience:

> Most of the training was conducted over Google Meet, with some independent assignments, assessing sample papers, etc., and lots of small group discussion in breakout rooms. I felt that the training was much more focused and productive than the asynchronous online training as I had to take PD leave, just half a day, and there was a

> clear timetable for each day. This made it seem a lot more like "proper" work to me, so I was more focused. The workshop leader was quite flexible and, once she had a good idea of our experience, shifted the focus of some sessions to focus on the changes to the guide instead of going through the entire thing.

The second teacher had a mostly positive experience. She said, “It was a lot of sitting around talking through the guide” as well as “a lot of breakout sessions to talk through things.” Her summation of the experience was, “It wasn’t inspiring, but it was informative.” Another participant had attended a synchronous online workshop as part of his teacher training. Although he had not experienced this format for an IB workshop, he did offer his opinion on this type of training:

> I felt it was a little more personal. When you have to see someone face-to-face, even if it’s through a video call, I think there is a little more connection there. And there’s less probability for you to be misunderstood, even when you don’t have bad intentions. So I feel like people are a little more forthcoming and a little more open when you deal with them face-to-face, as opposed to just a text-based discussion forum.

It should be noted that this participant was comparing his experience of non-IB synchronous workshops to the IB asynchronous online workshop that he had previously attended.

Theme 3: IB-Related Resources. None of the participants had attended or presented at any IB conferences. Four of the seven participants were current IB examiners, but none of the participants held any other IB Educator Network (IBEN) roles.

Sub-Theme 1: IB-Provided Resources. All participants were familiar with My IB, the IB’s official communication platform, and most teachers found it helpful as a professional

development tool. One participant spoke positively of the My IB teacher forum in his subject area:

> We crowdsource a lot of the questions and resources; there is this one place where we all dump resources that we think are good. At the same time, other teachers can access it as well. And for me, I just need a couple of links and from there I'm good at finding out other resources. Typically, someone posts a YouTube channel or a quick tutorial that is available online and I take it from there. That's how I find good resources and material for sharing with my students.

Another participant explained how he both gained and contributed knowledge about the IB program through My IB:

> I do go on to the My IB community quite a lot. So if I've got questions about how a certain real world example would be interpreted, or whether something would be an appropriate question for a Maths IA, I've posted on that quite a lot. And with some of the new courses, … sharing my mock exams or questions that we've prepared, I've used the community for that quite a lot. And also the resources on My IB as well, all the teacher support materials.

This practice was echoed by another participant, who said, "If I really have a specific question and I'm worried about it, I would use the forum on My IB. If I had something I was needing, I would go on that forum and ask specifically." Another teacher clarified that she used My IB at some times more than others:

> For Spanish, it's usually, okay, we are approaching, for instance, the oral exam so you want to download the samples. You want to be able to be clear on the standardization. ... For I&S, I'm not as often on it, but I do look for certain things when I need clarification.

> And obviously for the new guide. But you become so familiar with the new guide that, after a while, you don't even check anymore.

Another of the participants explained why he found My IB helpful:

> There are a few teachers who have been teaching this for 20 plus years and they are the gurus for people like me, who are not necessarily total novices but, at the same time, I'm new to how things work, especially when it comes to assessment and why was something marked this way, questions like that.

This participant clearly appreciated the chance to learn from other, more experienced teachers. For another participant, however, this was a limitation of My IB. She spoke of her need for somewhere to go to get answers from the IB. She said,

> I know that there is an IB platform where you can put questions, but it's more about putting questions for the IB and then you get some responses from other teachers, but I wish there was a group that you can go to [for answers from the IBO directly].

This feeling was not shared by another participant in a different subject group who spoke about why he found My IB to be the most helpful and reliable place to get information about the IB. When asked to describe who responded on My IB, he said,

> Usually it's other teachers, but there is normally a moderator or someone who obviously knows what they're talking about–an examiner or something. And they might say, let me get back to you, I'm going to check on that [with someone at the IBO].

It should be noted that one challenge was raised about My IB in relation to the organization of resources on the platform. One participant said, "I've had such problems in recent years just finding stuff. … The IB resources and that back-end of things, I find clunky at best." Another

participant had a similar criticism of My IB, saying she "hated the interface" and found it "uninspiring."

In addition to My IB, a few participants mentioned official IB documents as a source of learning. One participant brought up the IB's monthly newsletter to DP coordinators:

> I've certainly never had an issue with what is published directly from the IB. And they're pretty good on getting updates out. I think they do a monthly coordinators' notes, which are often shared to DP teachers, and they give these small updates, which are generally very specific … but I think that's really dependent on how willing your IB coordinator is to get that info out to teachers.

Another participant spoke of how she first learnt about the IB program: "We started getting familiar with the IB by reading some materials, some guides." More frequently than the IB general documents, however, participants spoke about using particular subject guides as a source of information. One teacher said about the subject guides in Group 3, "They are generally very clear documents. I think even in my first years of teaching, I never really struggled to understand those documents. They provide exemplar unit planners." The other Group 3 teacher agreed:

> The new format of [the Economics guide] is amazingly helpful. It's really, really good for planning units and planning the structure of the course because it provides a lot of TOK connections and global contexts. And it also breaks down the level of understanding that's needed for every single topic in a way that the students can understand really clearly.

The Group 1 teacher similarly spoke of finding her subject guide helpful:

> I'm teaching IB Literature again this year, which I haven't taught in a long time, so my first thing is to go to that guide, and I print it off, get it bound and get a highlighter. And

> I'll have it with me … as a reminder when I'm designing the units, what was the conceptual understanding that they wanted us to hit, that kind of thing.

Participants in different subject areas, however, felt differently. One of the Group 5 teachers said,

> Other than giving me the skills that the students need to be able to know, that's the only thing I refer to–that list of skills they've got to be able to do. It's actually not detailed enough. It's only because I have IB knowledge that I can make sense of what they are asking.

The other Group 5 teacher said, "It's useful for me. I don't find it as useful for the students because the terminology sometimes is a bit over their heads."

The Group 6 teacher spoke of the improvement in her subject guide with the introduction of the latest syllabus. She said the previous guide was "so repetitive" and "you had to make a lot of assumptions about how you could scaffold and build experiences." She found the new subject guide, however, to be extremely helpful: "What is really nice is they made it clear that these are the teaching things you need to do. … They're just making things much more explicit."

The Computer Science teacher felt the least confident in the materials provided by the IB. He stated that the teacher support materials in his subject area were "pretty bare bones. And there isn't a lot of clarity about a lot of the things, especially the Internal Assessment."

Sub-Theme 2: Examining as Professional Development. All the participants mentioned that examining is a helpful way to learn about the IB program. Four of the participants are examiners or have examined in the past, one had been selected as an examiner but had not been able to pass the qualifying round, and two participants expressed a desire to become examiners in the future. It appears that examining is widely regarded as an unconventional form of

professional development. One participant said, “Everyone says it’s the best PD, you’ve got to do it.” Another participant explained that the reason he had trained as an examiner was because of “that kind of old adage that examining, at least for these exam classes and the Diploma, is the best kind of PD.” He also said, “As an examiner, you get more; you get an extra level of guidance which is obviously useful for those you work with and your students.” Another participant gave a similar reason for why she became an examiner: “That is something that I did on my own, trying to understand better the teaching practices for Spanish. … That definitely helps a lot in order to understand standardization.” Another of the teachers gave a related explanation of how she benefited from being an examiner:

> The reason it benefits in two ways is that first of all, you really get a grip of how the marking is done, which is important because, of course, if a student has the right answer, that's never a problem; they will get the full marks. But it's always when a student doesn't get the right answer, how the IB still allocates marks for some workings, which are super important. And it's to get it right–can this be considered as a method mark or not? They add up. And for the students to know that, too, that it's important to show working because, even if you find an answer is not correct, you might get some marks for the method. And the second is to see where students make mistakes, because often it's the same mistakes that are coming back and then in your teaching you use that to make sure you don't make that mistake, that's the classic one.

One of the teachers in a different subject area similarly explained the benefits of being an examiner as:

> The big one that stands out is I know how to prepare my students for the IB exam. ... I know how to prepare my students to write to the question, for example, things like what

> is expected when a specific command term is used. I obviously knew and I would coach them, but it has given me a little more granular understanding, I would say, about how to maximize returns for my students.

This participant is no longer marking any scripts for the IB, however. He explained the reason for this:

> I did [find it helpful] in the first couple of years, but I figured that it was a case of depreciating returns every time I did it. But overall, it has definitely helped me as a teacher. I have become an exam expert in guiding my students.

He also elaborated that being an examiner was only helpful for the one component of the exam that he marked: "I would say [it was helpful] only for that component, because the nature of the other components are very different. I wouldn't say I have gotten a whole lot from that component that could go across."

Of the two participants who are not examiners, one said "It's on my to-do list. They don't have any vacancies open in my subject at the moment." He further explained,

> With some of the assessment tasks, especially the essay-based ones, there's still some ambiguity on exactly what the examiners are looking for. So I'm not 100% confident that what I'm suggesting my students do or the structures that I'm asking them to use are exactly what's going to help them to be the most successful. I feel if I had the examiner training that would really improve my delivery in the classroom.

The other participant said, "I think that being an examiner is a great personal PD," but she had no plans to apply to become one, saying "I don't know if I'm up for marking and grading anything more."

Theme 4: Other Professional Development. All of the participants spoke about at least one form of professional learning other than official workshops.

Sub-Theme 1: Social Media Groups. Some participants mentioned using social media as a way to find out information about the IB program from other educators. One teacher said, "In I&S there are a lot of platforms. Also in Spanish, there are stacks of platforms where we tackle a lot." Another participant said, "I check the IB Facebook page a lot" and "My first default [when I have a question] is to probably still check Facebook." Another teacher also said that social media was the first place he went to went he needed clarification on something related to the IB program:

> I think the informal networks through Facebook, that's the most rapid place to get info. I think that the funny thing is, in a lot of Diploma subjects, there are these sorts of microcelebrities, if you like, in each of these classes; people who are known because they publish, they blog, whatever it is. And they tend to be quite active in social media– Facebook and Twitter–and tend to be pretty open to answering questions. So, I think the informal networks that operate outside of the official IBO channels are very important for teachers in terms of getting answers to questions.

Another participant explained the limited ways in which she used social media: "I do use [Facebook] for getting resources and ideas and seeing what other people are struggling with, but if I really have a specific question and I'm worried about it, I would use the forum on My IB." She further clarified, "I don't get any important answers from Facebook. Facebook for me is more just a sharing of resources, if I see someone has a cool idea or some tech stuff. So, more sharing of resources and ideas." She also explained that she uses social media more to receive

knowledge than to contribute: “I’ve never actually shared anything and I never really comment; I’m a bit of a watcher.”

Three of the participants did not use social media. One of them said, “There are groups on Facebook, and I know that it comes with a lot of good resources and where you can have really good contacts. But I don’t have a Facebook account, so I wish there was another platform.” Another participant said:

> The only [social media groups] I’m part of at this point are the ones I’ve been made to be part of. I know that sounds wrong, but when I’ve done PD, we are made to join certain forums based on what we teach and based on what division we work in at our school. In terms of the IB course, I have always found that the My IB thing is pretty good and that's where most teachers congregate and share ideas.

The third participant said he did not use social media as a professional learning tool, but he did sometimes use it to try to understand the students’ perspective:

> I sometimes look on the Reddit forum for the IBO. I sometimes look at that just to see how the students are reacting to changes if there’s a new guide or if there’s an exam that’s just been done. Are they quite happy with the changes, are they liking things, or are they wishing horrible fates on the IB examiners?

Sub-Theme 2: Non-IB Professional Development. Only three participants described non-IB professional development that they said was helpful to them as IB teachers. One person mentioned how training in blended learning had impacted her IB teaching:

> I am implementing a lot of the strategies that are part of blended learning, and it’s working really, really well, besides incorporating a lot more reflection. That has helped

> me a lot. … That is definitely giving me a little bit more insight into better ways to go about … making the classroom a lot more collaborative.

Another participant mentioned a different training that impacted his practice as an IB teacher:

> I went to one called Visual Thinking Routines. It was Project Zero. And that was really useful in supporting inquiry and getting students to look at things from different perspectives. So, when planning for discussions and preparing for evaluation tasks, some of the things that I learned in that course I've been able to use to help students quite a lot in class.

A final participant was taking an online Master's degree in her subject area and, while she said it was not directly aligned with the IB program, "it definitely gave me a bigger scope of how to be a theater educator, for sure."

General Narrative

All the participants mentioned collaboration with others as important to building their expertise as an IB teacher. Most often, and not surprisingly, this collaboration tended to occur with colleagues in the same subject area or department. This was especially prevalent in high-subscription subjects where more than one teacher taught the same subject or course, such as English Language (Group 1) and Mathematics (Group 5). Departmental collaboration was less common in groups with several singleton teachers, such as the Sciences (Group 4), Individuals & Societies (Group 3), and Arts (Group 6).

When teachers did have the opportunity to work closely with each other, there were two main topics for collaboration: logistical arrangements (such as managing deadlines and other assessment details) and alignment of instruction or standard of work. While department groups often collaborated on content (such as which texts to teach, what assessments to use, and uniform pacing of instruction), none of the participants mentioned conversations about any other aspects

of IB philosophy, such as approaches to inquiry or conceptual learning. Several teachers did mention that collaboration was supported when the school put certain systems in place, such as common planning time and expectations for outcomes of collaboration. In addition, the DP coordinator played an important role in providing logistical support (i.e., keeping teachers up to date with information about their IB courses) as well as general collegial support. In schools in large cities, where there were several nearby DP schools, job-alike sessions were found to be helpful ways to learn from teachers in other schools.

In speaking about the experience of becoming an IB teacher for the first time, all participants mentioned the necessity of having an experienced mentor. Many of the teachers in this study had had a mentor within their own school who had nurtured them in their understanding of the IB program and approaches to teaching and assessment. Some of the participants also spoke about expert teachers outside their organization who had also supported them in their growth as IB teachers. In most cases, they had met these external people at IB workshops, and often they had been the leader of the workshop.

All the participants had attended at least one IB workshop. They described the most useful content of these workshops as learning how to implement their course syllabus in the classroom and gaining understanding of assessment expectations. Collaboration with other IB teachers was also an important element of these workshops. All participants said one of the most helpful things about these experiences was learning from other participants. They identified the main ways they learnt from each other as sharing resources, figuring things out together, hearing diverse perspectives, and benefiting from others' experience as IB teachers. A criticism of the workshops was that they were often too broad in scope and that the effectiveness of the learning depended in large part on the skill of the workshop leader. Participants attending their first IB

workshop also found them challenging because of the volume of new material and language to learn, and the fact that they did not yet have classroom experience to which they could relate the theoretical learning of the workshop. Many participants described learning more in the actual classroom, on the job, than in their first workshop.

Some of the participants had attended online versions of the IB workshops. All these teachers mentioned that they preferred the in-person format. In particular, the asynchronous online format was found challenging because these workshops occur over several weeks. Participants found the activities too spread out, with little real engagement between participants. Since 2020 and the Covid-19 pandemic, the IBO has introduced synchronous online workshops, and these received more favorable feedback from the two teachers who had experienced them. These participants described more connection between teachers than occurred in asynchronous workshops.

In addition to workshops, all participants stated that they made use of two other official IB resources to learn about the program: the online My IB platform and the published IB subject guides. Most teachers found it helpful to have the opportunity to ask questions from more experienced teachers on My IB as well as download resources that others had found useful in their own teaching. The teacher forums for each subject area are moderated by experienced IB teachers and this was considered adequate by most participants, in the absence of direct communication with IB subject leaders. A couple of participants did mention, however, that the My IB site was a little difficult to use and navigate.

The participants' feedback on the usefulness of the IB subject guides depended on the particular subject group. It appeared there was some disparity between the documents. The most helpful guides were described as containing clear guidance on how to plan units and unpack the

summative assessments. In some subjects, however, the guides were said to have inadequate detail to be of true benefit to teachers and students.

All the participants said that in order to develop deep understanding of the requirements of the IB assessments in their subject, it was necessary to become an examiner. It was felt that examiners are given more guidance on student expectations. Being an examiner was therefore considered a form of professional development by all the participants, with none of them mentioning any other reasons (such as financial reward) for taking on this role.

Four of the participants used social media platforms as forms of professional development, while three did not. The teachers who used social media all mentioned Facebook groups as places they could go to find teaching resources and read about other teachers' ideas about the IB program. They used Facebook because it was a quick and easily accessible platform, and all of them described receiving information from this platform more than contributing to it. The social media groups that teachers referred to were all IB-specific groups, with nobody mentioning the use of more general educational resources on social media. Similarly, few teachers spoke about the relevance of other non-IB forms of professional development to their teaching of the IB program. One teacher mentioned training that helped her incorporate more student collaboration and reflection into her IB classes, another teacher brought up training on inquiry-based learning, and a third teacher cited training on specific content for her subject.

Research Sub-Question 3: How and why do teachers choose which professional learning activities they undertake?

The distribution of themes according to each participant for this sub-question is shown in Table 9. While most participants mentioned the identified themes as factors in their choice of

various professional learning activities, there were some reasons that did not apply to all participants.

Table 9

Table of Themes for Research Sub-Question 3

Theme	P1	P2	P3	P4	P5	P6	P7
1. Access	x	x		x	x	x	x
2. Funding	x	x	x	x	x	x	x
3. Relevance	x	x	x	x	x	x	x
4. Time	x		x		x	x	x
5. Self-initiation	x	x		x	x	x	x

Situated Narrative

Theme 1: Access. For most teachers, circumstances beyond their control dictated their access to some forms of professional development. For example, one participant said, "I haven't done any official IB PD for probably three or four years now. And obviously a lot of that is down to travel restrictions and Covid." This was confirmed by a second participant: "There was Covid so there was no PD."

When explaining why they took online workshops as opposed to in-person ones, one participant said, "I think the school in [name of city] was trying to train so many of us quite quickly as they brought in the MYP," and another participant said:

> I hadn't been expecting to teach [subject]. … I got an email about it in May that I was going to be teaching it in August. So I wasn't in the country, and I was on holiday, and it was just the only thing that worked.

For two teachers, lack of travel opportunities in the last couple of years forced them to train online. One said, “Everything has been online because of Covid,” and the other said, “I pushed really hard to try to go to the face-to-face training. … It was rejected because of Covid and our protocols.” Another participant did an online workshop because “it was the only available one for that academic year.” When asked if he would do another online workshop, this participant said he would if it was well-organized. He explained the reason he might choose to do an asynchronous online workshop was that he appreciated that “I can choose when to put in the work.”

In terms of doing IB examining as a form of professional development, one participant said he would like to do it, but “they don’t have any vacancies open in my subject at the moment.” Another participant wished to become a workshop leader, but said, “I’ve applied; they don’t want me! I tell myself the reason for that is I think there’s a lot of people in my subject area doing it. And it depends on your region as well.” This participant said he had applied unsuccessfully for other roles too, including “scrutineer, for looking at new specifications.” Both of the participants who had previously experienced job-alikes in large Asian cities mentioned that this did not happen when they worked in schools in Africa. As one of them explained, “we were the only one [offering the DP program].”

Theme 2: Funding. All participants reported that their schools paid for some or all of the cost of their IB workshops. One participant said her school was supportive of her taking IB workshops: “My principal is quite supportive of anything that is going to enhance your teaching and learning.” Another participant, when asked who paid for her workshops, said “It’s always been the school.” One of the teachers described the large amount of support his previous school had provided for IB training, saying the school had “pretty generous budgets for external PD.”

Another participant similarly worked in a school where every teacher had access to a dedicated budget for IB workshops, albeit perhaps more limited:

> At my last school, we had a professional development budget each year, so that was usually enough to cover the course itself. Sometimes I had to pay a little bit out of pocket for the accommodation or the flights, it didn't always cover both, but it was mostly covered by the school.

This participant then added, "The school where I'm at now, budget-wise, is not in the same place it was a few years ago. So most of the training that we're doing at the moment is internal." Finally, one of the participants described why he had paid for one of his workshops himself: "The very first one I [paid], because I wasn't even employed [by the school] at that time. So it was me trying to get into the system. The other two were paid by my school."

Theme 3: Relevance. Participants gave various reasons for attending IB workshops. For example, one said,

> I did one very early on, probably a couple of months into teaching the Diploma. … When the syllabus changed, I did another one. … [Name of school] was pretty big on sticking to the committed, some kind of training every three years.

Another participant similarly described how she attended her most recent workshop "because certain things within the syllabus were changing." One teacher attended a particular training because she "just needed to find out about Internal Assessment" while another said she kept going to workshops "to get inspired." One participant discussed how his previous school supported teachers in seeking out relevant training:

> There, it was quite a lot of support in both school objectives and personal objectives, so that the school would set departmental or divisional focuses and would identify training.

> And then our DP and MYP coordinators would either ask you to sign up to a particular course or, if it was worthwhile, they would have an onsite trainer come in and visit. And then, with our line managers, we were also allowed to think about personal objectives and identify training that would support us.

For one participant, the lack of Category 3 training in his subject area, Computer Science, was a cause for frustration. He said, "I've been looking since 2014." He explained the reason why he would like to attend this level of training:

> When I reflect on my teaching, the TOK connections, the Extended Essay connections, those kind of happen organically, but it is not intentional from my part. And, for me, a Category 3 workshop would definitely have changed that. I want to include all of those in my teaching.

One participant felt that she had attended sufficient workshops, however. She said, "I think I'm done with DP training now; I think I know everything I need to know." She did add, though, "Unless someone's got some winning small thing, like there's a webinar about assessments." Another participant made a similar comment:

> I don't know the name of it, but a friend of a friend has set something up online, which I think they're branding as micro-PD. It's teachers offering other teachers PD and it's very much micro-scale, so it's very specific, targeted, tailored to the very specific needs of that teacher. And that kind of on-demand, whatever you want to call it, sort of tailored micro-PD is probably the way forward. … The issue with an IB workshop is they start off big, it's that kind of whole philosophy thing first. Sometimes you just want to focus on a specific question type or a specific aspect of the syllabus.

A couple of participants criticized the relevance of some professional learning resources. One participant said,

> I would imagine what a lot of participants will talk about is really the role and the power of the unofficial networks that exist. I think, in many subject areas, they are more influential and important than the IB ones, and obviously that's potentially a concern for the IB because there aren't controls on the messages going out. You know, me logging into Facebook and going to TOK Teachers' Forum or whatever it is I'm going to, it's not a vetted answer. While a lot of us use those forums for our info, I think we need to approach it with caution, because you don't know where the answer's coming from, the agenda of the person with the info. So I wonder how much the IB supports those kinds of informal networks, because there's potential for them to, not go wrong, but they don't have control over the message and the info going out.

This participant also mentioned the sheer number of resources available to IB teachers in his subject area:

> We're over-resourced in many ways. There are so many textbooks, so many online subscriptions, resources, InThinking, Kognity, all the big publishers put out books. It's almost an excess of resources and it's hard to find the one that works for you and your context.

Theme 4: Time. Some of the participants mentioned time as impacting their choice of form of professional development. Three of them, for example, spoke about the time commitment needed to be an IB examiner. One said, "I don't know if I'm up for marking and grading anything more," and another said,

> I did it about 10 years ago, even a bit more, when it was still done on paper, and then I had stopped it because I had a baby and it's not possible to mark when you have a baby. And then this May session, I've been an examiner again. And now it's online and it's so much better; it goes so much quicker.

Another participant said she had had to drop out of IB examining one year because of a family bereavement and "there was just too much."

One participant said she would like to observe her colleagues teaching, but "those opportunities of visiting each other are not very common in our school." She further explained,

> It's always a bit of a challenge to find time because it's not so much about the lack of time, but it's about the appropriate time. Because when I'm teaching, for instance, there is a teacher that I would like to team up with to do an IDU [interdisciplinary unit], and I can't see that teacher because we are teaching at the same time.

This challenge was repeated by another participant:

> You know, the interdisciplinary [teaching], it's actually an amazing thing to do, we all know that. … The problem with that is you need time to set this up. You need to be given time to sit down with your colleagues and build something that is meaningful, and not just, okay, let's try to quickly in an hour's time set up an interdisciplinary unit so that we can just say we ticked the box. If it's meaningful, you need time for it.

Even when schools do allocate time for professional collaboration, this can put pressure on busy teachers. One participant said, "It does sound like a good system, but it does mean your planning periods get sucked up. … Tomorrow, I teach two lessons but I've got three meetings!"

Three participants spoke about the challenge of time in relation to online workshops. One, who had only attended asynchronous workshops said,

> I think it's quite tough, it really requires a bit of resilience, actually. Because it felt longer, even though it isn't obviously, it's just chunks of time to make up the three days you would do at the normal one. But it feels quite laborious. So my experience with that one was that I felt like I was trying to do everything else. I couldn't devote the time I wanted to it.

Another participant similarly felt the pacing challenging in his asynchronous workshop: "It was spread out over a few weeks. … I felt that it was spread out a bit too much. … We didn't really need the week and a half to [do the required assignments]." This participant had also attended a synchronous online workshop, and he spoke more positively of this experience:

> I felt that the training was much more focused and productive than the asynchronous online training as I had to take PD leave, just half a day, and there was a clear timetable for each day. This made it seem a lot more like "proper" work to me, so I was more focused.

A third participant spoke of the challenge of doing an online (asynchronous) workshop on top of a busy teaching load: "The training didn't happen until October to December, which is usually the busiest time of a school year because it's right about midterm. And your performances and just all of the school stuff is ramping up."

Theme 5: Self-Initiation. Some of the participants described how they used their own initiative to seek out professional learning about the IB program. Three of the participants had actively sought out training in order to move into a career as an international school teacher in IB schools. One of these teachers described how he did this: "My route into it, a little strategic, was actually to become an examiner." The second teacher said "My girlfriend at that time was a teacher. She was getting into the IB program, she had never taught IB, so we both attended the

workshop just so that we could get used to it." The third teacher explained that she and her teacher spouse both signed up for IB workshops because "We were just trying to do anything to somehow get an interview [in an IB school]."

One participant spoke about how, even after years of teaching the IB program, she still seeks out ways to learn more: "I feel like I'm always learning. … Actually, I've been teaching for a long time, and I never feel like I exactly know what I'm doing." Another participant similarly felt she still had a lot to learn as an IB teacher: "I also know I have a lot of work to do to try to really get it to its fullest capacity." She described how this realization inspired her to work on her own to build her knowledge about the program: "That made me just buy books and self-educate."

Another participant described how she decided to become an IB examiner: "That is something that I did on my own," and she also described how she established her own personal networks when she attended IB workshops: "As soon as I find someone that I know that I can relate to, I immediately exchange numbers. I always do something like that." Another teacher described how he took the initiative himself to build on his colleagues' help and learn more himself about the IB course he was teaching:

> I had some support from some really helpful colleagues who were willing to share resources with me that meant I didn't have to spend lots and lots of time preparing examples and notes and things for my class. And that gave me the time to really go through the textbooks that we had on hand, probably in the first three or four months of teaching the course. And then after that, if I was teaching a particular topic that I felt I was a bit weak on, I would make sure that, oh I know that's coming up, I'm going to go and collect as much information and read as many texts or articles as I can about it. Over

the last six years, I definitely feel that I've been filling those gaps, and that I've got to the point where I'm really quite confident with the course material.

General Narrative

There were many similarities in the factors that affected teachers' choice of professional learning format. One commonly cited reason was the lack of travel opportunities during the Covid pandemic, which meant teachers were not able to attend face-to-face workshops. For some teachers, this meant they had not done any training for a few years, while other teachers attended virtual workshops instead. In addition, school budgets often impacted teachers' access to IB workshops. While a few teachers paid for their own workshops before becoming IB teachers, once they moved into IB schools they all reported that their organizations paid for all or most of the costs of attending IB workshops. Many schools provided an individual professional development allowance which teachers could use to pay for the workshops, while others paid for the training as part of the school's priorities as an IB institution. In the past few years, however, many international schools have seen a reduction in their operating budget which has reduced some teachers' access to IB workshops.

Teachers mentioned that they chose to attend workshops initially to learn about the syllabus for their subject, and then subsequent workshops to learn about changes to the curriculum as well as particular aspects of the assessment process. Often the reason they attended online as opposed to in-person workshops was because of needing to train quickly (for example, when there was an unexpected change in their teaching assignment). Teachers did find it challenging to fit these long (two-month) asynchronous workshops around their work and life commitments, however, and thus preferred the in-person or synchronous versions instead. Another criticism of IB workshops was that they were often too broad, and teachers would like access to more focused training opportunities.

Examining was mentioned as an important form of professional development, but not all participants were able to make the large time commitment that this involves. Similarly, collaboration with colleagues was mentioned as an important way to learn about the IB program, but this also required an investment of time from teachers as well as supportive structures to be put in place by the school leadership. In terms of online collaboration, through My IB and social media groups, participants mentioned the sheer volume of resources available which made finding focused support challenging at times.

Although not all the participants specifically mentioned self-initiated learning, it is clear that all of them found ways on their own to grow as IB teachers. In some cases, this took the form of seeking out IB training in advance of securing a job in an IB school, in other instances it encompassed seeking answers online to questions about the IB program, and for some teachers it involved choosing to become an IB examiner in order to understand how better to help one's students. Two of the participants particularly mentioned the importance of lifelong learning as an IB teacher, as one can always learn more about one's subject and improve one's teaching skills.

General Description

This section will use evidence from the preceding general narratives to answer the main research question: What is the lived experience of professional growth for DP teachers as they seek to understand and implement the IB program and philosophy?

IB DP teachers in international schools come from a wide range of countries and backgrounds. While some countries' teacher training programs align with elements of the IB educational philosophy, particularly more recent programs aimed specifically at the international school system, most teachers experience a significant shift in teaching and assessment approach when they move into IB schools. An added challenge that is particular to international schools is that teachers often need to be flexible in the range of courses they can offer, and it is common for

DP teachers to be required to teach the MYP as well. Although the organization and assessment requirements are different in the MYP to the DP, the philosophy of teaching is the same and thus teachers are able to apply understanding of approaches to teaching and learning across the two programs.

IB teachers attend several official workshops over the course of their career. These are often overwhelming for new IB teachers, as there is a large amount of information and vocabulary to be learnt in a short space of time, but they are helpful in explaining syllabus requirements and providing opportunities to moderate student work together to build understanding of course assessments. Apart from when there are syllabus changes, over time teachers report less value from the IB workshops, needing instead more focused learning on specific topics related to their course.

The organization of IB workshops plays an important part in the enjoyment and value of the experience. The workshop leader needs to be experienced as an educator, in order to share needed information about the IB program and syllabus, and also skilled as a facilitator, to encourage collaborative learning amongst workshop participants. Because the sharing of ideas and experience between teachers is such a crucial part of the learning at these workshops, face-to-face and synchronous online trainings are preferred by IB educators. Asynchronous online workshops do allow teachers to learn about IB program requirements, but they are less successful at enabling participants to develop connections with each other and feel inspired as IB teachers. The advantage of online workshops is that they cost less, and they can be scheduled more easily around teachers' work and life commitments, and, as a result of online learning experiences through the Covid-19 pandemic, most people are now more comfortable with the synchronous online environment. Although IB schools do cover most or all of the cost of

attending workshops, decreasing budgets in recent years have made synchronous online workshops more feasible in many organizations.

New IB teachers in particular often find the learning at workshops to be disconnected from the classroom experience. IB teachers therefore rely on each other for job-embedded learning within their school context. It is particularly helpful when more than one person teaches different sections of the same course, but, even in the case of singleton teachers, other members in the department or subject group provide a valuable source of knowledge and support. In this way, experienced teachers act as mentors to new IB educators, sharing resources as well as teaching strategies that they have developed over time. When questions arise in the course of teaching the DP program, teachers have somebody they can go to for suggestions and answers. While ideally this mentor will be somebody in the same subject, department, or school, if this is not possible then it is helpful for teachers to have an external mentor, who might be a workshop leader or another more experienced teacher in a different school.

This sharing of ideas and tools between IB teachers extends beyond the limits of workshops and school collaborative structures and outside the constraints of international schools in different time zones. The My IB platform allows teachers to ask questions of each other and share helpful resources. Several teachers belong to social media groups, such as Facebook, which serve a similar purpose. The difference between the two platforms is that the former has IB-authorized moderators, who have access to higher-level IB leaders when needed, and this may be the reason why teachers tend to use My IB more than social media when they need to get information about the IB program. The My IB user interface is more complex than Facebook, however, and therefore some teachers still prefer to use social media because it provides quicker access to what they need.

There are a number of other resources that DP teachers use to help them understand and implement the IB program and philosophy. Within their school organizational structure, the DP coordinator plays an important role in providing information about the IB program as well as logistical and collegial support. The guides published by the IB are valuable sources of information about specific courses, especially the more recent documents which unpack the syllabus into units and provide clear guidance on the assessments. While many schools do offer access to other workshops that are not specifically related to the IB, most teachers report finding the IB workshops and resources to be most valuable to their work as IB teachers.

A common thread in the experience of all IB DP teachers is that they continually seek to provide better learning opportunities for their students and to grow themselves as educators. They demonstrate that they are lifelong learners who request to attend workshops to learn more about the IB program, who actively seek out resources and information about their subjects and courses, whether online or from books and IB documents, who choose to become examiners so that they can better support their students in preparing for assessments, and who seek out connections with other DP teachers, both within their own school and externally, to further grow in their confidence and ability as IB educators.

The findings of this study will be further discussed in chapter 5, but first it is important to return to the grounding philosophy and examine how the researcher's assumptions prior to conducting the study were either confirmed or challenged.

Researcher Assumptions

According to Heidegger's philosophy of hermeneutic phenomenology (1927/1982), it is not possible for a researcher to set aside completely their previous experiences and beliefs. On the contrary, in fact, the researcher uses their understanding in the interpretation of the participants' descriptions.

Given the researcher's background and experiences as outlined in chapter 1, three primary assumptions were made about this research. First, it was believed that official IB workshops are not sufficient in themselves to guide the sustained professional growth that is needed to implement a new educational philosophy. This was based on several studies which showed that professional development needs to be ongoing and job-embedded (Cordingley et al., 2015; Darling-Hammond, 2017; Hammer, 2013; Walter & Briggs, 2012). This assumption was borne out in the findings to a degree, although participants were able to add more nuance. New teachers found workshops unhelpful because they did not have sufficient contextual understanding to relate theory to practice in their learning. Slightly more experienced teachers, however, found workshops beneficial because of the practical learning and shared resources which aligned to their everyday teaching. Many participants did mention keeping in touch with other workshop participants, though, to sustain the learning and sharing after the training was over. Participants who had been teaching the IB program for many years, and who had attended a large number of IB workshops, mentioned that they did not feel they would continue to benefit from these workshops, unless it was focused on a particular topic or area where they still had questions or room for growth.

A second assumption was that, in accordance with the theory of social constructivism, teachers would grow in their IB understanding through collaboration with others. Again, this was found to be the case with all participants, as they described the benefit of learning from other workshop attendees and collaborating with colleagues in their schools and departments. What was surprising, however, was the limited scope of the collaboration that was often described. Conversations were often depicted as being about logistical issues, such as planning events or aligning calendars. Some participants did relate how they looked at student work or planned

instruction with colleagues. No participants spoke about spending time in colleagues' classrooms, either co-teaching or observing, except for one participant who had done so when he was a new volunteer teacher. Another participant said she would like to observe her colleagues but could not because of conflicting schedules. In addition, it was also assumed that IB teachers would make more use of social media as a professional learning tool, and, while some participants did indeed do so, many did not. Instead, most teachers seemed to prefer the official collaboration platform, My IB, which was considered more reliable for important information. Collaboration is an important component of the IB philosophy, and so it was not surprising that teachers did frequently mention how much they learnt from others (including workshop leaders, colleagues in their own and other schools, and DP coordinators). Many colleagues did say, however, that they collaborated more in the MYP than the DP. It is possible that the interdisciplinary requirements of the MYP facilitate this, but no participants mentioned collaborating with teachers of Theory of Knowledge; Creativity, Activity and Service; or Extended Essay, which are interdisciplinary components of the DP.

A third assumption was that teachers cannot always rely on in-school structures and supports to guide their growth and implementation of the IB. This sometimes occurs because, despite evaluation visits which attempt to address this issue, the degree to which individual schools align their practices with IB philosophy varies widely. In some schools, lack of money hampers professional learning initiatives. In small schools, teachers are often the only person teaching their subject in the IB program and they are limited in opportunities for collaboration (although interdisciplinary approaches encourage collaboration even in this situation). Regardless of the reason for the issue, teachers often need to take initiative to find their own source for professional learning, beyond what is offered within their own school. This

assumption was also shown to be true in the study findings, with participants describing restricted access to training because of Covid restrictions or school budget constraints. Some teachers described challenges to collaboration such as lack of common planning time, and only one participant spoke of the support she received from a principal (although many did report this coming from their DP coordinator). Given that the assumption of limited school support was mostly accurate and as all participants appeared to want to learn and improve their understanding and implementation of the IB philosophy, it was therefore surprising that many participants made little use of non-IB professional development. This is particularly unexpected since the quality and quantity of online trainings increased significantly during the months following the start of the Covid-19 outbreak (with a lower cost than in-person workshops). In contrast to the researcher's expectations, most participants relied solely on IB workshops, rather than seeking out external sources such as those on concept-based learning and inquiry approaches, which are fundamental elements of the IB philosophy. This may have been because many teachers focused their learning needs on the final assessments in their subject area as well as delivery of the syllabus requirements, with very few mentioning learning about the IB approaches to teaching and learning.

Summary

This chapter described the demographics of participants in the study and the findings from semi-structured interviews with seven IB DP teachers from five international schools. These findings provided insight into the lived experiences of professional growth for IB DP teachers through the description of 12 themes and 14 sub-themes. These themes and sub-themes were organized according to the three research sub-questions, with general narratives (drawn from the situated narratives) providing responses to these questions. Finally, a general description, drawn from the general narratives, provided the findings for the main research

question. The application of the grounding philosophy, hermeneutic phenomenology, to the explication of data was examined, as well as exploration of the researcher's prior assumptions in the context of the study findings. The next and final chapter will provide further discussion of these findings and make recommendations for action and future research.

CHAPTER 5. DISCUSSION

The purpose of this qualitative hermeneutic phenomenological study was to explore the professional learning experiences of International Baccalaureate (IB) Diploma Programme (DP) teachers in international schools. Seven such teachers from five different schools served as the participants for this study. The preceding chapter outlined the findings from the study, and this chapter provides an interpretation of these findings in relation to the literature and theoretical framework discussed in chapter 2. Conclusions will be drawn from these findings and implications discussed. Finally, recommendations for action steps and further research will be proposed.

Interpretation of Findings

The following discussion will present a dialogue with the literature review. Themes drawn from the three research sub-questions of this study will be compared and contrasted with other research to build a deeper understanding of the professional growth experience of IB DP teachers.

The Professional Learning Needs of IB Teachers

Jamal (2016) wrote that there are a number of schools who adopt the IB program because of its perceived status for prospective students. It appears the attractiveness of the program is not limited to students and their families, however, for most of the participants in the present study stated that they aspired to become IB teachers because of the increased number and quality of career opportunities it provided within the international school system. Despite this initial reason, participants did appear to "buy in" to it, which Savage and Drake (2016, p. 16) argued was so important for authentic implementation of a new educational philosophy. Participants spoke of their excitement at the IB approaches to teaching and learning and described the elements of the

philosophy that they particularly appreciated, including the emphasis on the student at the center of the learning, the inquiry- and concept-based approaches, and the consideration of diverse contexts in the knowledge base. There were naturally elements of the program that they found confusing or frustrating, such as the lack of specificity regarding some of the assessments, but overall participants spoke positively of the IB program.

This buy-in appeared to develop gradually, with teachers describing initially feeling overwhelmed and anxious. Several previous studies (Doherty and Shield, 2015; Resnick, 2012; Ryan et al., 2014) described how different the IB philosophy is to most teachers' initial training, and this was indeed reflected in the present study. Most participants had completed their training between 12 and 30 years previously, and their training had been aimed at national education systems in Belgium, Chile, South Africa, the United Kingdom, and the United States of America. These teachers described elements of the IB approaches to teaching that were included in teacher training in their country, but overall, the philosophy of teaching and learning was quite different. One participant, however, had recently completed his teacher training through an online program in the United States that was aimed at international school teachers, and this training was described as aligning very closely with the IB philosophy. Given the large number of schools, especially international schools, that now offer the IB program, it makes sense that teacher training programs would start to align themselves to this program, even without expressly stating this (in contrast to the acknowledged IB certificates which a few universities around the world now offer).

The IB educational philosophy is based on thorough research into effective approaches to teaching and learning and thus it is understandable that there is some crossover with other educational systems. Even when teachers are familiar with aspects of the philosophy, however,

and even when they "buy in" or are excited about it, there is a steep learning curve for them to come to grips with the IB syllabus requirements and terminology. Tsakiris et al. (2017) gave evidence that new IB teachers need access to effective learning opportunities, and Desimone and Garet (2015) explained that it is particularly difficult to change one's approach to teaching and learning, as required in the IB program. The findings of the present research, however, suggest that it is possible for this change in understanding and practice to occur. Although Twigg (2010) proposed that schools should consider only hiring teachers whose philosophy aligns with that of the IB, the participants in the present study described how, through years of experience and participating in multiple forms of professional development, both formal and informal, they developed their understanding and implementation of the IB philosophy. It should be stated, however, that this does not necessarily occur with all teachers. The participants in this study were selected because of their commitment to the IB philosophy, so it can only be said that this learning is possible, not that it occurs in everyone.

In the table in chapter 1, it was shown how all four IB programs, despite their differences of implementation, are aligned philosophically through the approaches to learning, the approaches to teaching, and the learner profile. This alignment is indeed helpful, as it is common in international schools for teachers to be expected to work across programs (for example, both Middle Years Programme [MYP] and DP) and subject areas. Although teachers must come to grips with different content when they change courses, it is an advantage that the core philosophy and practices are the same.

Formal and Informal Professional Learning Activities of IB Teachers

Previous studies have shown that it is important for teachers to participate in both formal and informal learning activities (Borko, 2004; Knyd et al., 2015; Shirrell et al., 2019), one of the reasons being because people do not all respond to different types of professional development in

the same way (Desimone & Garet, 2015; Kennedy, 2016; Kyndt et al., 2016). In chapter 1, formal activities were defined as those which are "structured in terms of time, space, goals, and support" (Kyndt et al., 2016, p. 1113) while informal activities were described as "self-directed learning, where teachers exercise their agency to choose how and when they seek professional knowledge" (Barton & Dexter, 2020, p. 93). It can be seen that these two categories of activity align with the theories of learning discussed in chapter 2: andragogy, where facilitators of learning in a structured environment utilize learning principles that best support adult growth (Knowles et al., 2015), and heutagogy, where seekers of knowledge and growth have full agency and self-determination over what and how they learn (Blaschke, 2019). Each of these types of learning will now be discussed separately.

Formal Learning Activities

These types of activities are undertaken intentionally to develop particular knowledge and skills (Kyndt et al., 2016), and they generally consist of workshops, courses, and other forms of facilitated training (Richter et al., 2011).

IB Workshops. For IB teachers, the most common type of professional development is the IB-provided workshop. IB teachers are meant to attend a workshop before starting to teach the program and they should attend additional workshops at least once every five years after that (International Baccalaureate Organization [IBO], 2018e). The participants in this study had mostly adhered to this requirement and had been supported by their schools in this (in terms of both funding and time), although the restrictions during the years of Covid-19 had limited some teachers' attendance at workshops. Previous studies had found these workshops limited in their ability to help teachers implement the IB program (Savage & Drake, 2016; Storz & Hoffman, 2018) which aligned with findings from the wider professional development literature that

pointed out the weaknesses of the workshop model in effecting long-term change in the classroom (Gulamhussein, 2013; Phillips, 2003).

Despite this, an IB-commissioned study did find positive outcomes from IB workshops, which were ascribed to the coherent curriculum and content (Calnin et al., 2019). In concurrence with this, participants in the present study described some positive experiences at IB workshops. In particular, they appreciated learning about elements of the IB program and philosophy and building understanding of specific syllabus requirements. This confirms Guskey's (2000) assertion that workshops are effective for building a shared knowledge base. Moving beyond this type of learning, Kelly (2017) found that to change teachers' deeper beliefs about teaching it was helpful to embed training in andragogical principles. These principles are the learners' need to know, their self-concept and ownership of their own learning, the link between new learning and prior experiences, the learners' readiness to learn, the relevance of the learning to everyday work, and the learners' intrinsic motivation (Knowles et al., 2015). The IB-commissioned study did find strong use of these principles in IB workshops. The present study's participants confirmed some but not all of these elements being present in the workshops they attended. The need to know was perhaps assumed by workshop leaders, as the trainings are aimed at practicing IB teachers. Several of the participants, however, attended workshops as a means of learning about the IB program before being offered a position in an IB school. Their need to know would have been different to a teacher who had already started teaching the program. Several of the participants described feeling overwhelmed at their first workshop, and they said it was rather job-embedded learning over time that helped them to come to grips with the program. This aligns with other andragogical principles that learning should be applicable to the participants' everyday work and readiness to learn. It may therefore be appropriate for the IBO to consider

adjusting the categories of workshops they provide. Currently, Category 1 is aimed at new teachers, but further differentiation might need to be made between those who want to learn about the IB program from a theoretical perspective (because they are not yet employed as IB teachers or because they have not started their first IB teaching role yet) and those who have started working with students already, and thus are able to connect the learning more readily with their everyday experience in the classroom. In other words, a pedagogical (rather than andragogical) approach may be more appropriate for new teachers with no background or classroom experience of the IB program.

The need-to-know aspect of the workshops was also criticized by more experienced IB teachers, who found the training too broad for their learning requirements. These teachers expressed a need for shorter professional development options focused on specific aspects of a course syllabus, such as particular assessments. The organization InThinking does provide such focused courses, which last between three and six hours each, but only in a small number of subjects. Since this study was started, the IBO has released online, self-paced, micro-professional development options, which they call Nano PD (IBO, n.d.-d). At the time of writing, this consists of teacher growth resources for a few subject areas only, including topics such as the Internal Assessment for science subjects and how to use inquiry approaches in DP Economics. This appears to provide exactly the kind of focused support that participants in the study said they wanted, although none of them mentioned knowing about the Nano PD website.

Participants of the present study described other elements of andragogy that they experienced in their IB workshops. One participant, for example, described comparing the expectations of the new syllabus to prior experiences in the old syllabus (i.e., building a new understanding of the changes in practice that would need to be made). Several participants

described the richness of learning with and from a diverse range of teachers in the workshop setting, being able to benefit from new perspectives as well as learning from the expertise of those who had more experience in one or more areas of the syllabus. Many participants said they appreciated the opportunity to plan how to implement the syllabus as well as moderate student work together, because this learning was directly applicable to their work in the classroom. Teachers also related how they created their own understanding through analyzing student work samples and engaging in reflective conversations with fellow workshop participants. These descriptions align with Knowles' (1970) advocation for workshop leaders being facilitators of learning rather than traditional presenters of knowledge, and, indeed, many participants in the present study referred to workshop leaders as facilitators rather than instructors.

This description of participants actively creating new understanding in the workshops aligns with the social constructivist theory of learning. All participants in this study said that the most helpful aspect of IB workshops was learning from other participants, through the sharing of resources, working out implementation of the syllabus together, analyzing student work alongside each other, and learning from other teachers' diverse perspectives and experiences. This learner-centered, collaborative approach reflects the model found by Brand and Moore (2011) to be effective in changing teachers' philosophy and instructional practices and aligns with Vygotsky's (1978) belief that people need to be actively engaged in their own learning. This may be the reason why all participants in the present study said they preferred face-to-face IB workshops (whether in person or virtual) to asynchronous online formats. Many participants described the lack of connection with other participants as detrimental to their learning experience in asynchronous online courses.

As Joyce and Showers (2002) and, more recently, O'Dwyer (2018) pointed out, however, not all aspects of social constructivism can be provided in the workshop model, with other important elements including modeling, practice in real settings, and regular feedback and reflection. For this reason, Desimone and Garet (2015) argued that workshops are limited in their ability to develop more challenging instructional strategies. The authors of the IB-commissioned study into professional development (Calnin et al., 2019) came to the same conclusion, writing that, despite the many positive aspects of the IB workshop design and implementation, this format does not allow opportunities for practice and feedback and there are limits to the connections that can be made between the professional development and teachers' everyday work. It is not surprising, therefore, that all IB teachers supplement the required workshops with other forms of professional development, which will be further discussed in due course.

School-Provided Professional Development. Naturally, the formal professional development provision of different schools varies widely. According to the findings of this study, some schools supplement IB workshops with in-house training sessions on topics of wide applicability such as assessment for learning, which may be facilitated by internal teachers or administrators, or by external experts. Other, larger schools work with the IB to bring in external facilitators to provide IB-aligned workshops so that they can train larger numbers of teachers at one time, on site. The benefit of using external experts is that they bring specialist content knowledge and new perspectives, and it is especially helpful when they have thorough knowledge of adult learning methods so they can challenge teachers' beliefs and practices and create new understandings (Cordingley et al., 2015; Timperley et al., 2007; Walter & Briggs, 2012). The advantage of in-school workshops is that they can be closely aligned to the school's context and culture, thus addressing Sparks' (2005) criticism that external workshops often have

no impact on the wider school culture. Referring to social constructivist theory, Dewey (1922) argued that it is impossible to separate our learning from the environment in which we find ourselves, and von Glasersfeld (1989) reinforced that our learning is greatly influenced not only by our prior experiences but also by the physical and social world around us. For this reason, it is important for schools to consider what additional training would be impactful for their teachers to develop context-specific understanding of the IB program and philosophy. This is particularly relevant to international schools, given the great diversity of host-country locations, circumstances, and requirements, which makes it unreasonable to expect IB workshops to cater to all school contexts and cultures.

In addition to context-specific training for teachers, many studies have emphasized the importance of learning that is grounded in daily work in the classroom (Cordingley et al., 2015; Darling-Hammond et al., 2017; Hammer, 2013; Walter & Briggs, 2012). As one form of this, it is common for IB teachers to meet regularly with colleagues in their subject areas. The participants in this study described how they share ideas, resources, and experiences with each other as well as plan instruction and standardize student work expectations. In most schools, however, it appeared that the expectations of this collaboration were not formalized. In some schools, time was allocated for teachers to work together, but most often teachers were free to use this time as they wished and there was little or no accountability to administrators on outcomes of the collaboration. While many studies have shown the benefits of teachers collaborating with each other (Kraft & Papay, 2014; Oddone et al., 2019; Little, 1982; Pil & Leana, 2009; Twigg, 2010), this does need to be structured and nurtured for it to be effective (Saphier, 2022). In particular, observing each other in the classroom, providing feedback, and engaging in reflection are important ways to build instructional knowledge and practices

(Guskey, 2000; Little, 1982; Saphier, 2022; Thurlings et al., 2015) and school administrators should find ways to build such opportunities into expectations of collaboration and ensure that logistical structures (such as teaching timetables) are designed to allow this to occur.

Two of the participants in this study had worked in large international schools in Asia where job-alike sessions were organized from time to time by their schools. These provided opportunities for teachers of the same course but different schools to collaborate with each other. In concurrence with the literature on the importance of structured collaboration, one participant said of these job-alike sessions, "The best ones were quite strictly run and had an agenda and quite strict timings laid out." This kind of group aligns with what Guskey (2000) identified as an important form of professional development, the development or improvement group, or what other writers have called the community of practice (Lave & Wenger, 1991; Zepeda, 2015), where small numbers of teachers work together on a particular issue or concept. The value of these groups is that they can engage in "trialogical" learning (Paavola & Hakkarainen, 2005, p. 539), where participants acquire knowledge, learn socially, and create new resources and understandings together. As suggested by one of the present study's participants, Guskey did emphasize that in order for this type of group to be effective, clear structures and expectations need to be put in place. While it is understood that job-alike groups are more feasible in large cities with several international schools who offer the IB program, the recent increase in familiarity and confidence with online synchronous technology because of the Covid-19 pandemic means that schools could establish online collaboration and partnerships with schools in other countries. This would be particularly helpful for singleton teachers, that is those who are the only teacher of their particular course or subject in their school. It would also alleviate some of the anxiety that participants in this study said they felt when first became IB teachers as well

as the loneliness that some participants felt in schools with little departmental collaboration. The guiding principles associated with professional learning communities (DuFour et al., 2016) could form an important framework for both in-school and inter-school group collaborations. These principles encourage a focus on student work, collective responsibility, and an orientation to student outcomes.

One final aspect of formal professional development in schools is the support structure in place for IB teachers. In the present study, several participants spoke of the importance of the DP coordinator in providing logistical support for the many requirements of the IB program and acting as a liaison for information sharing between teachers and the IBO. In addition to this practical support, one participant spoke of how she was able to grow and thrive because of the nurturing guidance received from her principal. Saphier (2022) suggested that for effective collaborative environments to flourish, leaders need to encourage caring and supportive work environments and foster a school culture where risk-taking is supported and encouraged and where open and frank communication is the norm. This is an aspect of professional learning that may be forgotten by school leaders, but it is vital to set the stage for the type of collaborative environments described by Hord (1997) and Massey (2009) where teachers work effectively and purposefully together to improve student achievement.

Informal Learning Activities

Whereas the discussion so far has focused on structured learning opportunities, the second type of professional learning activity, informal, is characterized by "a low degree of planning and organizing in terms of learning context, learning support, learning time, and learning objectives" (Kyndt et al., 2014, p. 2393). Teachers, in line with the theory of heutagogy, seek out informal types of professional learning to supplement the formal provision which, as has been discussed, cannot always provide the multidimensional, integrated, and contextualized

type of holistic learning that Chen and McCray (2012) argued is needed for teachers to make significant changes to their beliefs and practices. Informal learning is also important for the individual growth of teachers. Boelryk and Amundsen (2016) argued that professional development needs to consider the individual, social, and contextual dimensions of learning. The last two of these dimensions, as has been seen in the discussion of the social constructivist elements of IB workshops, can be addressed through formal learning activities, but the individual dimension requires self-initiated learning and personal reflection, according to Boelryk and Amundsen. Indeed, a criticism of social constructivism is that it ignores the specific learning needs of the individual (Jenkins, 2001) and that it fails to address how learners link their understanding in the external world to their internal world (Fox, 2001). Heutagogical approaches are thus necessary to support traditional professional development formats, and all the participants in the present study gave examples of how they sought out additional learning opportunities for themselves.

Mentors. In keeping with social constructivist theory, most of the participants had sought out more experienced colleagues to guide them when they first became IB teachers. Indeed, several participants stated that they learnt more from their colleagues than from official workshops. While some schools may have formal mentorship programs in place, for all the participants in this study the learning from others was informal and included getting access to teaching plans and assessments, conversations about IB teaching approaches, and, in only one case, observing the experienced teacher in the classroom during free time. It makes sense that teachers would seek out this expertise, with other studies pointing out the helpful degree of collaboration with such experts (Coburn et al., 2012), the importance of mentors providing influence, guidance, and direction (Guskey, 2000), and the benefit of mentors helping new

teachers to connect theoretical knowledge with practical application (Peiser et al., 2018). Pitsoe and Maila (2012) also emphasized the importance of this kind of bottom-up approach to professional growth, with teachers seeking out their own ways to construct new understandings of knowledge and practices in a holistic, contextual manner. These authors also expressed, "Effective professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role" (p. 2). Thus, there is benefit both to the mentor and the mentee, a finding that was confirmed by Hudson (2013). Indeed, one of the present study's participants spoke of her desire to provide more guidance to other teachers, passing on the knowledge she had gained from others before her with the expectation that those she helped would continue to share their understanding with others too. While mentorships as described here are informal and driven by individual teachers' desire to learn, where such options do not exist in schools (for example, in subject areas with small departments and singleton teachers) school leaders could provide opportunities for new teachers to connect with mentors externally. In the present study, in fact, several participants described how they connected with experienced teachers in other schools, sometimes people they had met at IB workshops including the workshop leaders themselves, to get support and guidance as needed. While this type of collaboration may have been less frequent in interaction, it nevertheless provided an important form of ongoing learning for IB teachers. It is interesting, however, that none of the participants in this study mentioned the use of school instructional coaches as mentors, which previous studies had suggested was valuable (e.g., Joyce & Showers, 2002; Woulfin & Rigby, 2017). This may have been because their school did not provide such coaches, but it seems more likely that teachers prefer to learn from those with expertise in their particular subject area and within the IB program.

Networks. Building on social constructivist theory, García-Martínez et al. (2021) described the impact of social activity on professional growth both within and beyond schools. While social involvement within schools has already been discussed, the participants in the present study described several ways in which they established connections with IB teachers outside their own schools, including getting to know fellow educators at IB workshops and reaching out to these people for support even after the workshop had ended. In addition, all participants said that when they had questions about some aspect of the IB program they would go to online IB educator forums to find answers. The two online platforms that were named by study participants were My IB and social media (mainly Facebook). This aligns with the literature on use of online networks for professional development which showed that they give teachers ownership of their professional growth (Holmes et al., 2013), they develop teacher professional identity (Robson, 2016), they nurture collegial, supportive relationships (Booth, 2012; Macìa & García, 2018), and they provide exposure to both like-minded and diverse perspectives (Carpenter & Krutka, 2015). Previous studies found that teachers use online networks to ask questions (Tsiotakis & Jimoyiannis, 2016), discuss various topics related to teaching (Krutka & Carpenter, 2016), and share resources (Bett & Makewa, 2018; Macìa & García, 2018). The teachers in the present study confirmed these findings, saying that they used online forums to find teaching resources, ask questions, and discover other IB teachers' ideas about the program.

Previous studies also pointed out some of the limitations of online networks as professional development tools. These included the overwhelming amount of information available (Davis, 2015; Rosell-Aguilar, 2018; Tsiotakis & Jimoyiannis, 2015) as well as the unreliable quality of content (Kelly & Antonio, 2016; Killion, 2013; Tsiotakis & Jimoyiannis,

2016). Indeed, both of these shortcomings were mentioned by participants in the present study. One teacher said he found it very difficult to find his way around the large amount of information on My IB, and thus preferred to use Facebook for its quick access to content. Another teacher warned that the information on IB Facebook groups is not vetted by the IBO and therefore cannot be viewed as an authoritative source. For this reason, several participants said they used social media to connect with other teachers and get new teaching ideas and resources, but if they had an important question about the IB program they would rather go to My IB, which is an official IB platform. One key difference between social media groups and My IB is that the latter has IB-authorized moderators. Booth (2012) and Wenger et al. (2009) maintained that moderators play an essential role in online communities in ensuring effective and purposeful collaboration, and indeed this was a key factor in the assertion by Nelimarkka et al. (2021) that not all social media groups have an impact on professional learning. Online networks were described by Lundin et al. (2017) as being ideal for the type of ongoing, relevant discussions that are helpful for teachers' professional learning, but these conversations do often need a moderator's guidance to ensure they stay focused on relevant topics (Duncan-Howell, 2010). While it can thus be seen that networks do form part of the support system for IB teachers' professional learning, they are not usually sufficient in themselves to effect significant change in teachers' practice and philosophical beliefs.

Other IB Sources. Several participants in the present study mentioned that they wanted more information from the IBO, particularly in relation to clear guidance on assessment expectations. This echoed findings in previous studies, including one in which participants said they needed more support and exemplars in the IB program (Perry et al., 2018), and two studies which argued that IB documentation needs to be clearer and more detailed (Jamal, 2016; The

National Recognition Information Centre for the United Kingdom, 2020). Teachers in the present study described improvements that had been made in recent years to several subject guides, and these provided useful guidance on planning units and understanding assessment requirements. It is hoped that these improvements will be applied to all subjects in the near future.

All participants acknowledged that one of the best ways to learn about IB assessments was to become an examiner. Although some teachers were encouraged by leaders in their school to apply for this position, in all cases it was the teachers' own choice and initiative to do so. The participants described the challenges of undertaking this work, starting with the process of getting chosen by the IBO and then fitting in the demands of marking around teaching commitments and life circumstances. Participants nevertheless still did this work because of the great benefits they felt it provided, describing how examiners were provided with more clarification on assessment expectations from the IBO and, in alignment with social constructivist principles, how they built deeper understanding of the assessments through the marking process itself. This concurs with the findings of Chadwick et al. (2018) who described the benefits of being an IB examiner as the access to the latest resources, the opportunity to build deep understanding of core IB practices, and collaborative interactions with other IB educators and IBO subject area experts. The limitations of examining as a form of professional development, however, were demonstrated by participants who explained that their increased knowledge only applied to the component they were asked to examine for the IBO; in other words, their learning did not transfer to other components or subject areas. This reveals that the learning is limited to the improvement of student outcomes in a particular part of the course and does not directly provide any guidance to teachers on how to change their teaching approach to align more closely with the IB philosophy. Regardless of this limitation, examining does appear

to be a helpful way for teachers to learn more about the IB program, and, applying heutagogical principles, many teachers will be able to use this heightened knowledge of student expectations to seek other ways to improve their pedagogical practice to achieve these outcomes.

Factors Influencing Choice of Professional Learning Activity

As previously indicated, workshops are the predominant formal professional development option for IB teachers. The study participants indicated several factors that impacted their ability to attend these workshops, including travel restrictions during Covid-19 and declining school budgets for professional development. This latter factor concurs with previous studies which raised concern over the high cost of IB workshops (Awang et al., 2019; Christoff, 2021; Jamal, 2016; Perry et al., 2018). This challenge is not limited to IB schools, however, with the cost associated with workshops in general being a limiting factor to many kinds of schools (Barrett & Pas, 2020; Lipsey et al., 2012; Osman & Warner, 2020). International schools generally allocate money for teachers to attend IB workshops, but economic challenges in many of these schools around the world has decreased the size of these budgets. Online workshops are therefore a more cost-effective option, even though participants in this study indicated that they preferred in-person formats. Between 2009 and 2021, IB teachers could do asynchronous online workshops which lasted approximately eight weeks (McClurd, 2016) but participants in the present study expressed regret that elements of social constructivist learning, such as meaningful connection with other workshop participants, were not possible in this format. In 2021, however, the IBO introduced synchronous online workshops which were able to address this limitation, and which aligned with the proposal by Maher and Prescott (2017) to use this format of learning to overcome many of the challenges associated with traditional in-person workshops (such as geographic access and cost). Two participants in the present study had attended these new virtual IB workshops and found them to be effective, and it is likely that

these will continue to be a popular form of training for international school teachers in the years to come. As one participant explained in the study by Perry et al. (2018), not all IB schools have access to large professional development budgets.

Another option for schools who are limited in how often they can send teachers to official IB workshops is to organize their own in-house professional development offerings. These could be aligned to the IB approaches to teaching, including inquiry- and concept-based models, and the advantage of this is that they would be job-embedded and ongoing, two characteristics of professional development which the literature has shown to be effective (Cordingley et al., 2015; Darling-Hammond et al., 2017; Hammer, 2013; Walter & Briggs, 2012). Forrest (2018) demonstrated how this could be organized, through her three-year trial of such provision in an international school in the United Kingdom. Forrest was able to adapt the training to the specific needs of different teachers in her school, and thus align the learning even more closely with andragogical principles. This kind of professional learning could be facilitated by leaders within the school, such as the DP coordinator, although Jamal (2016) pointed out that these educators are not always experienced in andragogical principles, which this dissertation has argued are so important in facilitated adult learning.

Another reason why in-house professional development is so important is because IB workshops do not include coverage of content knowledge. Borko (2004) emphasized that teachers need deep knowledge of the content in their subject if they are to help students examine and build the connections between ideas that are necessary to develop conceptual understanding, a key aspect of the IB philosophy. Although Darling-Hammond et al. (2017) affirmed that professional development should address teachers' content knowledge, this does not occur in IB workshops, even though previous studies (Awang et al., 2019; Hallinger et al., 2011) found that

teachers are often intimidated by the amount of content that needs to be covered in the DP. It may be assumed that DP teachers already have this content knowledge from their previous degree programs, but, as this study has shown, teachers in international schools are often required to teach subjects outside their certification areas. The Theatre teacher in this study was certified as an English Language Arts teacher, and the Economics teacher did his first degree in Mathematics. Both teachers found it challenging and had to use their own initiative to find places to learn the required content for their DP courses. In addition, even when teachers are experienced in their subject area, the content in the DP is often much more diverse (from a global context) than in teachers' previous experience or training. One participant in the present study, for example, described how, while appreciating the opportunity for great diversity in text choice in the DP syllabus, many teachers revert to traditional options, purely because of lack of exposure to world literature and limited time to expand one's knowledge. On the other hand, one participant described an organization that has aligned itself with the IBO to organize all the IB workshops for that subject area, Theatre. These workshops include training from content area experts (for example, the Japanese theater form, kyogen) in addition to the traditional aspects of IB workshops, such as looking at assessment requirements. It is an appreciated feature of the IB program that students and teachers have great choice of content in many subject areas, and this is no doubt the reason why content is not included in IB workshops; it would be impossible and unnecessary to cover the vast amount of knowledge possible for selection within IB courses. In addition, schools are encouraged to align such choices with the specific geographic and cultural context of the school. Given this feature, however, it is important for schools to consider how they can support their teachers in developing required content knowledge so that they are able to nurture deeper learning of connected concepts in their students.

While there are several challenges associated with IB and in-house workshops, informal learning activities are not affected by cost and access to the same extent. Mai et al. (2020) encouraged the use of online networks because of their easy, instant access, and Holmes et al. (2013) similarly promoted social media use for its cost-effectiveness. The issue with informal learning, however, is that teachers have to initiate it on their own and also need to have the understanding to seek out sources and platforms that will provide the most relevant growth opportunities for their particular needs. This is where it is important to consider Bandura's (1997) theory of self-efficacy and its relationship to heutagogy. Bandura asserted that an individual's perception of their own competency influences the degree of control they have in achieving desired outcomes. In concurrence with this, recent studies have shown that teachers with high self-efficacy are more motivated to participate in professional learning activities (Azukas, 2019; Thomson and Turner, 2015). It is therefore important for school leaders to think of ways to increase individual teachers' self-efficacy, so that they are more likely to seek out informal learning activities to support their growth beyond traditional workshops. The four ways to do this were described by Bandura as: (a) mastery experiences, (b) vicarious experiences, (c) social and verbal persuasion, and (d) emotional states. Possible ways for teachers to have these experiences could therefore be through: (a) setting goals and successfully accomplishing them, (b) observing and learning from more experienced colleagues, (c) receiving feedback on teaching practice, and (d) receiving emotional and logistical support from colleagues and school leaders.

It is clear that many of the informal learning activities experienced by the present study's participants align with these suggestions. Participants expressed how they learnt from more experienced colleagues/mentors (vicarious experience) and received support from colleagues both within their school systems and externally (emotional states). One of the participants spoke

of the great value he received from observing a colleague in a former school, even though he was only able to reflect much later on what he had learned. To augment vicarious experiences, teachers should be encouraged to spend time in each other's classrooms, observing each other in practice. Guskey (2000) did point out the challenge of finding time in teachers' schedules for this to occur, and Dos Santos (2017) also mentioned the anxiety that many educators do feel when others observe them. It is necessary to find ways to overcome these issues, however, because this practice also plays an important role in allowing teachers to give each other feedback (social and verbal persuasion). Nguyen (2021) wrote about the importance of nurturing trusting relationships as a first step, and Goldhammer (1969) provided a helpful framework on which observations could be based in a positive, growth-oriented environment. Finally, in order to benefit from mastery experiences, teachers need to develop their reflective practices, reflecting both while they are teaching as well as reflecting on goals they have set for themselves and how they progressed towards accomplishing them (Schön, 1983). Dewey (1933) highlighted that, in this way, reflection is closely linked to the process of inquiry and Guskey (2000) suggested that inquiry manifests itself for teachers as action research. Many studies have shown the benefits of action research for teacher professional growth (Calhoun, 1994; Glanz, 2016; Sagor, 2009; Sullivan & Glanz, 2014; Vetter, 2012; Wulandari et al., 2019), although this was not something that was mentioned by any of the present study's participants. This is an area that could be further developed by IB school leaders. The IBO in fact encourages this practice by inviting IB educators to share the findings of their action research at regular local and global conferences. None of the participants in the present study had attended any of these conferences, nor seemed to be aware of their existence, so it is important for DP coordinators to communicate and encourage such opportunities in their school.

One final benefit of encouraging teachers to develop their reflective capacity is that it enables them to make better choices about the types of professional development in which they engage (Larrivee, 2000; Richardson, 2003). This is important, given the many demands on teachers' time and energy, especially in the DP program. Participants in the present study described the stress they feel in preparing students for high-stakes final examinations, and thus it is important that teachers use their time wisely in seeking out the personal learning formats that will enable them to achieve specific learning goals (Trust, 2016) in ways that are social, reciprocal, and ongoing (Tour, 2017).

Implications

This study has shown that multiple types of learning, both formal and informal, are necessary for teachers to develop the deep understanding of IB educational philosophy that enables them to implement this program successfully in the classroom. An important aim of the research was to give voice to IB teachers themselves, so that their lived experience contributes to future improvements in professional development provision that will benefit them. The findings of the study have implications for IB school leaders, encouraging them to continue to support teacher attendance at traditional IB workshops and arrange in-house training sessions for particular teacher learning needs, while also considering the role that self-directed learning plays in teacher growth. Both formal and informal types of professional development are necessary for individual and collective development. Formal learning activities develop common understanding of IB expectations and practices in a collaborative environment, while informal opportunities allow for individual development as well as context-relevant growth. This knowledge is helpful for the kind of non-profit international schools around the world which formed the basis of this study, who need to consider carefully how they spend professional development budgets. Money is certainly needed for the types of formal learning traditionally

provided in the IB program, but there are other non-financial inputs needed to encourage teacher growth. These inputs include providing teachers with time (time to collaborate, time to observe each other, time to explore IB resources) and access (such as schedules that support this work and protocols to make the time effective) so that professional learning can indeed be individual, social, and contextual. This is the type of professional development that will leading to lasting impact on teacher performance and thus student outcomes.

Recommendations for Action

Based on the findings of this study, the researcher makes the following recommendations to the IBO to further improve professional learning provision for IB teachers:

- Improve the interface of My IB so it is easier for users to navigate.
- Communicate more widely about new professional learning platforms such as Nano PD, for example during IB workshops, at conferences, and in coordinator notes.
- Seek feedback from IB teachers on the micro-professional development they would find most helpful and use this information to expand the resources on the Nano PD website.
- Consider a shorter workshop for teachers who have not yet started in an IB role, followed up with a more detailed session after teachers have had a few months' experience in the classroom.

The researcher makes the following recommendations for IB program leaders in international schools:

- Find ways to organize job-alike sessions with schools in similar contexts, making use of online technology where necessary.
- Explore non-IB professional development options to support teachers in their growth, particularly in relation to the approaches to teaching and learning and specific content

knowledge. School-organized workshops enable teachers to construct context-specific understanding in collaboration with each other.

- Connect new teachers with mentors, who may be experienced teachers in the same subject area within the school or, if necessary, a workshop leader or other expert in a different school or country who is willing to share their time, resources, and expertise with a beginning IB teacher.
- Provide support for teachers to undertake action research projects that relate to their teaching of the IB program. Encourage them to share their inquiry process and findings with other IB teachers at regional or global conferences.
- Put structures in place for teachers to meet regularly to discuss curriculum, pedagogy, and assessment. Provide teachers with support and coaching in effective collaboration. Provide protocols to guide teams in collaborative tasks such as planning units, analyzing student work together, and using assessment data to plan future instruction.
- Put structures in place for teachers to observe each other in the classroom. Design a protocol for these visits that emphasizes inquiry, feedback, and reflection.

The researcher makes the following recommendations to IB teachers:

- Seek out experienced colleagues, within and outside one's own school, who can provide support and mentorship in understanding and implementing the IB program. This is particularly important when starting out as a new IB teacher but it is also helpful for checking syllabus requirements, for moderating student work, and for giving and receiving feedback on one's practice at any stage in one's career. Connections can be made with other IB educators at workshops, on online platforms (including My IB and social media), or by reaching out to people in other schools who teach the same course or

subject. In addition, be open to sharing expertise with colleagues and contributing resources and ideas to online networks.

- Consider applying to become an IB examiner, workshop leader, or other IBEN role. Participation in this work increases depth of understanding of IB philosophy and practices and provides connections between classroom educators and IBO leaders.
- Seek out ways to develop self-efficacy as an IB teacher through setting goals and reflecting on progress towards these objectives, observing and learning from others, asking for feedback on one's own teaching and assessment practices, and nurturing a supportive departmental culture that provides both emotional and logistical support for all colleagues.

Recommendation for Further Study

This study looked at the lived experiences of professional growth for IB DP teachers in international schools. It would be interesting to conduct similar studies with Primary Years Programme (PYP) and Middle Years Programme (MYP) teachers in these schools. There would also be value in replicating the study in non-international schools, to compare and contrast the different challenges and experiences of those teachers.

Given the dearth of literature on professional development in the IB program, this study aimed to describe teachers' experience of growth from the participants' perspective. It would be helpful to follow up this qualitative study with quantitative or mixed-methods research that explored topics such as the following:

- A comparison between perceptions of teacher self-efficacy and buy-in to the IB program
- A comparison between perceptions of teacher self-efficacy and participation in different forms of IB professional development

- A survey of teachers' perceptions of effectiveness of different categories of IB workshops, disaggregated according to the number of years' experience of the teacher
- A comparison of professional development formats chosen by IB teachers in international schools according to their geographic location in the world, size of school, or subject group

Conclusion

This study sought to address a gap in the literature on professional development in the IB program by describing the lived experiences of DP teachers in international schools. Given the large number of such schools offering the program around the world, it is important to ensure that necessary support structures and growth opportunities are in place for IB teachers. As highlighted in chapter 1, the IB program is underpinned by holistic, constructivist principles of learning that are very different to many teachers' previous educational experiences. The change in attitudes and beliefs that are required when most teachers move to this program means that effective and transformational forms of professional development need to be sought. The literature on teacher growth shows that professional learning principles that align with student approaches are most appropriate (Cordingley et al., 2015), which supports an emphasis on social constructivist methods of professional growth. This study therefore examined the experiences of seven IB DP teachers through the lens of social constructivism.

The findings of the study were that IB teachers need multiple types of professional learning activities to develop the deep knowledge and understanding of the IB program that are necessary to embed its educational philosophy in daily teaching. While workshops are important for developing a common knowledge base, especially when they are constructed along constructivist and andragogical principles, they are not sufficient in themselves to provide the

ongoing, context-specific support that teachers need to transform theoretical understanding into practice in the classroom. For this, the theory of heutagogy suggests that teachers need to seek out learning opportunities on their own that align with their individual learning needs and styles. Social constructivism forms an important foundation for this self-initiated learning so that teachers can grow as individuals, in collaboration with each other, and within the context of the schools in which they work.

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APPENDIX A. PARTICIPANT RECRUITMENT LETTER

My name is Rosamund (Roz) Whaley and I am a doctoral candidate at Minnesota State University Moorhead. I am conducting my dissertation research on the professional development experiences of International Baccalaureate (IB) teachers in the Diploma Programme (DP). I am interviewing DP teachers in international schools with the purpose of describing educators' lived experiences of professional learning, and I am writing to invite you to participate in this study. You have been selected for this study for your demonstration as a committed and experienced IB teacher who shows an interest in your own professional growth.

Participation in this study will consist of an online interview lasting approximately one hour and will include open-ended questions relating to your experiences of formal and informal professional learning as an IB teacher. The interview will be recorded with your permission. All data resulting from the interview will be anonymized and your identity will be kept confidential.

Your participation in this study is voluntary. If you are willing to participate, I would be grateful if you could sign and return the attached Informed Consent Form to me at rosamund.whaley@go.mnstate.edu. You are also welcome to email me with any questions you may have about this study.

I appreciate your consideration of this request.

Sincerely,

Rosamund (Roz) Whaley

APPENDIX B. INFORMED CONSENT LETTER

Minnesota State University Moorhead

Department of Leadership and Learning, EdD program

Principal Investigator: Dr. Boyd Bradbury, +1 218 477 2471, bradbury@mnstate.edu

Co-investigator: Rosamund Whaley, +27 64 496 2352, rosamund.whaley@go.mnstate.edu

You are invited to participate in a study of teacher professional development in the International Baccalaureate (IB) program. The purpose of the research is to explore the lived experiences of IB teachers as they undertake different forms of professional learning during their career. You were selected as a possible participant in this study because of your years of experience as an IB teacher and your involvement in various forms of professional development as an international school teacher.

If you decide to participate, you will be asked for approximately one hour of your time between now and October 1, 2022 in order to conduct an interview via Zoom. You may select a time that is convenient to you. There are no known risks and/or discomforts associated with this study. The expected benefit associated with your participation is a deeper understanding of the ways in which professional learning impacts IB teacher practice.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed. A video recording will be made of the interview so that it can later be transcribed and analyzed. The video recording will be deleted after transcription, and your real name will not be used on the transcript or any further documentation.

Your decision whether or not to participate will not affect your future relationships with the researcher or the university. If you decide to participate, you are free to discontinue

participation at any time. Please feel free to ask questions regarding this study. You may contact the investigators later if you have any additional questions. You may contact the investigators later if you have any additional questions. Any questions about your rights may be directed to Dr. Robert Nava, Chair of the MSUM Institutional Review Board, at +1.218.477.2134 or irb@mnstate.edu.

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time after signing this form should you choose to discontinue participation in this study.

_____ _____

Signature of Participant Date

_____ _____

Signature of Investigator Date

APPENDIX C. INTERVIEW PROTOCOL

Informed consent statement (to be read to participants at start of interview)

Thank you for agreeing to participate in this study on the professional learning experiences of IB teachers. The video recording of this interview will be deleted as soon as it has been transcribed and I assure you that under no circumstances whatsoever will you be identified by name in the research study. Even though you have given your consent, you may terminate the interview at any time or choose not to answer certain questions.

List of questions

(There are six main questions which will be asked, with several prompts suggested for each one in order to elicit further details as necessary.)

1. How did you come to teach in the IB program?
    - *Getting into an IB school*
    - *Length of time teaching overall and in IB*
2. What has been your experience of teaching in the IB program?
    - *Compare with previous teaching experience*
    - *Examples of positive and negative experiences*
3. What are some of the ways that you have learnt about teaching in the IB?
    - *IB workshops and category chosen*
    - *Social networking groups*
    - *Professional research (e.g., reading books/articles/IB documents, listening to podcasts, watching webinars)*
    - *Membership of IB Educator Network (IBEN)*
4. How did you come to choose these particular forms of professional development?

- *Factors influencing decision (e.g., cost / access / mode / content)*

5. How does your school support your growth as an IB teacher?
    - *Support for collaborative time with colleagues (within department / with teachers from other departments / with educators from other schools)*
    - *Professional Learning Communities*
    - *Mentors*
6. How would you describe your professional learning experience?
    - *Examples of successful implementation of learning*
    - *Barriers to implementation of learning*
7. Do you have anything else you would like to share with me about your experience of professional learning as an IB teacher?

Statement of thanks

Thank you for participating in this interview. Your responses and identity will remain confidential.