THE RELATIONSHIP BETWEEN THE CHARACTERISTICS OF INTERNATIONAL

BACCALAUREATE EDUCATORS AND THEIR PERCEPTIONS OF

ONLINE AND FACE-TO-FACE IB PROFESSIONAL DEVELOPMENT

A Dissertation Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Education

by

Amy McClurd

December 2016

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An Abstract
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Doctor of Education in Curriculum and Instruction:
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by

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Abstract

The purpose of this study was to assess to what extent there is a relationship

between the characteristics of International Baccalaureate (IB) educators and their

perceptions of online and face-to-face professional development. The researcher

surveyed IB educators who were attending IB workshops held at a large private

university in a metropolitan city in the Southwest. The researcher used correlation

analysis to determine if gender, number of years working in IB schools, the IB

Programmme(s) taught, and the number of face-to-face vs. online workshops taken had

significant positive or negative correlations on the perceptions of face-to-face and online

professional development.

The overall results of this study indicated that IB educators have a more positive

perception of face-to-face professional development when compared to online

professional development. IB educators' perceptions of face-to-face workshops became

increasingly more positive with the more years of experience they have. Additionally, IB

educators' perceptions of face-to-face workshops became increasingly more positive

when the number of online or face-to-face workshops they have taken increases. Finally,

IB educators' perceptions toward online workshops became increasingly more negative

with the more years of experience they have and the more face-to-face workshops they

have taken.

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Chapter I

Introduction

The No Child Left Behind (NCLB) Act of 2001, signed into law by President

George W. Bush on January 8, 2002, requires that school reform efforts in the United

States recognize educator professional development (educator professional development

and professional development will be used interchangeably within this paper) as a key

component of change. The law also suggests an important link between the standards

movement and student achievement (Wei, Darling-Hammond, Andree, Richards, &

Orphanos, 2009). Additionally, NCLB legislation focuses on both standards and

accountability and pledges that certified and qualified teachers will teach every child. To

further stress the importance of teacher professional development, the National

Commission on Teaching and America's Future adds that the key to retaining good

teachers is effective professional development (Salpeter, 2003).

A multitude of for-profit and not-for-profit professional development

organizations were started to address the professional development goals mandated by

federal, state, and local legislation. In addition to using external providers for their

professional development needs, some school districts have begun to create their own

programs to meet the specific needs of their faculties. This trend has expanded to

administrators at both the district and campus levels, thus increasing the time, money, and

manpower spent on professional development. In the 1990s, school districts spent the

equivalent of $200 per pupil per year on professional development (Killeen, Monk, &

Plecki, 2002). At a teacher town hall meeting in 2012, Education Secretary Arne Duncan

stated, "at the federal level, we spend $2.5 billion a year on professional development"

(Duncan, 2012). A 2015 study conducted by New Teacher Project (TNTP), a nonprofit organization, determined that the participating school districts spent on average $18,000 per teacher annually on professional development. Based on this figure, TNTP estimates that the 50 largest districts spend an estimated $8 billion annually on teacher development (TNTP, 2015).

Given the current state of educational funding, school districts in many states have been forced to make drastic cuts to staffing and professional development. In 2011, Texas lawmakers voted to reduce public education spending by $5.4 billion statewide. This reduction resulted in a $120 million shortfall for the Houston Independent School District (HISD) over a two-year period. In 2013-2014, HISD was faced with a $72 million-dollar shortfall (Houston Independent School District News Blog, 2013). In some cases, these deep cuts to staffing required districts to make difficult decisions such as eliminating non-teaching positions that provided content support and/or professional development.

In 2011, the Texas Education Agency (TEA) announced that it would no longer provide the $450 reimbursement for International Baccalaureate (IB) and Advanced Placement (AP) professional development, making it even more difficult for districts who offer the IB and AP programs to their students to meet the professional development needs of their teachers, administrators, and counselors (Texas Education Agency Correspondence, 2011). When advocates for the IB and AP programs voiced their concerns, the TEA responded by reinstating a modified version of the reimbursement program in 2012.

Given the importance of highly qualified educators, especially those teaching rigorous courses like those offered in an IB Diploma Programme, it is crucial that schools and districts carefully select professional development workshops that meet the needs of their campus and/or district goals. For many campuses and/or districts, including those that are implementing one of more of the IB Programmes, this might mean moving away from the more traditional face-to-face workshops and turning to online professional development.

Background: The IB Organization

The International Baccalaureate Organization (IBO) was founded in Geneva, Switzerland in 1968 as a non-profit educational organization. It started as a single program that was originally created in an attempt to address the needs of mobile international students bound for universities around the world. The organization's main goal was to meet the needs of these students by preparing a rigorous curriculum that would be recognized by the world's leading universities (Varner, 2009). Now the IBO offers "four highly respected programs of international education that develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world" (IBO, 2015a). The IBO provides rigorous international educational programs for children from elementary through high school (ages 3-19).

The IBO has an impressive reach: as of 2015, 3,774 schools in 146 countries were offering the IB Primary Years, Middle Years, Diploma and the Career-related Programmes to approximately 1,166,000 students.

Introduced in 1997, there are a total of 1,137 schools in 100 countries offering the IB Primary Years Programme (PYP). The PYP is the first program in the continuum and

is designed for students aged three to 12. The PYP focuses on the development of the whole child as an inquirer, both in and outside of the classroom (IBO, 2015a). The IB Middle Years Programme (MYP) is the second program in the continuum and was introduced in 1994. It is offered in 1,073 schools in 94 countries. The MYP is for students aged 11 to 16 and provides academic challenges that encourage students to embrace and understand the connections between traditional subjects and the real world and to become critical and reflective thinkers (IBO, 2015a).

The third program in the continuum is the IB Diploma Programme (DP), which was introduced in 1968. It is offered in 2,519 schools in 140 counties. The DP is an academically challenging program for students aged 16 to 19, with final examinations that prepare students for post-secondary education success and beyond (IBO, 2015a). Introduced into DP schools in 2012, the IB Career-related Programme (CP) is the newest program for students 16-19 years of age. The CP is a framework of international education that incorporates the values of the IB into a unique program and addresses the needs of students engaged in career-related education. The program is intended to lead to further/higher education, apprenticeships, or employment (IBO, 2015a).

The reasons why schools choose to implement one or more of the IB Programmes vary based on the goals of the school or district. Some of the reasons may have to do with student performance. In a global study examining PYP and MYP student performance on the International Schools' Assessment (ISA) for the years 2009–2011, the results suggest that IB students outperformed their non-IB peers in four assessment areas: mathematical literacy, reading, narrative writing, and expository writing (Tan & Bibby, 2012). Another study on the impact of PYP and MYP in Texas concluded that IB

schools scored as well as non-IB schools on standardized assessments. The case study of the 43 IB schools also concluded that schools were positive about the programs, instructional practices, activities, and student behaviors as compared to their non-IB counterparts (Sillisano et al., 2010).

A study on the effects of PYP on elementary school students' achievement in North Carolina and Michigan, however, had conflicting results. In North Carolina, exposure to PYP appeared to negatively affect mathematics performance in third-grade, especially in boys; however, data indicated that the PYP moderately improved student performance in mathematics in third-grade in Michigan. Regarding reading, the results of this study indicated that exposure to PYP increased reading performance of economically disadvantaged third-grade students (Hemelt, 2015).

Additionally, in a study conducted at the University of Virginia (UVa), former DP students indicated that the extended essay experience equipped them for a variety of scenarios related to conducting research. The study also concluded that in comparison to former AP students, former DP students were more likely to report that they felt prepared for college-level coursework, had executed at least one research project at UVa, intended to conduct future research, took pride in their research, and believed their research skills would be important to future success (Inkelas, Swan, Pretlow, & Jones, 2012).

Studies on the impact of IB Programmes on student outcomes are not just taking place in the U.S.; they are also taking place around the world. A study conducted in 2013 by Lee et al. explored post-secondary destinations and university preparedness of DP graduates from schools in China. Using a sample of 1,612 students, the study found that 71.6% attended one of the world's top 500 universities. Quantitative findings indicated

that DP exam results were not just a predictor of university admission, but also of success at the university. Qualitative findings from the same study suggested that teachers and administrators strongly believe that the DP prepares students for a university education in terms of curricular content, study skills and ability to handle a rigorous workload. The University of Warwick is currently conducting a study on the experiences of IBCP students who completed the program in 2014, and the destinations of these students in their first year following the program. Since the IBCP is so new, no published studies on this program are yet available.

The decision to implement one or more IB Programmes in a school/district is a costly and time-consuming endeavor. The authorization process can take up to three years and requires a $4,000 application fee plus a fee of $4,000 per year during the candidacy phase. The annual fees in January of 2015 were $11,090 for DP, $9,280 for MYP, $8,110 for PYP, and $1,405 for the CP. In 2016, schools offering the CP without the DP will be charged an annual fee of $8,500. Both DP and CP, students take exams and beginning in 2016, students in the MYP will also take exams. The schools must also pay various fees for each student who takes an exam (IBO, 2015a). In addition to these costs, the IB also requires that educators associated with the PYP, MYP, DP or CP be trained at an IB-endorsed workshop prior to being authorized as an IB World School.

The mandatory professional development requirements to become an IB World School vary by IB Programme. According to the Guide to School Authorization: Primary Years Programme (IBO, 2010b), an elementary school wishing to implement the PYP must meet the following minimum professional development requirements:

- The head of school or designee must attend an IB category 1 workshop before submission of application of candidacy.

- The pedagogical leadership team and all faculty who work with PYP students full- or part-time must be trained in IB category 1 workshops (IBO, 2010b).

According to the Guide to School Authorization: Middle Years Programme (IBO, 2015b), schools wishing to implement the MYP must meet the following minimum professional development requirements:

- The Head of school or appropriate designee must attend a "Heads of school/MYP coordinators: Implementing the MYP curriculum" category 1 workshop before submission of application for candidacy.

- All staff must attend a "Launching the MYP" introductory in-school workshop.

- The MYP coordinator must attend a "Heads of school/MYP coordinators: Implementing the MYP curriculum" category 1 workshop.

- At least one teacher per subject group must attend a relevant subject-group specific "Implementing the MYP curriculum" category 1 workshop (IBO, 2015b).

According to the Guide to School Authorization: Diploma Programme (IBO, 2010a), schools wishing to implement the DP must meet the following minimum professional development requirements:

- The head of school or designee must attend an IB category 1 workshop before submission of the application for candidacy.

- All DP subject teachers must attend IB category 1 workshops in their subject(s).

- Theory of Knowledge (TOK) teacher(s) must attend IB category 1 TOK course workshops.

- Creativity, Activity, Service (CAS) coordinator(s) must attend IB category 1 CAS workshops.

- The DP coordinator must attend an IB category 1 DP coordination workshop (IBO, 2010a).

According to the Guide to School Authorization: Career-related Programme (IBO, 2011), schools wishing to implement the CP must meet the following minimum professional development requirements:

- Diploma Programme subject teachers must have attended IB professional development activities related to their subject—IB category 1 or 2 as appropriate.

- CP coordinators must attend an IB category 1 workshop on CP coordination.

- Teachers must attend an IB category 1 workshop on implementing the approaches to learning (IBO, 2011)

In the United States and Canada, the registration fee for attending an IB workshop can range from approximately $739 to approximately $1,000. The registration fee may cover breakfast and/or lunch on workshop days; however, it rarely covers lodging or dinner.

Statement of Problem

To become an IB World School, schools go through a rigorous authorization process. A key part of the IB authorization process is professional development. As stated above, the IBO requires the candidate school to send its educators to IB professional development activities to ensure the educators have the expertise to deliver the various IB Programmes (IBO, 2015a).

Until 2009, IB workshops were offered only in a face-to-face environment. By the spring of 2012, the IBO offered over 100 online workshops and by 2013, they offered a total of 234 IB online workshops (IBO, 2013). In 2014 they offered 730 workshops and in 2015 they offered 1,011 workshops (IBO, 2015c). A total of 7,612 participants registered for the online workshops and 3,585 of those were IBDP participants. During the same year, IBO offered a total of 213 face-to-face workshops and 87 of those were specific to the IBDP. A total of 37,472 participants registered for the face-to-face workshops and 11,918 of those were IBDP participants (IBO, 2013).

The PYP, MYP, DP, and the CP IB workshops are divided into three categories. Unfortunately, the researcher was unable to acquire from the IBO what percentage of the 37,472 attended Category 1, Category 2, or Category 3 DP workshops. Each category is significant as they are designed to meet the needs of IB educators as their experience level increases throughout their IB career (IBO, 2013).

According to the IB Workshops and Resources 2015 Catalogue (IBO, 2015c), the workshop category descriptions are:

Category 1: Developing expertise in new IB educators. Category 1 workshops provide professional development and assistance for schools that have decided to apply

for IB authorization, the process schools undertake to become IB World Schools.

Educators who are new to a school with an existing IB Programme, or those interested in

joining an IB World School, should also consider category 1 workshops. Participants

will learn about:

- the basic philosophy and curricular model of the IB Programme

- IB Programme standards and practices appropriate to the participants' role

- the appropriate framework for their IB Programme of choice (IBO, 2015c,

  p. 2).

Category 2: Developing expertise in current IB educators. Category 2

workshops look at assessment, teaching and learning methodologies and best practices in

the classroom. They are for educators who have already been teaching their particular IB

Programme. Participants will be expected to have a good understanding of their

programme, as well as practical experience in assessment, so they can share good

practices. Participants will:

- make connections between IB Programme frameworks and classroom practice

- enhance their understanding of assessment in IB Programmes

- discuss and analyze standards and practices appropriate to their role (IBO,

  2015c, p. 2).

Category 3: Strengthening skills and sharing exceptional practice. Category

3 workshops vary in terms of topics and audience. Some are for more experienced

educators who want to enhance their professional development portfolios. Others are for

all educators--those with and without a great deal of IB experience. The IBO

recommends reading the "workshop description" and the "recommended audience" to

make the appropriate choice. Here are some examples of what Category 3 workshops might focus on: learning theory, pedagogy, assessment, subject-specific content, administrative leadership, pedagogical leadership, and subject-specific seminars which help educators understand changes to the IB curriculum (IBO, 2015c, p. 3).

As mentioned earlier, one of the main purposes of attending an IB workshop is to "certify" that IB educators are properly trained to perform their duties. To be recognized by the IBO as "certified," the individual must complete an IB authorized 15-hour (minimum) workshop and receive a certificate of completion. During the authorization process, the IB will request to see the "Certificate of Completion" for the educators at the school. In 2013, the IB trained 45,084 IB educators (IBO, 2014b). Again, this number does not include IB workshops outsourced to other IB authorized workshop providers. Given the number of IB educators who are attending online and face-to-face workshops, it is crucial to obtain the attitudes and perceptions of educators about IB professional development.

Significance of the Problem

One of the most important school-related factors influencing student achievement is the quality of the teacher (Rice, 2003). The research of Rivkin, Hanushek, and Kain (2005) also concluded that teacher quality was the most important school-related factor for influencing student achievement. Today's highly qualified teachers must be lifelong learners who meet or exceed the district, state, and federal guidelines for continuing education hours to remain in the classroom. Additionally, given the economic climate, educators must be prepared to teach more students and possibly more subjects using fewer resources. Although there is conflicting evidence on the overall effectiveness of

many professional development programs (Kennedy, 1998; Weiss, Banilower,

McMahon, & Smith, 2001), professional development is required by districts, states, the

federal government, and the IBO.

The rapid growth in the number of IB online workshops being offered from 234 in

2009 to 1,011 in 2015 illustrates that there is a demand for workshops in this format. For

IB educators who have always attended traditional face-to-face workshops, attending

online workshops might seem like a foreign concept. However, given the cost of

attending face-to-face workshops, IB educators might not have a choice about which type

of workshop they can attend.

Statement of the Purpose

The rapid increase in the number of online workshops significantly increases the

need to examine IB educators' perceptions of online as compared to face-to-face

professional development. Given the lack of current research on IB professional

development, the purpose of the study was to examine the relationship between the

characteristics of IB educators and their perceptions of online and face-to-face IB

professional development.

Assumptions of the study. For this study, the researcher assumes that the

participants who attended the workshops and chose to complete the face-to-face surveys

are doing so of their own free will. Additionally, the researcher assumes that the

participants will provide honest self-assessments of their attitudes and perceptions about

both online and face-to-face IB professional development. Furthermore, the researcher

assumes the participants are representative of other IB educators who participate in both

online and face-to-face professional development.

Limitations of the study. The researcher acknowledges there are potential weaknesses in the study. The study was limited to educators who were attending a face-to-face IB workshop. Unfortunately, the researcher does not have access to individuals who have attended online IB workshops. Furthermore, since the researcher does not have access to the contact information for IB teachers who have attended face-to-face or online workshops offered by the IBO or other providers, the researcher is using a convenience sampling procedure for the face-to-face workshop. Using convenience sampling procedures for a quantitative study may decrease the ability to generalize findings.

Summary

Chapter one focused on the importance of professional development, provided background information about the IB Organization and its various programs, provided a statement of the problem, examined the significance of the problem, provided a statement of purpose and lists the assumptions of the study. Chapter two will provide a review of the related literature.

Chapter II

Review of Related Literature

Introduction

Research over the past five decades has shed light on how humans learn. As the research on human learning continues to develop and expand, findings give rise to improvements in teaching and learning by students of all ages (Schunk, 2012). This area research is particularly important to educators. Best practices for educators today require teachers to actively engage their students in activities that provide the students with opportunities to collaborate with peers, have real-world "authentic" experiences, be exposed to multiple types of assessment, and be taught the most up-to-date content. The same and more can be said for educator professional development. Because teachers are essentially being taught how to teach, it follows that the professional development itself must exemplify all that is best in pedagogy (Vrasidas & Glass, 2004).

Effective professional development engages teachers in learning opportunities that are supportive, job-embedded, instructionally focused, collaborative, and ongoing (Hunzicker, 2011). Job-embedded learning can be both formal and informal and it is what occurs during a teacher's daily work activities (Wood & Killian, 1998). While participation in professional development cannot guarantee that educators are prepared for all the challenges they face on a regular basis, it may increase their chances of success. Two common types of workshops for professional development are face-to-face and online (also referred to as distance education). Selecting the best method for an individual or a school district can involve many variables, such as registration fees, lodging and travel expenses, substitute teacher costs, substitute teacher shortages, testing

schedules, and attrition rates. Given all of these factors, it is important that district personnel are informed about the professional development options available to them so that they may select the method that will best meet their needs.

Current Definitions of Teacher Professional Development

For many years, school districts viewed professional development as nothing more than onsite campus in-service programs or staff-development days. Some now believe that districts "need to make sure that professional learning is planned and organized to engage all teachers regularly and to benefit all students. This requires "high-quality, sustained professional learning throughout the school year, at every grade level and in every subject" (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009, p. 3).

One definition suggests that professional development is a "unique process that aims to provide participants with a new set of experiences, skills, resources and knowledge that will support them as they implement the ideas they have studied in the field" (Holmes, Signer, & MacLeod, 2010, p. 76). Ganser (2000) states "professional development is broader in scope than staff development and includes such informal activities as reading professional publications, attending professional meetings and viewing television specials related to an academic discipline" (p. 6). Another definition more specifically suggests that "teacher professional development (TPD) is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically" (Glatthorn, 1995, p. 41). Hilda Borko's (2004) description of teacher learning clearly illustrates the challenges of identifying and measuring teacher learning:

For teachers, learning occurs in many different aspects of practice, including their classrooms, their school communities, and professional development courses or workshops. It can occur in a brief hallway conversation with a colleague, or after school when counseling a troubled child. To understand teacher training, we must study it within the contexts, taking into account both the individual teacher-learners and the social systems in which they are participants. (p. 4)

It is clear from the definitions above that the literature casts a wide net around what can be classified as teacher professional development. It is also clear that professional development cannot be limited to the exposure to basic knowledge about methodologies. In an era of accountability, professional development requires a change in a teacher's practice that leads to increases in student learning (Zepeda, 2014).

Defining "effective" professional development. Whether the workshop is face-to-face or online, there are varying views on the definition of "effective" as it relates to teacher professional development (Guskey, 1997). Learning Forward—formerly called the National Staff Development Council—stresses "that effective professional learning is embedded in a culture committed to continuous improvement and informed by data and research on student and educator performance" (Learning Forward, 2011, p. 6). The problem with identifying one specific definition of effective, or what constitutes effective teacher professional development, is that there are many different reasons why educators attend professional development. That is why, in an effort to identify the key elements of an effective program, Learning Forward published the third iteration of Standards for Professional Learning in 2011. The following are Learning Forward's Standards for Professional Learning:

Learning Communities: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility and goal alignment.

Leadership: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate and create support systems for professional learning.

Resources: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring and coordinating resources for educator learning.

Data: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator and system data to plan, assess and evaluate professional learning.

Learning Designs: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes.

Implementation: Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change.

Outcomes: Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards (Learning Forward, 2011, p. 23).

Conflicting research on the effectiveness of teacher professional

development. It is important to mention that as much as individuals cannot agree on the

definition of teacher professional development or effective teacher professional

development, studies do not always agree on whether professional development does

what it claims it will do. Some research on teacher professional development paints a

dim picture of its effectiveness, with researchers often questioning whether it increases

student performance. In a meta-analysis of 93 studies on the effect of teacher

development on student performance, Kennedy (1998) reported that only 12 studies

showed positive effects of staff development on student performance. One of the reasons

for this ineffectiveness may be that many teachers engage in only the minimum

professional learning required by their state or district. For example, New Jersey's

Department of Education requires that all teachers complete a minimum of 20 hours of

professional development per year (New Jersey Department of Education, 2014). In

Texas, state certified teachers are required to complete 150 clock-hours of continuing

professional development every five years, which is an average of 30 hours per year

(Texas Education Agency, 2016).

There could be several reasons why teachers only meet the minimum professional

development requirements including, but not limited to, finances, time, and availability.

Another reason teacher professional development could be ineffective is that the quality

of a particular program is substandard in both its delivery and content. For example, one

program commonly implemented is a "lesson study" (Hill, 2009). A "lesson study,"

which is supposed to be time intensive, can be described as a long-term professional

development in which teams of teachers collaboratively plan, research, and study their

lesson instruction as a way to determine how students learn best" (Hill, 2009). Yet a study found that almost "60% of those who participated reported spending eight or fewer hours during the year; only 4% reported engaging in more than 80 hours" (Hill, 2009, p. 472). Still another reason could be the teachers' own opinion of professional development. When teachers were asked how helpful the past three years of their professional development training was, less than a third reported that it affected their instruction (Weiss et al., 2001).

The studies above illustrate that all professional development workshops are not considered equal. Some providers adhere to high standards such as those established by Learning Forward while others haphazardly construct a program and offer it to anyone who can afford to pay for the workshop.

Teacher professional development options and the amount of money that districts spend on teacher professional development have both increased over the years. In 1995, Corcoran cited that TPD can consume from 1.8% to 5.7% of a district's budget. However, these percentages do not include professional development provided by states, federal spending or support from professional organizations (Hill, 2009). The National Science Foundation and the U.S. Department of Education Math-Science Partnerships spent approximately $1.2 billion on mathematics and science learning for pre-service and in-service teachers between 2002 and 2007 (Hill, 2011). In 2015, TNTP conducted a study using the mid-range estimates and they determined that the participating districts spent between $73 million and $181 million annually on teacher improvement, totaling between 6 and 9 percent of their annual budget.

As stated previously, the problem with identifying what constitutes effective TPD is that there are many different definitions and types of teacher professional development. Additionally, there are a variety of reasons why educators attend professional development. With so much money being spent on professional development, it is important to first identify the outcomes for attending or sending individuals to TPD and second, to examine the providers who offer professional development by carefully reviewing their credentials and interviewing past participants (if possible).

Identifying outcomes that make teacher professional development important.

Changes in behavior. Professional development is important because, if implemented, it empowers teachers to remain current on trends in education and new pedagogy. It also gives them the opportunity to polish their skills, collaborate, and network – all of which can have a positive impact on their performance as educators. Some researchers believe that for TPD to be effective, a positive change in the educators' behavior must occur (Wenglinsky, 2002). As indicated by the Learning Forward standards, this particular belief can be interpreted very broadly to encompass several changes leading to educational improvements, such as subject knowledge and pedagogy, beliefs and orientations, lesson planning and alignment with state standards, teacher discourse/learning, and teacher leadership.

Kisa and Correnti (2015) conducted a study on school-level professional development that used 1,722 teachers in 31 schools that were implementing comprehensive school reform. They examined the effects of changes in teachers' practice and found that only teachers who taught at schools that were demonstrating high growth in providing reform that was aligned with professional development goals were

able to make successful changes to their teaching practice. In this study, the researchers

had clearly identifiable goals for professional development. Without identifying the

specific behaviors the TPD program is supposed to improve, it becomes very difficult to

measure the desired outcomes effectively.

   Reduces the rate of attrition. Even though districts have been forced to cut staff

over the past few years, attrition is still a major concern. Research shows that

professional development can help reduce the attrition rate. Statistically, between 20%

and 30% of educators leave the profession within the first three years of employment,

with rates as high as 50% in some urban areas (Dove, 2004). There are many personal

and professional factors that can affect attrition including, but not limited to, isolation,

salary dissatisfaction, inadequate resources, lack of administration support and lack of

parental support. It is important for campus and district administrators to have a clear

understanding of the needs of their staff. Wearmouth, Smith, and Soler (2004) examined

a computer conferencing TPD program designed to reduce isolation and provide access to

expertise in special education. Programs like this can help educators become part of a

larger community, thus reducing their feeling of isolation.

   Another study conducted by Buchanan et al. (2013) focused on the retention and

attrition of early career teachers. Buchanan found that one of the five most important

factors in retaining teachers was providing them with professional development

opportunities. During the interviews conducted in the study, the participants indicated

that they thought learning offsite was less distracting than online learning or attending

workshops and seminars at their own schools. The teachers also preferred learning from

other teachers who had concerns similar to their own. Additionally, they enjoyed

meeting with their peers without interruptions. The study also concluded that off-site professional development may be particularly useful for teachers who have few or no colleagues teaching the same subjects or grades at their school (Buchanan et al., 2013).

Increases student achievement. Research indicates that student learning and achievement levels increase when educators engage in professional development that focuses on the skills educators need in order to address students' major learning challenges (Kimmelman, 2002; Mizell, 2010; Wei et al., 2009). A study on school finance reform by Ferguson (1991) examined 1,000 districts in Texas and found that "skilled teachers are the most critical of all schooling inputs" (p. 490). Finding empirical, data-driven studies that directly link teacher professional development to student achievement is difficult; however, one such study by Fishman, Marx, Best, and Tal (2003) does seem to successfully do just that. Their study was conducted on 6th, 7th, and 8th grade science teachers and students and it linked TPD to professional learning for teachers' and increased student success. The students' understanding of targeted concepts was assessed using pre- and post-test items. During the 1998–1999 school year, correct responses on these items increased only 8% and 6%, respectively, following the enactment of the unit. Following the professional development activity designed with a focus, student learning improved considerably in year two (1999–2000) when compared with year one.

A study conducted from 2004 to 2009, which included four cohorts of schools, found that professional learning produced meaningful results in student achievement. This study focused on reducing the disparity of student achievement, especially in writing, in which the students did show significant gains. The researchers suggested that

this could be due to the importance of a buy-in from all of the stakeholders—students, teachers, and administrators—who agreed to participate (Meissel, Parr, & Timperley, 2016).

      Evaluating the effectiveness of teacher professional development. Teacher professional development is considered important for student learning; however, measuring these outcomes can be challenging. Wei et al. (2009) assert,

> Since the impact of teacher learning on student achievement may not be immediate, and measures of student learning gains that can be linked to a specific professional development measure are often difficult to secure, interim measures that examine practices are valuable, especially where the practices in question have been shown to influence student achievement. (p. 3)

Whether or not the teachers liked or enjoyed the professional development can also be measured to ascertain its effectiveness (Salpeter, 2003). The logic behind this statement is that when individuals enjoy the workshop, they may be more likely to implement the new content or teaching strategies in their classroom; however, this is not necessarily supported by all research. As the literature indicates, the problem with this statement is that it largely relies on the use of anecdotal evidence and self-reported data based on participants' satisfaction or some indication of change in their professional knowledge (Guskey & Huberman, 1995). More specifically, it does not track whether or not "enjoying" professional development is linked to the specific teacher or student desired outcomes for the program being studied.

      When it comes to the evaluation, one of the key concerns is the need for empirical data that directly links the teacher professional development to the desired outcome. To

assist in evaluating the effectiveness of a TPD programs, Guskey (2000) proposed using his "Five Levels of Professional Development" evaluation. With each succeeding level, the process of gathering evaluation information gets a bit more complex. Because each level builds on those that come before, success at one level is usually necessary for success at higher levels. Guskey's Five Levels of Professional Development are as follows:

> Level 1: Participant Reaction - Gauge the participants' reactions about information and basic human needs
>
> Level 2: Participant Learning - Examine participants' level of attained learning.
>
> Level 3: Organization Support and Learning - Analyze organization support for skills gained in staff.
>
> Level 4: Participant Use of New Knowledge and Skills - Determine whether participants are using what they learned and whether they are using it effectively.
>
> Level 5: Student Learning Outcomes - Analyze the correlating student learning objectives. (pp. 78-86)

Although presented in numerical order, Guskey suggests using the model working backwards from Level 5 up to Level 1. In backward planning you first consider the student learning outcomes. The evaluation model designed by Guskey (2000) and the current literature on it reinforces the one consistent theme with regard to TPD, which is that it should have a positive impact on a teacher's ability to increase their students' achievement levels.

Selecting a method of teacher professional development. As new information becomes available, it is imperative that it is passed on to educators through professional development in a timely and efficient manner. As referenced earlier, two common ways this information is conveyed are through face-to-face and online professional development (also referred to as online learning or distance education).

Face-to-face professional development. The term face-to-face is used to describe professional development that occurs when the instructor and participants are at the same location. Face-to-face professional development can be lecture-based, activity-based, or a combination of both and can last from several hours to one week. Some of the most common forms of traditional face-to-face professional development include workshops, seminars, academies, institutes, and conferences.

It is not surprising that little research was conducted on the implications of professional development offered in a face-to-face format before the same professional development was also offered in an online setting. Even the literature reviews, journal articles, and dissertations that claim to compare "online" and "traditional" professional development fail to describe traditional (face-to-face) TPD (Landers, 2009; Villegas-Reimers, 2003; Zacharis, 2010). They seem to avoid providing a detailed description of the implications of being offered online professional development and move straight into a description of online learning.

Research does seem to indicate at least one factor that might be a reason for selecting face-to-face over online. Some researchers claim that it is important for individuals to consider their own learning style when selecting a type of professional development. Summers, Waigandt, and Whittaker (2005), states:

Those students who may not have developed appropriate strategies for self-regulation may find that online education courses do not meet their needs and those students may subsequently drop the course; as a consequence, online courses have been associated with much higher rates of attrition than traditional face-to-face courses. (p. 236)

Educators not completing the courses can be problematic and costly to the districts that are paying for the online workshop. Some workshops, like those required by the IBO, might have a minimum number of participation hours for the teacher to be considered qualified to teach the curriculum.

Online professional development. The transition from face-to-face to online TPD has been driven by the need to offer professional development that is tailored around educators' busy schedules, draws on valuable resources not available locally, and provides work-embedded support (Dede, 2006). The increased use of the Internet and information technology has assisted in making the move from face-to-face to online education possible (Brace-Govan & Gabbott, 2004).

When it comes to defining online learning or distance education, there is not one definitive definition. Perraton (1982) defines distance education as an "educational process in which a significant proportion of the teaching is conducted by someone removed in space/and or time from the learner" (p. 4). Garrison and Shale's (1987) definition of distance education states,

Distance education implies that the majority of educational communication between (among) teachers and students(s) occurs non-contiguously. It must involve two-way communication between (among) teacher and student(s) for the

purposes of facilitating and supporting the educational process. It uses

technology to mediate the necessary two-way communication (p. 11).

Schlosser and Simonson (2002) define distance education as:

...institution-based, formal education where the learning group is separated, and

where interactive telecommunications systems are used to connect learner,

resources, and instructors (p. 4).

Drawing from these and other definitions, the definition used in this research study is:

Online educator professional development is a course offered at a distance via the

Internet which provides educators with training, information, and/or an opportunity for

collaboration that will increase the educator's ability to make positive changes to their

teaching and/or their profession, which will raise student achievement.

Although online professional development might use some of the same pedagogy

as face-to-face, it may encompass any type of educational methods where the learner and

instructor are not in the same geographic location. This includes, but is not limited to,

courses that use multimedia communications, synchronous and asynchronous e-

conferencing, and video streaming (Fairbarn, Kerns, & Fair, 2000).

Online TPD is still a relatively new field, which means that research methods

used to study online programs will continue to evolve as more and more programs are

established. Researchers currently use quantitative methods to compare outcomes

between face-to-face and online courses; this often raises more questions about aspects of

teachers' learning online versus definitive data related to the questions (Whitehouse,

Breit, McCloskey, Ketelhut, & Dede, 2006). With the growing demand for data-driven

results, programs are attempting to conduct evaluations that will provide both qualitative

and quantitative data. A recent review of Harvard University's (2014) WIDE World program, which offers online professional development courses specifically intended to foster changes in teachers' practices and not just to transmit information, found that the "research requires clarification of treatment variables, of direct outcomes of professional development (such as impact on teaching practices and on professional relationships and attitudes), and of the desired indirect outcomes (such as improvement in student performance)" (Wiske, Perkins, & Spicer, 2006, p. 67). Regardless of whether the professional development is being offered face-to-face or online, it is difficult to measure the desired outcome of its impact on teaching practices.

Perceptions and Teacher Professional Development

According to Saks and Johns (2011), there are three main factors that may influence one's perceptions: experience, motivational state, and emotional state. Depending on one's motivational or emotional states, the individual or "perceiver" will react to or perceive something in different ways. In different situations he or she might tend to "see what they want to see." Bruner and Postman (1949) have proposed a multi-step model of perception. First, the perceiver encounters an unfamiliar target, which opens up different informational cues causing him or her want to learn more about the target. Next, the perceiver tries to collect more information about the target, which helps to categorize the target. Finally, the perceiver's perception becomes more selective and generates a consistent picture of the target (Bruner & Postman, 1949). Regarding this study, the "perceivers" are the participants in the study and the "target" is interpreted as the setting of the course–"face-to-face" or "online." Organ and Bateman (1991) define perception as the process by which individuals select, organize, store, and interpret

sensory stimulation into a meaningful and coherent picture of the world. Reeves (2006) states that attitudes or attributions held by persons are examples of perception. For this study, "attitudes" and "perceptions" are considered synonymous in this study.

Summary

The literature review indicates the need for educators to participate in professional development. Although there is disagreement among researchers on the characteristics and outcomes of effective professional development (Kennedy, 1998), government mandates like NCLB stipulate that teachers receive the professional development they need to make them effective in the classroom. These mandates usually do not specify the method of delivery for professional development. This means educators have a variety of professional development methods open to them which includes both face-to-face and online professional development.

Although the effectiveness of professional development is important to all of the potential stakeholders—which include, but are not limited to, states, districts, schools, parents, and students—it is the teacher who is the main stakeholder in the process. The teacher is the one who is participating in the workshop; thus, it is important to obtain his or her perceptions and attitudes on face-to-face and online professional development.

In the next chapter, the research methodology used in this study will be described. The methodology chapter will cover identification of main constructs, survey development, scale development, survey format, sample description, survey administration, and survey analysis.

Chapter III

Methodology

"The IB provides professional development to approximately 60,000 educators around the world annually and in a variety of modes, including face-to-face, online, and blended models" (IBO, 2016c, http://www.ibo.org/research/quality-assurance-research/). Much of the success of the IB Programmes can be attributed to the Quality Assurance Framework, which consists of, among other things, the IB Professional Development Global Workshop Architecture. This framework outlines the goals and objectives for the Category 1, 2 and 3 workshops and acts as a guide for workshop leaders and participants as they are preparing or registering for workshops. Furthermore, it is designed to ensure that educators attending IB workshops in any country around the world have a consistent high quality experience that enables them to successfully implement IB programmes in schools (IBO, 2016).

Although significant research has been done on the impact of the IB Programme on students, there are no studies on IB professional development. To date, the researcher has been unable to find any published research regarding the perceptions of IB educators toward IB online and face-to-face professional development. Therefore, the primary purpose of this quantitative study was to examine the relationship between the characteristics of IB educators and their perceptions of online and face-to-face IB professional development. This study used an onsite paper-based survey instrument that was determined to be reliable in an unpublished pilot study conducted by the researcher. Descriptive statistics and the Pearson correlation (r) with a two-tailed 0.05 significance level were used to analyze the research questions.

Research Questions

1. To what extent is gender statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

H_0: Gender is not statistically significantly associated with IB educators' perceptions of online and face-to-face professional development.

H_a: Gender is statistically significantly associated with IB educators' perceptions of online and face-to-face professional development.

2. To what extent is the number of years working as an IB educator statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

H_0: The number of years working as an IB educator is not statistically significantly associated with IB educators' perceptions of online and face-to-face professional development

H_a: The number of years working as an IB educator is statistically significantly associated IB educators' perceptions of online and face-to-face professional development.

3. To what extent is an IB educator's program level (PYP, MYP, DP, or any combination of the programs) statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

H_0: An IB educator's program level (PYP, MYP, DP, or any combination of the programs is not statistically significantly associated with an IB educators' perceptions of online and face-to-face professional development.

H$_a$: An IB educator's program level (PYP, MYP, DP, or any combination of the

programs is statistically significantly associated with IB educators'

perceptions of online and face-to-face professional development.

4. To what extent is the number of face-to-face workshops taken statistically

significantly associated with IB educators' perceptions of online and face-to-

face professional development?

H$_0$: The number of face-to-face workshops taken is not statistically significantly

associated with IB educators' perceptions of online and face-to-face

professional development.

H$_a$: The number of face-to-face workshops taken is statistically significantly

associated with IB educators' perceptions of online and face-to-face

professional development.

5. To what extent is the number of online workshops taken statistically

significantly associated with IB educators' perceptions of online and face-to-

face professional development?

H$_0$: The number of online workshops taken is not statistically significantly

associated with IB educators' perceptions of online and face-to-face

professional development.

H$_a$: The number of online workshops taken is statistically significantly associated

with IB educators' perceptions of online and face-to-face professional

development.

Sample and Setting Description

The sample population for this study was comprised of 484 educators who attended IB workshops at a large private university in the metropolitan Southwest. The population included PYP, MYP, and DP new and experienced IB educators. The sample was comprised of educators who were attending Category 1, Category 2, or Category 3 workshops. The sample population included individuals from the following thirty-seven states: Alabama, Arkansas, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Indiana, Idaho, Illinois, Indiana, Kansas, Louisiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri, Mississippi, North Carolina, New Jersey, Nevada, New York, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Washington, and Wisconsin. Additionally, individuals from Brazil, Canada, Germany, Jamaica, Mexico, Panama, Peru, and the Bahamas were invited to participate in the research study.

Instrumentation

The survey instrument used for this study was an 18-question survey that was found to be reliable in an unpublished study.

Consent question. The first survey question asked if the individuals were willing to participate. If the study participant checked or shaded-in this circle, they were included in the study.

IB educators. Questions two through six asked for the number of years worked as an IB educator, their IB Programme(s) level (PYP, MYP or DP), how many face-to-face IB professional workshops they have taken, and how many online IB professional development workshops they have taken.

Perceptions of online professional development. Questions seven through eighteen were Likert-type questions arranged on a five-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree). These 12 Likert-type questions were used to analyze the perceptions toward online and face-to-face professional development. The completion time for the survey was no longer than five minutes (see Appendix A).

Data Collection

The IB workshop leaders were informed of the opportunity to participate in the research study during the workshop leader orientation (see Appendix B) and the participants were informed during the participant orientation (see Appendix C). The surveys were delivered in an envelope to the instructors' classrooms in the morning on the last day of the workshop. The instructors were asked to read the instructions on the front of the envelope (see Appendix D) to the class and distribute the surveys. Once completed, the surveys were put back in the envelope. The envelopes were then sealed and collected from the classrooms. After their return, the researcher sorted the surveys into the following groups:

- Group 1 - Willing to participate. Question number 1 asked "...if the participant if they are willing to participate." If the participant checked "yes" indicating they were willing to participate, they were placed in Group 1.

- Group 2 - Not willing to participate. If they did not check "yes," they were placed in Group 2.

The Group 1 surveys were then divided into the following sub-groups:

- Group 1a - Willing to participate and complete.

- Group 1b - Willing to participate and incomplete (one or more question not answered).

Only the surveys that checked "yes" (Group 1) to question number 1 were examined to see if they were complete (all questions were answered). The only surveys that were used for data analysis were surveys that indicated willingness to participate and completed 100% of the survey. Surveys that checked "yes" but were incomplete were not included in the data analysis.

The completed surveys were numbered in the upper right hand corner. All of the data from the surveys were entered into a Microsoft Excel spreadsheet in numerical order and were also double checked for accuracy. Additionally, a table of random numbers was used to select items to be checked for data entry mistakes; no errors were found using this method.

Data Analysis

The data collected in this quantitative study were analyzed using Statistical Package for the Social Sciences (SPSS) for statistical analysis. Key characteristics of the IB educators were analyzed using the demographic information collected in the survey. These can be found above in the "Sample" section.

The descriptive statistics for variables was run to determine the mean and mode for each variable. This data was compared to the results of the Pearson correlation coefficient analysis to determine if they supported the results of any statistically significant relationships between the variables. Next, the Pearson's correlation coefficient analysis, normally denoted as r, was used to measure the linear relationship between the variables identified in the research questions. To determine the significance

of the results, the following scale was used: values of .0 - .2 indicates a small correlation, .2 - .5 indicates a moderate correlation and .5 - .8 indicates a high correlation and .8-1.0 indicates a very high correlation. The correlation will be considered significant at the 0.05 level (2-tailed).

Research Question 1 was tested by utilizing "gender" and correlating it with the following variables: "positive perception of online professional development," "face-to-face professional development is an effective forum for collaboration," "prefer participating on IB online professional development," "positive perception of IB face-to-face professional development," "recommend online professional development," "face-to-face professional development is effective for educators in schools going through the authorization process," "online effective for educators in schools going through the authorization process," "online professional development provides a more effective forum for continuous professional development," "Category 1 educators will be better prepared by attending online professional development," "Category 1 educators will be better prepared by attending face-to-face professional development," "Category 2 educators will be better prepared by attending face-to-face professional development," and "Category 2 educators will be better prepared by attending online professional development."

Research Question 2 was tested by using utilizing "number of years working as an IB educator" and correlating it with the following variables: "positive perception of online professional development," "face-to-face professional development is an effective forum for collaboration," "prefer participating on IB online professional development," "positive perception of IB face-to-face professional development," "recommend online

professional development," "face-to-face professional development is effective for educators in schools going through the authorization process," "online effective for educators in schools going through the authorization process," "online professional development provides a more effective forum for continuous professional development," "Category 1 educators will be better prepared by attending online professional development," "Category 1 educators will be better prepared by attending face-to-face professional development," "Category 2 educators will be better prepared by attending face-to-face professional development," and "Category 2 educators will be better prepared by attending online professional development."

Research Question 3 was tested by utilizing "Program Level (PYP, MYP, DP)" and correlating it with the following variables: "positive perception of online professional development," "face-to-face professional development is an effective forum for collaboration," "prefer participating on IB online professional development," "positive perception of IB face-to-face professional development," "recommend online professional development," "face-to-face professional development is effective for educators in schools going through the authorization process," "online effective for educators in schools going through the authorization process," "online professional development provides a more effective forum for continuous professional development," "Category 1 educators will be better prepared by attending online professional development," "Category 1 educators will be better prepared by attending face-to-face professional development," "Category 2 educators will be better prepared by attending face-to-face professional development," and "Category 2 educators will be better prepared by attending online professional development."

Research Question 4 was tested by utilizing "number of face-to-face workshops taken" and correlating it with the following variables: "positive perception of online professional development," "face-to-face professional development is an effective forum for collaboration," "prefer participating on IB online professional development," "positive perception of IB face-to-face professional development," "recommend online professional development," "face-to-face professional development is effective for educators in schools going through the authorization process," "online effective for educators in schools going through the authorization process," "online professional development provides a more effective forum for continuous professional development," "Category 1 educators will be better prepared by attending online professional development," "Category 1 educators will be better prepared by attending face-to-face professional development," "Category 2 educators will be better prepared by attending face-to-face professional development," and "Category 2 educators will be better prepared by attending online professional development."

Research Question 5 was tested by utilizing "number of online workshops taken" and correlating it with the following variables: "positive perception of online professional development," "face-to-face professional development is an effective forum for collaboration," "prefer participating on IB online professional development," "positive perception of IB face-to-face professional development," "recommend online professional development," "face-to-face professional development is effective for educators in schools going through the authorization process," "online effective for educators in schools going through the authorization process," "online professional development provides a more effective forum for continuous professional development,"

"Category 1 educators will be better prepared by attending online professional development," "Category 1 educators will be better prepared by attending face-to-face professional development," "Category 2 educators will be better prepared by attending face-to-face professional development," and "Category 2 educators will be better prepared by attending online professional development."

In chapter three, the researcher presented the research questions, setting description, instrumentation description, data collection procedures, and a description of the data analysis process. In chapter four, the researcher will present the results of this study.

Chapter IV

Results

The purpose of this study was to examine the relationship between the characteristics of IB educators and their perceptions of online and face-to-face IB professional development. The results of the analysis are presented in Chapter IV. Chapter IV is organized into the following five sections: sample description, IB educator characteristics and demographic data, descriptive statistics for the IB characteristics and Likert-type questions, and the Pearson Correlation (r) data for the five research questions.

Sample Description

In spring 2015, 27 IB workshops were offered at a large university in a metropolitan city in the Southwestern part of the U.S. For this research study, a convenience sampling method was used. All of the participants who attended the workshops were asked complete an onsite paper-based survey. There were 464 individuals enrolled in the workshops. In addition, there were 18 workshop leaders and two field representatives for a total of 484 potential participants. Twenty of the submitted surveys could not be used due to non-response and 20 surveys could not be used because they did not indicate a willingness to participate in the study. Three hundred and ninety-two individuals (81%) indicated that they were willing to participate and completed 100% of the survey (see Table 1).

Table 1

IB Spring 2015 Workshops

Total Number of Enrolled Participants	464
Total Number of Instructors and Field Representatives	20
Total Number of Surveys Administered	484
Total Number of Surveys Not Used Due to Non-response	20
Total Number of Surveys Not Used – Did not indicate willingness to participate	20
Total Number of Completed Surveys Used (N=392)	392

IB Educator Characteristics and Demographic Data

Gender. In the sample used for data analysis, 251 participants (64%) identified themselves as female and 141 (36%) identified themselves as male. Participants were required to select either female or male. Sixty-four percent female is slightly lower number than that reported by the U.S. Department of Education in 2011-2012. They state that in the 2011-2012 school year, seventy-six percent of public school teachers were female (U.S. Department of Education, National Center for Education Statistics, 2016).

Years of IB experience. With regards to years of experience as an IB educator, 155 participants (39.6%) indicated they had no experience working as an IB educator. Of those who indicated they had experience as an IB educator, 94 (24 %) indicated it was their first year, 24 (6.6%) indicated it was their second year, 19 (4.8%) indicated it was their third year, 10 (2.6%) indicated it was their fourth year, 20 (5.1%) indicated it was their fifth year, and 68 (17.3%) indicated they had six or more years of experience as an IB educator (see Table 2).

Since the survey only asked for the number of years of experience as an IB educator, the researcher does not know whether they had previous non-IB educator experience. A study conducted by the U.S. Department of Education indicated in 2012-

2013, that among public school teachers with 1-3 years of experience, 80% stayed in their

base-year school, 13% moved to another school, and 7 % left teaching. The high number

of individuals who have no experience might be explained by the fact that IB requires

educators who are going to be working in IB schools be trained prior to working as an IB

educator.

Table 2

Frequency Table: Number of years working in IB

Number of years as an IB educator	Frequency	Percent
None	155	39.6
First Year	94	24.0
Two Years	26	6.6
Three Years	19	4.8
Four Years	10	2.6
Five Years	20	5.1
Six or More Years	68	17.3
Total	392	100.0

IB Programme level. With regards to IB Programme level, 14 (3.6%) indicated

that they were or would become a PYP educator, 2 (.5%) indicated they were or would

become a PYP and MYP educator, 3 (.8%) indicated they were or would become a PYP

and DP educator, 30 (7.7%) indicated they were or would become a MYP educator, 53

(13.5%) indicated they were or would become a MYP and DP educator, 282 (71.9%)

indicated they were or would become a DP educator, and 8 (2%) indicated they were or

would become a PYP, MYP, and DP educator (see Table 3).

Table 3

Frequency Table: IB Programme Level Involvement

IB Programme Areas	Frequency	Percent
Primary Years Programme	14	3.6
Primary Years and Middle Years Programme	2	.5
Primary Years and Diploma Programme	3	.8
Middle Years Programme	30	7.7
Middle Years and Diploma Programmes	53	13.5
Diploma Programme	282	71.9
Primary, Middle and Diploma Programme	8	2.0
Total	392	100.0

Number of IB face-to-face workshops taken. With regards to number of face-to-face workshops taken, the data indicated that 2 (.5%) had not participated in any face-to-face workshops, 214 (54.6%) had participated in one, 78 (19.8%) had participated in two, 41 (10.5%) had participated in three, 20 (5.1%) had participated in four, 10 (2.6%) had participated in five, and 27 (6.9%) had participated in six or more face-to-face workshop (see Table 4). Since the survey was conducted during face-to-face workshops, it is not surprising that so many participants indicated attending at least one workshop.

Table 4

Frequency Table: Number of Face-to-Face Workshops Taken

Number of IB face-to-face Workshops Taken	Frequency	Percent
None Taken	2	.5
One Taken	214	54.6
Two Taken	78	19.8
Three Taken	41	10.5
Four Taken	20	5.1
Five Taken	10	2.6
Six or More Taken	27	6.9
Total	392	100.0

Number of IB online workshops taken. With regards to the number of online workshops taken, the data indicated that 358 (91.3%) had not participated in any online workshops, 24 (6.1%) had participated in one, 6 (1.5%) had participated in two, 0 (0%) had participated in three, 2 (.5) had participated in four, 0 (0%) had participated in five, and 2 (.5) had participated in six or more online IB professional development workshops (see Table 5). The researcher was surprised that so few participants indicated they had participated in an IB online workshop. Since participation is not required to have a perception of IB online or face-to-face professional development, the researcher does not believe lack of participation impacts the analysis of the study's results.

Table 5

Frequency Table: Number of Online Workshops Taken

Number of Online Workshops Taken	Frequency	Percent
None Taken	358	91.4
One Taken	24	6.1
Two Taken	6	1.5
Three Taken	0	.0
Four Taken	2	.5
Five Taken	0	.0
Six or More Taken	2	.5
Total	392	100.0

Descriptive Statistics

Characteristics of IB educators. Descriptive statistics were run on the characteristics of IB educators (see Table 6). While not as clear and concise as the breakdown of data on the frequency tables, the statistics do provide some additional data related to gender, years of experience, number of years as an IB educator, IB Programme level involvement, the number of IB online workshops taken, and the number of IB face-to-face workshops taken. The survey only offered male or female as options for gender;

female was the most selected response. With regards to the average years of experience,

the mean of 1.92 indicated the average years of experience totaled almost 2 years. The

IB Diploma Programme was the most often selected response for program level.

Although the mode was 1.00 for the number of face-to-face workshops taken, the mean

of 2.00 indicated that the overall average of number of workshops taken was two. With

regards to the number of online workshop taken, the mode was 0.00 and the mean was

0.14.

Table 6

Descriptive Statistics on Characteristics of an IB Educator

Statistic	V2 Gender	V3 Years of Experience	V4 IB Programme(s)	V5 face-to-face Workshops Taken	V6 Online Workshops Taken
N					
Valid	392	392	392	392	392
Missing	0	0	0	0	0
Mean	1.36	1.92	5.51	2.00	.14
Std. Error of Mean	.02	.12	.06	.08	. 03
Median	1.00	1.00	6.00	1.00	0.00
Mode	1.0	0.0	6.0	1.0	0.0
Std. Deviation	.48	2.28	1.12	1.48	.60

Likert-scale questions. Descriptive statistics were also run on questions seven

through eighteen, which were five-point scale Likert-type answers (1=strongly disagree,

2=disagree, 3=neutral, 4=agree and 5=strongly agree). Table 7 shows the descriptive

statistics for each of the Likert-type questions.

Online professional development means. The mean for the variable positive

perception on IB online professional development indicates the responses are between

"disagree" and "neutral." A mean of 1.93 for the variable whether they prefer to

participate in online professional development indicated that respondents "disagree." A mean of 2.08 on the variable of whether they would recommend online IB professional development indicates that respondents are closest to "disagree." A mean of 2.25 on the variable on whether online professional development is an effective method of training for schools going through the authorization process indicates that respondents lean toward" disagree." A mean of 2.47 for the variable of how effective online professional development is at providing continuous professional development indicates that respondents were between "disagree" and "neutral." A mean of 2.19 for the variable of whether they believed that IB Category 1 educators will be better prepared to perform the duties related to their position after attending IB online professional development when compared to attending face-to-face development indicates that respondents "disagree." A mean of 2.33 for the variable IB that Category 1 educators will be better prepared to perform the duties related to their position after attending IB online professional development as compared to attending face-to-face development indicates that respondents are between "disagree" and "neutral" (see Table 7).

Table 7

Descriptive Statistics for Likert Scale Questions: Online Professional Development

	V7 Perception Online	V9 Prefer Online	V11 Recommend Online	V13 Authorization Online	V14 Effective Continuous	V15 Online Category 1	V18 Online Category 2
N							
Valid	392	392	392	392	392	392	392
Missing	0	0	0	0	0	0	0
Mean	2.28	1.93	2.08	2.25	2.47	2.19	2.33
Std. Error of Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Median	2	2	2	2	3	2	2
Mode	3	1	1	3	3	3	3
Std. Deviation	0.94	0.99	0.97	1.02	0.97	0.98	0.96

Face-to-face professional development means. A mean of 4.14 for the variable that asked whether participants believe that face-to-face professional development is an effective forum for collaboration indicates that the respondents "agree." A mean of 4.17 for the variable of whether or not the participants have a positive perception of IB face-to-face professional development indicated that the respondents "agree." A mean of 4.03 for the variable of whether face-to-face IB professional development is effective at providing training for schools going through the authorization process indicates the respondents "agree." A mean of 4.05 for the variable that IB Category 1 educators will be better prepared to perform the duties related to their position after attending IB face-to-face professional development as compared to attending online development indicates that most respondents "agree." A mean of 3.89 for the variable of whether face-to-face professional development will better prepare Category 2 educators to perform the duties related to their position after attending IB face-to-face professional development as compared to attending online development indicates that respondents are closer to "agree" than "neutral" (see Table 8).

Table 8

Descriptive Statistics for Likert Scale Questions: Face-of-Face Professional

Development

	V8 Effective Collaboration	V10 Perception of face-to-face	V12 Getting Authorization	V16 face-to-face Category 1	V17 face-to-face Category 2
N					
Valid	392	392	392	392	392
Missing	0	0	0	0	0
Mean	4.13	4.17	4.03	4.05	3.89
Std. Error of Mean	0.05	0.05	0.05	0.05	0.05
Median	4	4	4	4	4
Mode	5	5	5	5	3
Std. Deviation	0.99	0.91	0.95	0.91	0.90

The overall mean average for the variables related to IB online professional development is 2.21 (disagree), which indicates that participants are closer to "disagree" on all responses. Additionally, the modes where either 1 (strongly disagree) or 3 (neutral). The overall mean for the variables related to IB face-to-face professional development is 4.05 (agree), which indicates that the participants are closer to "agree" on their responses. Additionally, the mode for all but variable one was 5 (strongly agree) and 3 (neutral).

Correlation Statistics

To determine if correlations existed between the variables, Pearson Correlations were computed. To determine if the results were significant, the following scale was used: values of .0 - .2 indicates a small correlation, .2 - .5 indicates a moderate correlation and .5 - .8 indicates a large correlation. The correlations were considered significant at the p≤0.05 level (2-tailed). Variables that showed statistically significant positive or

negative correlations are identified in this chapter and discussed in Chapter V. It is

important to note that when examining effects using larger samples, significant testing

can be misleading because even small or trivial effects are likely to produce statistically

significant results.

Research Question 1

To what extent is gender statistically significantly associated with an IB

educator's perceptions of online and face-to-face professional development?

H_0: Gender is not statistically significantly associated with IB educators'

perceptions of online and face-to-face professional development.

H_a: Gender is statistically significantly associated with IB educators' perceptions

of online and face-to-face professional development.

The first characteristic of an IB educator to be analyzed was gender. To address

Research Question 1, gender was correlated with variables 7 through 18. The data

indicated a small positive statistically significant relationship between males and positive

perception of online professional development (variable #7), $r = .10$, $p = .04$. The data

indicated there were no other statistically significant relationships between males and

females and the other variables.

Research Question 2

2. To what extent is the number of years working as an IB educator statistically

significantly associated with IB educators' perceptions of online and face-to-

face professional development?

H_0: The number of years working as an IB educator is not statistically

significantly associated with IB educators' perceptions of online and face-to-

face professional development.

H_a: The number of years working as an IB educator is statistically significantly

associated an IB educator's perceptions of online and face-to-face

professional development.

The second characteristic of an IB educator to be analyzed was the number of years working as an IB educator. To address Research Question 2, the years working as an IB educator were correlated with variables 7 through 18. The data from the analysis of the years of experience as an IB educator indicated both positive and negative statistically significant correlations. The negative correlations were as follows: A moderate negative relationship between the number of years working in the IB and positive perception of online professional development (variable #7), $r = -.20$, $p = .00$. A small negative correlation between the number of years working in the IB and preferring to participate in online professional development (variable #9), $r = -.16$, $p = .00$. A small negative relationship between the number of years working in the IB and recommending taking online professional development (variable #11), $r = -.13$, $p = .01$. A small negative relationship between the number of years working in the IB and IB Category 1 educators being better prepared by attending online professional development (variable #15), $r = -.12$, $p = .02$. A small to moderate negative relationship between the number of years working in the IB and Category 2 IB educators being better prepared by attending online professional development (variable #18), $r = -.20$, $p = .00$ (see Table 9).

The positive correlations related to the number of years working for the IB (variable #3) were as follows: A moderate positive relationship between the number of years working in the IB and positive perception of face-to-face professional development (variable #10), $r = .22$, $p = .00$. A small positive relationship between the number of years working in the IB and face-to-face being more effective for schools going through the authorization process (variable #12), $r = .11$, $p = .03$. A small positive relationship between the number of years working in the IB and Category 1 educators being better prepared by attending face-to-face professional development (variable #16), $r = .15$, $p = .00$. A moderate positive relationship between the number of years Category 1 educators being better prepared by attending face-to-face professional development (variable #17), $r = .25$, $p = .00$ (see Table 9).

Research Question 3

To what extent is an IB educator's program level (PYP, MYP, DP, or any combination of the programs) statistically significantly associated with an IB educator's perceptions of online and face-to-face professional development?

H_0: An IB educator's program level (PYP, MYP, DP, or any combination of the programs) is not statistically significantly associated with an IB educator's perceptions of online and face-to-face professional development.

H_a: An IB educator's program level (PYP, MYP, DP, or any combination of the programs) is statistically significantly associated with an IB educator's perceptions of online and face-to-face professional development.

The third characteristic of an IB educator to be analyzed was IB Programme level taught. To address Research Question 3, the IB Programme level (variable #4) was

correlated with the variables 7 through 18. Results suggest that there were no statistically significant correlations between IB Programme level and any of the other variables (see Table 9).

Research Question 4

To what extent is the number of face-to-face workshops taken statistically significantly associated with an IB educator's perceptions of online and face-to-face professional development?

H_0: The number of face-to-face workshops taken is not statistically significantly associated with the role in an IB educator's perceptions of online and face-to-face professional development.

H_a: The number of face-to-face workshops taken is statistically significantly associated with the role in an IB educator's perceptions of online and face-to-face professional development.

The fourth characteristic of an IB educator to be analyzed was number of face-to-face workshops taken. To address Research Question 4, the number of IB face-to-face workshops taken (variable #5) was correlated with the variables 7 through 18. Results suggest that there were both positive and negative correlations between these variables. The negative correlations were as follows: A moderate negative relationship between the number of face-to-face workshops taken and the positive perception of online professional development (variable #7), $r = -.22$, $p = .00$. A small negative relationship between the number of face-to-face workshops taken and preferring to participate in online professional development (variable #9), $r = -.18$, $p = .00$. A small negative relationship between the number of face-to-face workshops taken and number of online

workshops taken (variable #11), $r = -.15$, p = .00. A small negative relationship between the number of face-to-face workshops taken and a more effective forum for continuous professional development (variable #14), $r = -.16$, $p = .00$. A small negative relationship between the number of face-to-face workshops taken and Category 1 IB educators being better prepared by attending online professional development (variable #15), $r = -.14$, $p = .01$. A moderate negative relationship between the number of face-to-face workshops taken and Category 2 IB educators being better prepared by attending online professional development (variable #18), $r = -.18$, $p = .00$ (see Table 9).

The characteristic number of face-to-face workshops taken produced the following results: a moderate positive relationship between the number of face-to-face workshops taken and a perception that face-to-face is a more effective collaboration forum for professional development (variable #8), $r = .13$, p = .01. A moderate positive relationship between the number of face-to-face workshops taken and the positive perception of face-to-face professional development (variable #10), $r = .23$, p = .00. A small positive relationship between the number of face-to-face workshops taken and face-to-face being more effective for schools going through the authorization process (variable #12), $r = .18$, p = .00. A moderate positive relationship between the number of face-to-face workshops taken and Category 1 educators being better prepared by attending face-to-face professional development (variable #16), $r = .12$, p = < .00. indicated a moderate positive relationship between the number of face-to-face workshops taken and being better prepared by attending face-to-face professional development (variable #17), $r = .27$, $p = .00$ (see Table 9).

Research Question 5

To what extent is the number of online workshops taken statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

H₀: The number of online workshops taken is not statistically significantly associated with IB educators' perceptions of online and face-to-face professional development.

Hₐ: The number of online workshops taken is statistically significantly associated with IB educators' perceptions of online and face-to-face professional development.

The fifth characteristic of an IB educator to be analyzed was the number of online workshops taken. To address research variable #5, the number of online workshops taken (variable #6) was correlated with the variables 7 through 18. With regards to the characteristic number of online workshops taken, the results suggest that there were only positive correlations, which are as follows: a small positive relationship between the number of online workshops taken and face-to-face workshops being a more effective collaboration forum of professional development (variable #8), $r = .10$, $p = .05$. A small positive relationship between the number of online workshops taken and face-to-face workshops being more effective for schools going through authorization (variable #12), $r = .12$, $p = .02$. A small positive relationship between the number of online workshops taken and Category 2 educators being better prepared by attending face-to-face professional development (variable #17), $r = .10$, $p = .05$ (see Table 9).

Table 9

Complete Correlation Matrix

	V2	V3	V4	V5	V6
V2-Gender (1 F and 2 M)					
Pearson Correlation	1	.03	.09	.00	.01
Sig. (2-tailed)		.55	.08	.96	.88
V3-Years working in IB					
Pearson Correlation	.03	1	.041	.69**	.21**
Sig. (2-tailed)	.55		.42	.00	.00
V4-Programmes teaching					
Pearson Correlation	.09	.04	1	.01	.04
Sig. (2-tailed)	.08	.42		.80	.49
V5-Number of face-to-face workshops taken					
Pearson Correlation	.00	.69**	.01	1	.27**
Sig. (2-tailed)	.96	.00	.80		.00
V6-Number of online workshops taken					
Pearson Correlation	.01	.21**	.04	.27**	1
Sig. (2-tailed)	.88	.00	.49	.00	
V7-Perception of online					
Pearson Correlation	.10*	-.20**	-.05	-.22**	-.07
Sig. (2-tailed)	.04	.00	.36	.00	.17
V8-face-to-face is a more effective collaboration forum					
Pearson Correlation	-.05	.09	.03	.13**	.10*
Sig. (2-tailed)	.34	.06	.59	.01	.05
V9-Prefer participating in online PD					
Pearson Correlation	.03	-.16**	-.05	-.18**	-.09
Sig. (2-tailed)	.52	.00	.35	.00	.09
V10-Perception of face-to-face					
Pearson Correlation	-.03	.22**	.06	.23**	.09
Sig. (2-tailed)	.61	.00	.24	.00	.07
V11-Recommend online					
Pearson Correlation	.00	-.13*	.01	-.15**	-.06
Sig. (2-tailed)	.98	.01	.86	.00	.22
V12-face-to-face more effective for schools going through authorization					
Pearson Correlation	.02	.11*	-.02	.18**	.12*
Sig. (2-tailed)	.77	.03	.77	.00	.02
V13-Online more effective for schools going through authorization					
Pearson Correlation	.01	-.01	.06	-.08	-.05
Sig. (2-tailed)	.86	.88	.27	.13	.29
V14-Online more effective forum for continuous PD.					
Pearson Correlation	-.01	-.09	-.06	-.16**	-.02
Sig. (2-tailed)	.87	.08	.24	.00	.64
V15-Cat 1 better prepared by attending online					
Pearson Correlation	.03	-.12*	-.03	-.14**	-.05
Sig. (2-tailed)	.62	.02	.59	.01	.36
V16-Cat 1 better prepared by attending face-to-face					
Pearson Correlation	.07	.15**	.04	.20**	.08
Sig. (2-tailed)	.17	.00	.43	.00	.16
V17-Cat 2 better prepared by attending face-to-face					
Pearson Correlation	-.01	.25**	.01	.27**	.10*
Sig. (2-tailed)	.83	.00	.88	.00	.05
V18-Cat 2 better prepared by attending online					
Pearson Correlation	.02	-.20**	-.03	-.18**	-.01
Sig. (2-tailed)	.72	.00	.60	.00	.82

Note. *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

In Chapter IV, the researcher presented the sample description, the IB educator

characteristics and demographic data, descriptive statistics for the IB characteristics and

Likert-type questions, and the Pearson Correlation data for the five research questions, as

well as the data collection procedures and a description of the data analysis process. In

Chapter V, the researcher will discuss the results of this study.

Chapter V

Discussion

Introduction

As stated in Chapter I, the IBO began offering online professional development in 2009. Currently, the IBO offers more than 250 online professional development workshops that cover all four IB programmes. According to the IBO, "Last year alone, 10,000 teachers from over 160 countries attended IB workshops online" (IBO, 2016, para. 1). Additionally, the IBO declares that "Online professional development is a cost-effective professional development opportunity that you can access anywhere without incurring travel and other costs" and that "all of our online workshops teach the same concepts as those presented in the equivalent face-to-face workshops and the workshops count equally toward authorization or evaluation." (IBO, 2016, para. 2).

The researcher in this study has been working with IB face-to-face professional development since 2008 and has observed the growth of IB online professional development since its inception. Given the growth of IB online professional development and the lack of research on this topic, the purpose of this study was to examine the relationship between the characteristics of IB educators and their perceptions of online and face-to-face IB professional development.

Research Questions

Research question 1. To what extent is gender statistically significantly associated with an IB educators' perception of online and face-to-face professional development?

The first characteristic of an IB educator to be analyzed was gender. The correlation data indicated a small statistically significant positive relationship between males and a positive perception of online professional development as compared to females. It is worth noting that 64 % of the participants in this study self-identified as female which is below the national average. In 2011-2012, 76 percent of teachers were female (U.S. Department of Education, National Center for Education Statistics, 2015).

Implications of finding. Given the higher percentages of women attending the face-to-face workshops as compared to men, the researcher finds it interesting that men would show a small significant positive correlation toward positive perception of online professional development. Although small, it might be interesting to further research the differences between the genders and their attitudes and perceptions toward online and face-to-face professional development.

Limitations of finding. Since this study was conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. Additionally, it could also skew the data toward negative perceptions of online professional development.

Research question 2. To what extent is the number of years working as an IB educator statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

The second characteristic to be examined using the correlation data was the number of years working as an IB educator (variable #3). One hundred and fifty-five participants indicated they had no experience working as an IB educator. One of the

reasons that so many participants may have selected "no experience" is due to the authorization process. As a part of the authorization process, the IBO requires staff to be trained prior to becoming an IB World School. Individuals who were attending as an authorization requirement were likely enrolled in Category 1 workshops since they count towards the authorization requirement to become an IB World School. The second largest percentage indicated that it was their first year as an IB educator, which again can be supported by the IBO's requirement of attending Category 1 training. The third largest percentage indicated that they had 6 or more years as an IB educator and could be attending as a result of a curriculum change in their subject; these teachers were likely attending a Category 2.

Implications of finding. As mentioned in Chapter II, professional development plays a key role in supporting educators as they hone their skills throughout their career. This finding brings up some questions about continued IB professional development opportunities. Although the IBO does offer Category 3 workshops, many of which are designed for experienced educators, they are not required and attendance is often low. This further limits the number of available workshops as they are at risk of cancellations due to low enrollments. As the IBO moves forward in preparing IB educators of the future, they need ensure that experienced IB educators continue to seek out and be granted opportunities for professional growth.

Limitations of finding. This study was limited only to participants attending IB face-to-face professional development workshops. The researcher has no way of knowing whether the IB educators are attending Category 3 workshops online or face-to-face with another IB workshop provider.

Negative correlations. The results indicated that the more years of experience an IB educator had, the less positive their perception of online professional development. It also indicated they were less likely to prefer participating in online professional development, to recommend online professional development, and to perceive that individuals would be prepared for their position after attending online professional development. Additionally, the results indicated they are less likely to perceive that Category 2 IB educators would be prepared for their position after attending online professional development.

Positive correlations. The results indicated that the more years of experience that an IB educator had, the more likely they were to have a positive perception of face-to-face professional development, perceive face-to-face professional development as more effective for schools going through the authorization process, perceive that Category 1 educators were being prepared by attending face-to-face professional development, and perceive that Category 2 educators will be prepared for their positions after attending face-to-face professional development.

Implications of correlation finding. The results indicated that the more experience an IB educator had, the less positive their perception of online professional development and the more positive their perception of face-to-face professional development. It is unclear from the data what causes the shift in perception over time. It could be that the individuals are more likely to have participated in more face-to-face professional development, which gives them a more positive opinion of it. It could also be that they have participated in online professional development and not enjoyed the

experience or that they have heard from others who do not recommend taking the online workshops.

Limitations of correlation finding. Since this study was being conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. Additionally, it could also skew the data toward negative perceptions of online professional development.

Research question 3. To what extent is an IB educator's program level (PYP, MYP, DP, or any combination of the programs) statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

The third IB characteristic to be examined was IB Programme level. The low number of PYP and MYP participants was due to the low number of PYP and MYP workshops being offered at the time of this study. The results indicated that there were no statistically significant correlations between the IB Programmes taught (variable #4) and any of the other variables.

Implications of finding. It does not appear that IB Programme level plays a statistically significant role in IB educators' perceptions toward the variables being tested in this study.

Limitations of finding. Since this study had such a low number of PYP and MYP participants, it is possible that is the reason for no statistically significant results being found. Additionally, this study is examining a limited number of variables.

Research question 4. To what extent is the number of face-to-face workshops taken statistically significantly associated with an IB educator's perceptions of online and face-to-face professional development?

The fourth characteristic of an IB educator to be examined was the number of IB face-to-face workshops taken. The data indicated that two individuals had participated in no face-to-face workshops. It is worth noting that the researcher collected the data on the last day of a face-to-face workshop. This means that two of the 392 did not count the workshop as their first workshop. Two hundred and sixteen indicated they had participated in one IB face-to-face workshop. Given that 39.5 percent indicated they had no experience as an IB educator, the researcher expected these numbers to more closely align. One explanation for the difference could be that IB educators started working at an authorized school and did not get trained until the following school year. Since schools are most likely paying for the professional development, the researcher was not surprised to see the participation percentages decline as the number of workshops attended increased to five taken. The number of workshops taken increased from ten to 27 between "five" and "six or more taken." One explanation for this increase could be the curriculum was undergoing a redesign.

Implications of finding. Similar to the findings in the number of years as an IB educator, it is interesting to note that as the number of workshops rises, the participation percentages declines. Again, it is the IBO's policy not to require any additional training beyond the Category 1 unless the course is redesigned. If the course has been redesigned, teachers must be upskilled to teach the course. At this time, the IB reviews all DP course content every seven years.

Limitations of finding. Since this study was being conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. Additionally, it could also skew the data toward negative perceptions of online professional development.

Negative correlations. The results indicated that the more face-to-face workshops an IB educator has taken, the more negative their perception of online professional development, and the less likely they were to prefer taking an online workshop, to recommend taking online professional development, to perceive online professional development as an effective forum for continuous professional development, to perceive IB Category 1 educators as being better prepared by attending online professional development, and to perceive IB Category 2 educators as being better prepared by attending online professional development.

Positive correlations. The results indicated that the more face-to-face workshops the participants had taken, the more likely they were to perceive face-to-face professional development as an effective collaboration forum, the more positive their perception of face-to-face professional development and the more positively they perceived face-to-face professional development as effective for schools going through the authorization process. Additionally, the results indicated that the more face-to-face workshops the participants had taken, the more likely they were to perceive IB Category 1 educators as being better prepared by attending face-to-face professional development and the more likely they were to perceive IB Category 2 educators as being better prepared by attending face-to-face professional development.

Implications of correlation finding. The results of this analysis indicated that there is a correlation between the number of face-to-face workshops taken and participants' positive perception of face-to-face professional development. The researcher is unclear as to why there is a correlation between taking face-to-face workshops and negative perceptions of online workshops. One reason could be that individuals are required to complete online workshops during their personal time, whereas, face-to-face workshops often occur during the work week or during the summer. Another reason could be the difference in the length of time. Online workshops are 4 weeks long requiring approximately 4 hours per week for a total of sixteen hours. Face-to-face workshops are typically 2.5 days and are fifteen hours.

Limitations of correlation finding. As indicated previously, since this study was being conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. It could also skew the data toward negative perceptions of online professional development. Additionally, only a small percentage (6.1%) of individuals who participated in this study indicated they had taken online workshops.

Research question 5. To what extent is the number of online workshops taken statistically significantly associated with IB educators' perceptions of online and face-to-face professional development?

The fifth, and final, characteristic of an IB educator to be examined was the number of online workshops taken. The data indicated that 358 (91.3 %) have participated in no online workshops. Since the survey was conducted at a face-to-face

workshop, the researcher expected the number to be low; however, this number is much lower than anticipated. Only twenty-four participants (6.1 %) indicated that they had participated in one and six (1.5 %) had participated in two. As stated earlier, the majority of the participants in this study were from the United States where there are plenty of face-to-face options for IB professional development. In other regions including Africa, Europe, the Middle East and Asia-Pacific, they do not have as many options for face-to-face professional development workshops and may have to enroll in online professional development workshops.

Implications of finding. The results of this analysis indicated that there is a correlation between the number of online workshops taken and the positive perception of face-to-face professional development. The researcher is unclear regarding why there is a correlation between taking online workshops and positive perceptions of face-to-face professional development; furthermore, believes this would be an interesting finding to research further.

Limitations of finding. Since this study was being conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. Additionally, it could also skew the data toward negative perceptions of online professional development. Had this study been conducted in a different region, it is possible that more individuals would have taken online courses and the results might have been different.

Negative correlations. The data analysis revealed no statistically significant negative correlations.

Positive correlations. With regards to the number of online workshops taken, the data indicated only statistically significant positive correlations. The results indicated that the more online workshops an IB educator had taken, the more likely they were to perceive face-to-face workshops as a more effective collaboration forum and the more likely they were to perceive face-to-face workshops as being a more effective for schools going through the authorization process. Additionally, the more likely the participants were to perceive being better prepared for their position by attending Category 2 face-to-face professional development workshop.

Implications of correlation finding. The results of this analysis indicated that there is a positive correlation between the number online workshops taken and a positive perception of face-to-face professional development. It is interesting that as the number of online workshops taken increases so does the positive perception of face-to-face professional development. Some possible interpretations for this correlation might be that in face-to-face workshops, in addition to receiving the required training, participants are able to have fluid conversations with the workshop leaders and other participants. Additionally, based on researcher's knowledge, they have more opportunities to network with other educators who are attending different workshops. A study conducted by Thomas, T. (2009) that assessed teacher perceptions regarding the effectiveness of online courses as a delivery method for professional development found that participants in the study indicated lack of face-to-face contact as a barrier to online professional development.

Limitations of correlation finding. Since this study was being conducted during face-to-face IB professional workshops, it is possible that individuals self-selected to attend a face-to-face workshop over an online workshop. If this is the case, then the data could skew the perception of face-to-face workshops toward positive. Additionally, as discussed earlier, a small percentage (6.1 %) of individuals indicated they had taken online workshops.

Key Findings

Overall, the data indicated that participants in this study participants had a more positive perception of IB face-to-face professional development than IB online professional development. The descriptive analysis indicated that when participants in this study were asked to respond to questions about online professional development, the data aligned closer to "disagree" than "neutral" about having positive perceptions toward online professional development. When the same participants were asked to respond to the variables related to face-to-face professional development, the results indicated that the participants in this study hovered around "agree" about having positive perceptions toward face-to-face professional development.

The correlation findings revealed that IB educators' perceptions of face-to-face workshops become increasingly more positive with the more years of experience they have. Additionally, IB educators' perceptions of face-to-face workshops become increasingly more positive when the number of online or face-to-face workshops they take increases. In contrast, the reverse seems to happen with IB online professional development. The more online workshops they take the less positive their perception of online professional develops.

This study seems to indicate that IB educators' perceptions toward online workshops become increasingly negative the more years of experience they have and the more face-to-face workshops they have taken. Although it is unknown why IB educators' perceptions of online and face-to-face professional development are different, the results of this study may assist the IBO or other organizations that offer online professional development in the development and facilitation of online offerings.

Recommendations for Further Research

The lack of research published on IB online professional development and IB face-to-face professional development brings to the fore additional questions for future research.

1. A study to determine whether self-efficacy has an effect on the performance of IB educators who are enrolled in IB online professional development workshops for the first time.

2. A qualitative study regarding the opinions of face-to-face IB professional development participants could provide more insight into the participants' responses. Participant interviews might provide more detailed information on why perceptions or attitudes towards online and face-to-face professional development change over time.

3. A study that examines the attitudes of IB educators towards online and face-to-face professional when they are registered by an administrator or a coordinator. In other words, they did not self-select to attend the workshop.

Overall Limitations of the Study

As mentioned in Chapter I, the IB Organization is the only provider that can offer online IB professional development. In using a face-to face sample, the researcher hoped to locate and include participates who had taken online IB professional development workshops. It is possible that being unable to select a large sample from a population of individuals who have attended both IB face-to-face and online professional development impacted the results of this study. Additionally, the researcher designed the survey used in this study, and although it was piloted and found to be reliable, the threat to internal validity still exists within the instrument.

Conclusion

As mentioned in Chapter I, the IB has only been offering online workshops since 2009. Since then, the number of workshops being offered has increased from 234 in 2009 to 1,011 in 2015. The increase in the number of online workshops could be due in part to the increase in the number IB Programmes worldwide. The IBO indicates that, "Between February 2011 and February 2016, the number of IB Programmes offered worldwide grew by 46.40%" (IBO, 2016b, http://www.ibo.org/about-the-ib/facts-and-figures). Additionally, "On 25 July 2016, there were 5,865 IB Programmes being offered worldwide, across 4,527 schools" (IBO, 2016b, http://www.ibo.org/about-the-ib/facts-and-figures).

In conclusion, given the growth of the IBO and the number of online workshops being offered, it is important for the Organization to continue to examine why IB educators' perceptions toward IB online professional development are not as positive as their perceptions of IB face-to-face professional development. In particular, "Why

participants' perceptions of face-to-face workshops are more positive when they have

attended online workshops?" This could be done by using the post workshop evaluation

as a tool to collect data from both face-to-face and online workshops which could be

analyzed and used to create strategies that would improve the perceptions of IB online

professional development. One thing is for certain, the IB's current growth trajectory and

the need for high quality professional development that meets the criteria of the IB's

quality assurance framework, ensures that both online and face-to-face professional

development will continue to be in demand.

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Appendix A

IB Professional Development Survey

IB Educator – Professional Development Survey Spring 2015

IB Educator Professional Development Survey - Particpation Agreement

Dear Potential Participant:

You are being asked to participate in a research project examining the attitudes and perceptions of International Baccalaureate (IB) educators to IB online and IB face-to-face professional development. Your participation in this project is greatly appreciated and will involve completing the survey on pages 2-7. It should take you approximately 5 minutes to complete the survey.

Your participation is completely voluntary. You may refuse to participate or withdraw your consent or discontinue your participation in the study at any time without penalty or loss of benefits or rights to which you might otherwise be entitled. Checking "yes" to question one, completing and submitting this survey indicates your consent to participate in this research study and allows the use of this data for research purposes. While participation in this research will provide no direct benefit to you, the knowledge gained will benefit entities that provide IB professional development.

Thank you in advance for your participation.

Sincerely,

Amy McClurd

*1. If you agree to particpate in this survey, please place a checkmark in the circle next to yes.

◯ Yes

IB Educator – Professional Development Survey Spring 2015

IB Educator Experience

This survey is for IB educators who are either taking or instructing a course at XXX IB endorsed professional development workshops. The purpose of this survey is to collect data on the attitudes and perceptions of IB educators to IB online and IB face-to-face professional development. For the purposes of this study, only IB authorized IB online or face-to-face professional development should be considered or referenced when responding.

For questions 2-7, shade or place a checkmark in the circle next to your answer choice. Each question should only have one circle either shaded or checked.

2. What is your gender?

◯ Female

◯ Male

3. How many years have you been working as an IB educator? Please count from fall of 2014 to spring of 2015 as a full year.

◯ 0 (I have never worked as an IB educator)

◯ 1 (This is my first year working as an IB educator)

◯ 2

◯ 3

◯ 4

◯ 5

◯ 6 or more

4. Select the answer below that best reflects the programme(s) you are working with at this time.

◯ Primary Years Programme

◯ Primary Years and Middle Years Programmes

◯ Primary Years and Diploma Programmes

◯ Middle Years Programme

◯ Middle Years and Diploma Programmes

◯ Diploma Programme

◯ Primary Years, Middle Years and Diploma Programmes

IB Educator – Professional Development Survey Spring 2015

5. How many IB face-to-face professional development courses have you taken?

- ○ 0
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6 or more

6. How many IB online professional development course(s) have you taken?

- ○ 0
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6 or more

IB Educator – Professional Development Survey Spring 2015

Attitudes and Perceptions - Online and Face-to-Face IB Professional Develop...

For question 7-18, place a checkmark in the circle next to the response that best reflects your attitude or perception towards IB online and face-to-face professional development.

7. I have a more positive perception of IB online professional development compared to IB face-to-face development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

8. IB face-to-face professional development provides a more effective forum for collaboration than IB online development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

9. I prefer participating in an IB online professional development course to participating in an IB face-to-face development course.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

IB Educator – Professional Development Survey Spring 2015

10. I have a more positive perception of IB face-to-face professional development than IB online development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

11. I would recommend taking an IB online professional development course over taking an IB face-to-face development course.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

12. IB face-to-face professional development courses are more effective at providing professional development for educators in schools that are going through the IB authorization process than IB online development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

13. IB online professional development courses are more effective at providing professional development for educators in schools that are going through the IB authorization process than IB face-to-face development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

IB Educator – Professional Development Survey Spring 2015

14. IB online professional development provides a more effective forum for continuous professional development than IB face-to-face development.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

15. IB Category 1 educators will be better prepared to perform the duties related to their position after attending IB online professional development as compared to attending face-to-face development (the training would be specific to their position).

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

16. IB Category 1 educators will be better prepared to perform the duties related to their position after attending IB face-to-face professional development as compared to attending online development (the training would be specific to their position).

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

17. IB Category 2 educators will be better prepared to perform the duties related to their position after attending IB face-to-face professional development as compared to attending online development (the training would be specific to their position).

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

Appendix B

Script for Workshop Orientation

Script to be read during workshop orientation

Saturday Orientation:

As some of you already know, I am currently a doctorate student in the College of Education at the University of Houston. On Tuesday morning, you will have the opportunity to complete a survey on attitudes and perceptions of IB educators toward online and face-to-face professional development. The survey research is being conducted under the direction of Dr. Bernard Robin as a part of the degree requirements and the data will be used in my dissertation. The surveys should take no more than 5 minutes to complete and your participation is voluntary. I would greatly appreciate your assistance and participation. The surveys will be delivered at approximately 8:30AM on Tuesday morning. They will come in a brown envelope with instructions taped to the front.

Here are the instructions:

1. Hand out the survey before 8:45 this morning to all participants who are willing to take one. Please give them time to read the cover letter and choose whether or not they want to participate.

2. They can use pencil or pen to check mark their answer choice.

3. Have participants turn in both completed and blank surveys into the envelope.

4. Please seal the envelope as soon as they have been collected.

5. The surveys will be picked up at 9:00 a.m.

I greatly appreciate your assistance getting the surveys distributed and collected. If you have any questions or would prefer not to participate, please let me know.

As the instructor will distribute and collect the surveys during your class

Wednesday Orientation

As some of you already know, I am currently a doctorate student in the College of

Education at the University of Houston. On Tuesday morning, you will have the

opportunity to complete a survey on attitudes and perceptions of IB educators toward

online and face-to-face professional development. The survey research is being

conducted under the direction of Dr. Bernard Robin as a part of the degree requirements

and the data will be used in my dissertation. The surveys should take no more than 5

minutes to complete and your participation is voluntary. I would greatly appreciate your

assistance and participation. The surveys will be delivered at approximately 8:30AM on

Saturday morning. The surveys will arrive in a brown envelope with instructions taped to

the front.

Here are the instructions:

1. Hand out the survey before 8:45 this morning to all participants who are
    willing to take one. Please give them time to read the cover letter and choose
    whether or not they want to participate.

2. They can use pencil or pen to check mark their answer choice.

3. Have participants turn in both completed and blank surveys into the envelope.

4. Please seal the envelope as soon as they have been collected.

5. The surveys will be picked up at 9:00 a.m.

I greatly appreciate your assistance getting the surveys distributed and collected.

If you have any questions or would prefer not to participate, please let me know.

Appendix C

Script for Participant Orientation

Tuesday Participant Orientation:

I am currently a doctorate student in the College of Education at the University of Houston. On Tuesday morning, you will have the opportunity to complete a survey on attitudes and perceptions of IB educators toward online and face-to-face professional development. The survey research is being conducted under the direction of Dr. Bernard Robin as a part of the degree requirements and the data will be used in my dissertation. Your instructor will distribute and collect the surveys during your class. The surveys should take no more than 5 minutes to complete and your participation is voluntary. I would greatly appreciate your participation.

Saturday Participant Orientation:

I am currently a doctorate student in the College of Education at the University of Houston. On Saturday morning, you will have the opportunity to complete a survey on attitudes and perceptions of IB educators toward online and face-to-face professional development. The survey research is being conducted under the direction of Dr. Bernard Robin as a part of the degree requirements and the data will be used in my dissertation. Your instructor will distribute and collect the surveys during your class. The surveys should take no more than 5 minutes to complete and your participation is voluntary. I would greatly appreciate your participation.

Appendix D

Survey Instructions

Dear workshop leader,

Enclosed are the surveys for the research study on attitudes and perceptions of IB educators towards online and face-to-face professional development. Please...

1. Hand out the survey before 8:45 this morning to all participants who are willing to take one. Please give them time to read the cover letter and choose whether or not they want to participate.

2. They can use pencil or pen to check mark their answer choice.

3. Have participants turn in both completed and blank surveys into the envelope.

4. Please seal the envelope as soon as they have been collected.

5. The surveys will be picked up at 9:00 a.m.

I greatly appreciate your assistance getting the surveys distributed and collected.

Sincerely,

Amy McClurd

This project has been reviewed by the University of Houston Committee for the Protection of Human Subjects (713) 743-9204.