Learning Online for Teaching Online:

A Formative Program Evaluation of a Hybrid Faculty Training Program

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A growing trend in higher education is the increasing number of online course offerings. It is imperative for postsecondary institutions to provide faculty development programs that support faculty in online teaching. For the purpose of preparing faculty to teach online, the University of Pittsburgh offers a semester-long hybrid course in which they assume the role of online students, experience engagement strategies, receive instructor and peer feedback, and apply what they learn to their teaching. I am the designer and facilitator of this course. And I conducted a formative program evaluation to understand the overall usefulness of the course, the benefits of enabling faculty to be learners in a hybrid course, as well as what they learned and applied in their teaching traditional and online courses.

The findings showed that the participating faculty from the first two iterations found it useful and appreciated their role as learners in the course. They reported that they developed empathy and realistic expectations for online students. As a group, they applied in their teaching almost all of the important course design principles and notions taught in the course, and they reported that they used a wide range of technology as well.

This formative program evaluation sheds light on design choices for preparing faculty to teach online and what seemed to be essential to include as content in a faculty development program for online teaching. Enrolling interested faculty members in a hybrid or online course on how to teach online seemed to be a good way to help faculty develop empathy and realistic

expectations for students in an online learning environment, and to enable faculty to apply important course design principles, pedagogical strategies, and technology use in their teaching. Additionally, this formative program evaluation also revealed evidence of some course design concepts, strategies, and instructional technologies that were quickly adoptable by the participants, indicating that those concepts, pedagogical strategies, and technologies should be included in professional development initiatives for online teaching.

Key Words

Online teaching, hybrid, faculty development, faculty professional development

Definition of Terms

Distance Education:

The Higher Education Opportunity Act of 2008 defines distance education as "education that uses one or more of the technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor, synchronously or asynchronously" (p. 122). Although the term 'distance education' encompasses other forms of education such as correspondence learning, it is often used interchangeably with 'online education' as nowadays distance education is delivered via the internet. For the sake of simplicity, 'distance education' and 'online education' are used interchangeably in this dissertation.

Face-to-Face Course:

This term refers to traditional classes with no online components typically as defined by the Sloan Consortium, which was renamed as the Online Learning Consortium (OLC), a leading professional organization for advancing online learning by providing professional development (Allen, Seaman & Garrett, 2007).

Hybrid Course:

By OLC's definition, it refers to a course that blends online and F2F delivery. Substantial proportion, i.e., 30% to 79%, of the content is delivered online (Allen, Seaman & Garrett, 2007). The faculty professional development program for online teaching, which is the focus of this dissertation, is hybrid.

Online Course:

An online course is one that is delivered through the internet (Price, 2008; Hao & Borich, 2010). However, the portion of the course content delivered online varies as determined by higher education institutes and organizations. The OLC characterizes an online course as "A course where most or all of the content is delivered online. Typically have no face-to-face meetings" (Allen, Seaman & Garrett, 2007, p. 5). Another definition specifies that this term refers either a fully online course or a hybrid online course—students complete some activities online and some on the traditional campus (Simon, Sinclaire, Brooks, & Wilkes, 2009). For the sake of simplicity, online course refers to both fully online and hybrid course in this dissertation.

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1.0 Introduction

The availability of online courses has rapidly increased in recent years, resulting in growing numbers of online students, especially students who have fulltime or part-time jobs and cannot otherwise attend classes in person (Allen & Seaman, 2016). Higher education institutions benefit from the growth of online courses and programs as they generate revenue amid funding cuts (Tugend, 2016). However, support and preparation for instructors to be ready to teach online remains to be improved. Faculty training for online teaching is crucial in preparing instructors to teach online. In terms of faculty development, various formats are available, such as one-on-one consultations, workshops, and seminars. These formats, due to their varied characteristics and lengths, can meet faculty's various needs.

Through this dissertation in practice, I aimed to evaluate the usefulness of the Hybrid and Online Teaching and Learning Pathway (Pathway hereafter; also referred to as 'course' or 'hybrid course' throughout this dissertation) that I designed and facilitated in the University Center for Teaching and Learning (the Teaching Center) at the University of Pittsburgh (Pitt). The Pathway is a voluntary, semester-long, hybrid faculty professional development course, whose goal is to empower and prepare faculty to teach online by centering them as online students in the Pathway. Details of the Pathway are provided toward the end of this chapter. The design principles used to guide the design of the Pathway are explained in the next chapter.

1.1 Problem Area

Hybrid and fully online courses are increasingly prevalent in higher education (Allen & Seaman, 2016). This increase is deliberate as higher education institutions offer hybrid or fully online programs to generate revenue in an attempt to mitigate declining enrollments (Marcus, 2017) and state funding cuts (Tugend, 2016). In fact, the combination of the steady decline in enrollment and funding cuts have presented a crisis to higher education institutions (Shiffman, 2009). Decreasing state funding continues to threaten higher education a decade after the recession in 2008 (Mitchell, Leachman, Masterson, & Waxman, 2018). As university leaders search for strategies to generate revenue, they find that online education programs can reach potential students who are not otherwise able to take classes, due to the convenience and accessibility of online courses. Online courses can help enhance marketability of working individuals without impacting their work schedules, especially during economic downturns (Mueller, Mandermach, & Sanderson, 2013). Universities are motivated to provide online education programs or increase the number of them to better meet the needs of these individuals. By extending their reach of students who otherwise are unable to attend classes, universities are able to alleviate the stress caused by declining enrollments.

The growing number of online courses necessitates an increase in the number of instructors. Furthermore, it requires instructors who can teach online *well* because student retention relies on creating a quality online learning experience. However, faculty are not necessarily familiar with how to teach online courses. Even experienced, successful F2F teachers do not necessarily teach well online. In some cases, instructors volunteer to adapt their traditional F2F course to an online format. In other instances, they are required to create new courses to teach online. Training for online teaching is rarely required in higher education. In fact, institutions may lack systematic

support for faculty who teach online.

Maxson (2017, p. 45) noted, "There can be no discussion of online quality without addressing the quality of the faculty who facilitate online instruction." This statement captures the importance of faculty development for online instructors. Yet, such efforts often can be limited and ineffective. A workshop, which is a common format, is usually not extensive and does not provide faculty with opportunities to practice using the newly learned knowledge. In terms of content, it is more often focused on technology, rather than pedagogy (Baran, Correia, & Thompson, 2011; Taylor & McQuiggan, 2008;). The narrow focus on technology is not surprising because it is necessary for faculty to know how to use current technology to teach courses online, a new medium that is drastically different from the traditional classroom. The deficit in instructors' technological knowledge is perhaps more observable than that in pedagogical knowledge. Another drawback of workshop-type faculty online teaching training programs is that they are likely to be one-size-fits-all. Workshops do not usually allow faculty to delve deeper into issues presented due to the limited time that workshops are allotted. Participants' prior experience and skill levels are often not given enough consideration in the design and implementation of the programs (McQuiggan, 2011). For common formats and topics of faculty development programs, see the next chapter.

To sum up, professional development for online instructors is of great importance in that instructors are the ones who design and implement online courses, which can generate revenue to alleviate an institution's financial stress. However, if faculty do not apply the online teaching strategies to better meet the needs of online students, student satisfaction is likely to decrease (Barczyk, Buckenmeyer, & Feldman, 2011), causing online course enrollment to decline, which has adverse impacts on the institution's bottom line. Preparing faculty members for online teaching

is, therefore, a critical component of faculty development.

To better support faculty in online teaching, the format and content are key elements to consider. Understanding faculty's perception as online learners in a course that teaches them how to teach online is helpful in determining whether such format is a useful to them. What faculty learn from online teaching training programs and apply to their own teaching are necessary aspects for examining the utility of such programs.

1.2 Problem of Practice

As mentioned earlier in this chapter, professional development for online instructors is of great importance in that instructors are responsible for designing and facilitating online courses that help higher education institutions reach a larger student population and generate more revenue. Thus, helping faculty to teach online is an important aspect of faculty development at a university like Pitt. This dissertation in practice describes a formative evaluation of the usefulness of the Pathway that I designed and facilitated at the Teaching Center at Pitt. The Pathway is a semester-long faculty development course that prepares faculty to teach online. Its goal is to help instructors who are new to online teaching or those who would like to strengthen their online teaching to develop design and facilitation strategies for online teaching, using appropriate instructional technology.

To better support faculty in online teaching, the format and content are key elements to consider. Because the Pathway is centered around the idea of making participating faculty as students in the learning process in a hybrid course, which is uncommon in faculty development, it is beneficial to investigate the benefit of the faculty's the role as students in the Pathway. How

useful the participating faculty found the Pathway and their role as learners was examined in this study. Additionally, it is important to understand what the faculty participants learned and implemented in their courses, since the main purpose of the Pathway is to empower faculty to teach online. Through this dissertation, I aimed to understand these aspects in the Pathway offered at Pitt. The first (Fall 2017) and second (Spring 2018) iterations were included in this study. I consider this also an action research study because I am the designer and facilitator of the Pathway, and I investigate its usefulness for the purposes of improving it for future participants. Iterative improvements are necessary in enhancing program quality. Hence, the findings of the investigation will inform the improvement of the Pathway one iteration at a time.

1.3 Inquiry Questions

This dissertation in practice addresses the following inquiry questions:

1) To what extent did the participating faculty find the Pathway useful?
2) How did participating in the Pathway as online learners contribute to faculty's learning about online teaching?
3) What did the participants learn in terms of pedagogical strategies and technology use in the Pathway that they applied to their face-to-face (F2F) and online teaching?

The first inquiry question addressed the participating faculty's overall satisfaction of the Pathway. The second and third inquiry questions were designed to investigate two aspects of the participants' learning—their perceived value of being learners in the hybrid course on how to teach online, and the specific knowledge they learned from the Pathway and applied in their own F2F and online courses.

1.4 Demonstration of Excellence

Pitt has no policy with regard to instructors' training for online teaching. At the time of the design of the Pathway, no needs analysis was conducted because designing and operating the Pathway resulted from a directive within a short timeframe. However, the findings can inform the Teaching Center, where groups of faculty members would benefit from the Pathway, and shed light on what worked or what didn't in terms of facilitating faculty's preparation for online teaching.

Faculty development for online teaching is an area that needs further exploration. Other higher education professionals, particularly faculty developers would be interested in the format, content, and results of faculty development programs that aim to empower faculty to teach online. The Pathway has the potential to serve as a model for training faculty to teach online in other higher education institutions. The findings of this study will contribute to the exploration of practical and effective faculty development programs for online teaching.

1.5 Stakeholder Analysis

This dissertation in practice is of importance for several reasons and key stakeholders are concerned with the Pathway's purpose (training faculty to teach online) and success. The following paragraphs provide analysis of the different stakeholders, namely, faculty, students and parents, departments and schools, Pitt and its Teaching Center, and me as the designer, facilitator, and evaluator of the Pathway.

1.5.1 Faculty

More than 6.3 million students in the United States enrolled in at least one online course—that is more than 31% of the entire student population (Seaman, Allen, & Babson Survey Research Group, 2018). Although there are no specific statistics that reveal the number of online courses offered at Pitt, my consultation experiences in the past five years lead me to conclude that most departments include online course offerings in their programs.

Faculty typically have the power to design and make changes to their online courses, so their stakes in them are high. Faculty members are often assigned to teach an online course or adapt one from the F2F format. For example, Lovvorn, Barth, Morris, and Timmerman (2009) found that in a small institution, online instructors were chosen because they were willing to teach online, rather than because they were suited for the task. A small number of instructors come to Pitt's Teaching Center for assistance, and an even smaller number of them seek assistance on teaching online. For instance, Pitt *Online* is a division of the Teaching Center, which provides graduate-level professional programs commensurate with those offered to students on the Oakland campus. Instructional designers at Pitt *Online* offers guidance and thorough support to faculty who would teach in those online programs. They typically work with faculty on a one-on-one basis from the beginning of the course planning stage until the completion of course development. They continue to be available for consultation and problem-solving after the course is launched. The total number of faculty assisted by Pitt *Online* over the course of its ten years of existence is in excess of 200. Additionally, Pitt *Online* instructional designers and instructional technologists have also interacted with dozens of other administrative faculty over this ten-year period to plan and manage aspects of course development (L. Kearns, personal communication, April 1st, 2019). The number of faculty Pitt *Online* served is a small fraction of Pitt's 4762-member faculty

(University of Pittsburgh Office of Institutional Research, 2019).

Lovvorn et al. (2009) recognized that one of the most challenging aspects of online teaching was how to develop online teaching expertise. It is challenging to design and facilitate an online course successfully. The Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000) in Figure 1 (Garrison, 2007, p. 62) illustrates three types of presence that need to be balanced in an online course. They are cognitive presence, teaching presence, and social presence (Garrison, 2007). Making these three types of presence work in tandem is what makes online courses different from traditional courses and difficult for faculty to design and implement (Garrison, 2007; Song & Won, 2013). More detailed explanation of these three types of presence is in the next chapter.

Figure 1 The Community of Inquiry Framework

Very often, instructional technologies, such as Web 2.0 (second generation of the World Wide Web) tools (e.g., VoiceThread, Popplet, Linoit, and many others) that engage learners in collaborative learning and sharing, can be used to help achieve the three types of presence. These

Web 2.0 tools reap the benefit of the second generation of the World Wide Web, which allows users to collaborate and generate content virtually, whereby encouraging sharing and collaboration in learning. However, based on my observation over the years working as an instructional designer and faculty consultant, faculty members are mostly only aware of the existence of Blackboard—also known as CourseWeb at Pitt and is the Learning Management System (LMS) Pitt uses—and use it merely as a repository of course materials. Blackboard's built-in blogs, wikis, journals, and discussion forums are either underused because they are unknown to faculty or misused because their functions were unclear to faculty.

Quality online courses often emulate the F2F instructional setting with the balanced presence of the three forms of interaction: learner-instructor, learner-content, and learner-learner (Garrison, 2007). As one might conclude, to build and implement a quality online course requires in-depth knowledge and experience of curriculum design, activity design, and course facilitation that foster online learning. Some faculty may be aware of the aforementioned challenges in online courses. They recognize that in some programs, the students enrolled may be very different from traditional students in that they may have fulltime or part-time jobs and have family to take care of. In other words, studying is not their only priority. Those students' time dedicated to studying for online courses might not be as much as what the faculty have expected, so they may *perceive* a need to simplify the course content. On one hand, the simplification approach may be less appealing to faculty members who hold high standards and take pride in optimizing students' potential. On the other hand, because online courses are more challenging to design and teach, faculty members, especially those preparing for tenure promotion, may not want to spend the time required to effectively teach an online course.

Extended from Lee Shulman's (1986) construct of pedagogical content knowledge (PCK),

which illustrates the interplay of pedagogical knowledge and content knowledge, the TPACK framework in Figure 2 (mkoehler, 2011) provides a way to categorize the different types of knowledge involved in successful online teaching. Content knowledge, pedagogical knowledge, and technological knowledge are three necessary primary forms of knowledge for online instructors. Content knowledge (CK) refers to the knowledge of the subject matter to be taught. Pedagogical knowledge (PK) is the pedagogical approach to teaching the subject matter. Technological knowledge (TK) refers to the knowledge of technology, including identifying technologies that can be used for teaching. The TPACK framework emphasizes the intersection of these three forms of knowledge—pedagogical content knowledge (PCK), technological content knowledge (TCK), and technological pedagogical knowledge (TPK), as well as technological pedagogical content knowledge (TPACK). As illustrated in this framework, online instructors need TPACK knowledge (Koehler & Mishra, 2009). Faculty may be experts in their own fields, but they may lack technological knowledge or pedagogical knowledge that enable them to teach content knowledge in their fields. The Pathway offers an opportunity for participating faculty to acquire TPK that enables them to effectively teach online. Details of the Pathway are in the latter part of this chapter.

Most faculty would like to improve their teaching, but, like at many universities, the current structure of incentives at Pitt motivates them to prioritize research, rather than teaching (McMurtrie, 2019). Faculty, especially fulltime faculty, are evaluated mostly based on research publications and grants they are able to bring in. Hence, it is logical for faculty, especially those who aim to get tenured, to devote more time on research and publication than to develop their own instruction or participating in professional development. For adjunct faculty (also referred to as ‘casual’, ‘part-time’, or ‘sessional’), they may have to work two or more jobs to make a living

because they are not necessarily gainfully employed, limiting their time to focus on improving their online teaching knowledge and skills. Nevertheless, what is taught in the Pathway may motivate adjunct instructors to participate because the training may be helpful in their search for a fulltime teaching position.

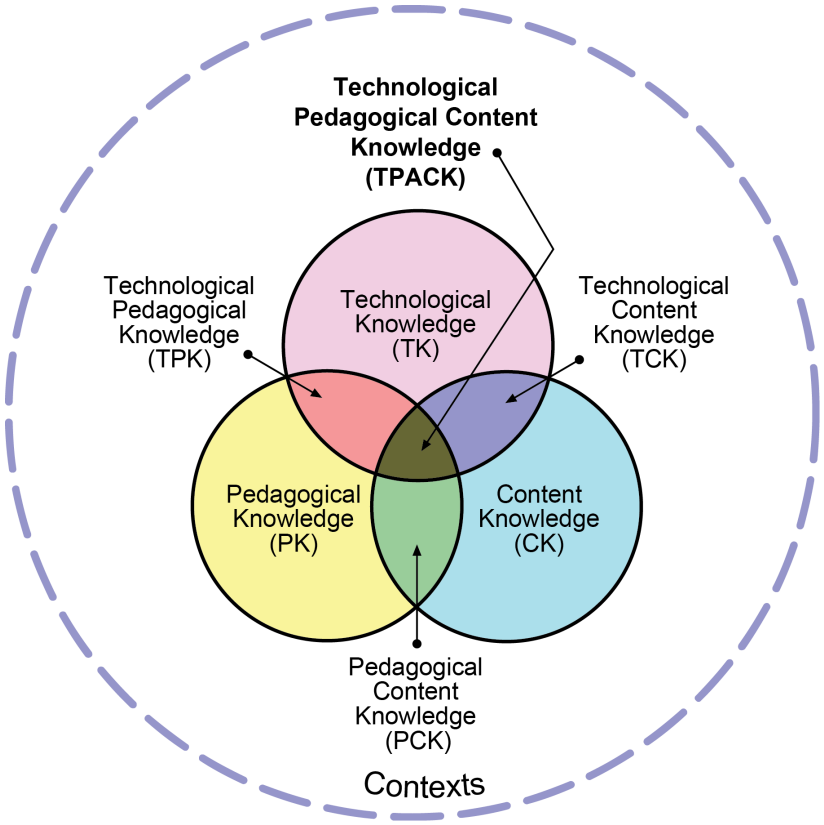

Figure 2 The TPACK Framework

1.5.2 Departments and Schools

University department heads and school administrators see the need for online offerings as a way to address the ever-growing student population. On the other hand, online courses can reach groups of students who may not otherwise be able to enroll due to their busy schedules and proximity to higher education institutions. This is also a way to increase the student population. In

addition, as a strategy to increase revenue, online course offerings are available to international students, most of whom rely on personal and family funds (Institute of International Education, 2018), as opposed to student loans. Departments may use online programs to give them a competitive edge. For example, the University of Southern California has a large and robust online nursing program. Pitt's School of Nursing looked to that program and started to convert a small number of traditional courses to the hybrid format in order to help the nursing program to be up-to-date and keep up with other universities' nursing programs, especially those offering online learning options. An online program may serve as a flagship program for a school, which could help boost name recognition by both students and employers.

As previously stated, the challenges of designing and facilitating an online course may be daunting, but departments or schools are often unaware of the time and effort needed in the design and facilitation process. Faculty may perceive that the online format is *only* a format change and that as long as the content is put in the LMS like Blackboard, the course is ready for delivery. This view is problematic in that courses that may not be best taught online could be chosen for instructors who are ill-prepared to teach online, giving them little time and room to adjust course goals, materials, and activities to better fit the online format. Administrators may also underestimate the challenges, such as the need for faculty support and professional development for online teaching, the necessity of appropriate technology, and the amount of effort and time needed for preparation and facilitation of a hybrid or online course. Hence, instructors may not be well-prepared and may not be given enough time and resources to adapt, develop, and facilitate online courses. Ideally, department and school administrators should be aware of the challenges of implementing online courses and what it takes to prepare faculty members to be ready for online teaching. The Pathway may be welcomed by departments and schools that are aware of those

challenges and experiencing a difficult time helping online faculty to develop online teaching competence.

1.5.3 Students and Parents

Students are the 'end users' of online courses, for they are the consumers of the knowledge taught in those courses. Therefore, they have a lot at stake in the success of online courses or programs. They benefit from a well-designed and well-facilitated online course because the knowledge learned in the course can potentially teach them how to think and prepare them for the job market. Some of the courses may fulfill general education requirements. For working students, online programs allow them to receive education that does not impact their work schedules (Mueller et al., 2013).

Parental attitudes toward online learning tend to be generally positive (Bailey, Barton, & Mullen, 2014). Many parents may be paying full or at least part of the tuition for their children. With the rising costs for tuition, room and board, pressure on them and their children has never been greater. In their eyes, whatever their children get from online courses should prepare them to join the workforces. Getting a professional job for their children will increase the chance of recuperating their own investments in the future.

It is important to recognize that not every student is prepared well to take an online course. Learning in an online course provides advantages in the flexibility of time, space, and learning tools, but it may also be challenging to students who lack self-discipline, motivation, and time management skills. Some of the students may also lack technology skills to study in an online environment. Due to high tuition costs, many students may need to take a part-time job. Most non-traditional students have obligations or external loyalties other than study—a part-time or fulltime

job, family, as well as civic and community duties. They must see value in taking an online course because their time and financial resources may be very much limited. If their learning experience in the course is not satisfactory, they may hold low opinions of online learning, which is not conducive in that they may lag behind or drop out completely. In their view, their return of investment is low.

Students who have never studied in an online course or program may feel disorientated because of the delivery format and nature of interaction with instructors and classmates are drastically different from that of traditional F2F courses. They may feel overwhelmed and isolated because they typically would not interact with the instructor or classmates the same way they do in traditional courses (Brown, 1996; Song & Yuan, 2014; Wegerif, 1998). Those feelings may come as a surprise to students, which can demotivate them in the pursuit of knowledge in an online environment. Student counseling may not be available to help them face learning challenges since they are often not on campus. Or, there may not even be such service to support them in online learning at all.

If an online course is well designed and facilitated, students will feel less overwhelmed and their learning experiences can be constructive. Improvements in the instruction and design of online courses should lead to better online learning experiences and outcomes for students. If students are able to meet the learning goals of an online course, their parents may consider their investment worthwhile. It is unknown the extent to which parents share with other parents their children's online learning experience, but they are likely to recommend good online programs to others, if their children' learning experience is satisfactory. This underscores the importance of professional development programs like the Pathway that are designed to help instructors develop quality online courses.

1.5.4 The University of Pittsburgh and Its Teaching Center

Pitt is an R1 (research-oriented) institute and faculty have many demands on their time. It is possible that more time spent on professional development for online teaching may be perceived as less time spent on research and innovation, which may pose a challenge to faculty who are evaluated according to multiple criteria.

One of Pitt's strategic planning goals is to extend its global reach. Pitt also emphasizes on excellence in delivering education to students. Helping online faculty to become proficient in online teaching is in line with both goals. The success of its online offerings may contribute to increasing Pitt's name recognition internationally. Hopefully, the emphasis on excellence in education will translate into recognition of faculty's teaching efforts and professional development in online teaching. A potential loss at risk would be the perceived lessened time spent on research, if instructors participate in the Pathway, which lasts a semester.

At Pitt, most faculty who learn to teach online receive training in the form of consultation from instructional designers within one of two structured programs: Pitt *Online*, which is previously mentioned in the section about faculty, or through Pitt's College of General Studies, where courses have been offered at a distance for more than 30 years. Both programs require faculty to work one-on-one with an instructional designer from the Teaching Center throughout the development or revision of their courses. Neither program offers a semester long experience where the instructor is placed in the role of the student with other faculty members. Aside from those two programs, there are other online graduate courses offered at Pitt. However, few online instructors seek assistance from the Teaching Center.

The Teaching Center has many resources available to all faculty. For example, it has the previously mentioned semester-long Pathway, on which is the focus of this dissertation in practice.

Additionally, the Teaching Center offers 90-minute workshops on best practices of online teaching and technology use, teaching and learning consultants like me who help solve teaching and learning (F2F and online) problems, class observations and analysis, focus groups, workshops about F2F and online pedagogies and instructional technologies, as well as books and articles about such topics. However, the faculty who fully utilize the center are the minority. Faculty are often unaware of the many services that the center offers to faculty. Some adjunct faculty, for instance, assumed that the services are available to only tenure-track instructors. Other faculty may simply not have much time for extensive consultation.

For consultations, faculty members typically see the consultants one at a time on an as-needed basis. Although each course tends to be unique, teaching online requires almost the same set of foundational knowledge and skills. Some technological and pedagogical knowledge can be imparted to faculty in the format of a workshop, but in reality, attendance has been low. Some workshops had just a handful of participants and some had to be cancelled due to low enrollment. A possible remedy could be the Pathway, which is an online course that is in the hybrid format. Faculty who choose to enroll meet (primarily F2F but with video conference options) three times during the course, and they work asynchronously on various tasks that allow them to build a sandbox practice course site on Blackboard. This approach is designed to allow the Teaching Center to reach more faculty members at one time and help them transfer knowledge learned in the Pathway into practice.

1.5.5 The Author

I have been an instructional designer and faculty developer for more than a decade, advising faculty on curriculum design and course development, including online course

development. Since earning a graduate degree from a hybrid instructional design program, I have taught faculty online courses on curriculum design, how to teach online, and other subjects. I am intimately familiar with challenges and strategies of teaching online. As a teaching and learning consultant at the Teaching Center, I designed and facilitated the Pathway in 2017. I am also the investigator who evaluated its usefulness. In a sense, this dissertation is not only a program evaluation, but also an action research study.

1.6 The Pathway

1.6.1 Pathway Format

Since the Pathway was designed to help faculty develop online teaching strategies and many faculty do not have formal training on teaching (Elliott, Rhoades, Jackson, & Mandernach, 2015), and do not have experience with online teaching or learning (Lawler & King, 2000), it made sense to use a hybrid format to enable them to experience learning in a hybrid environment. Some faculty development professionals have taken a similar approach to enable future teachers and in-service instructors experience online learning to develop online teaching skills (Duncan, 2005; Journell, et al., 2013; Wilson & Stacey, 2004). For instance, Duncan (2005) described an online course for Canadian preservice teachers. Journell et al. (2013) wrote about a ten-week hybrid course with five F2F sessions for doctoral students in a K-12 teacher education program. Both of these courses were designed to put preservice teachers in the shoes of online students and learn how to teach online. At the very least, having an opportunity to learn a subject matter online allows faculty to get a sense of what online learning feels like, as it "can enable and inspire instructors to

acquire radically new and different understandings of pedagogy, as well as transform practices entrenched in university traditions that are less effective in promoting higher-order learning" (Kreber & Kanuka, 2006, p. 125). After studying why some Carnegie Mellon University's faculty members resisted using technology and making changes, Smith & Herckis (2018) argued that "Faculty who construct their models of good teaching based on their own experiences as students often explicitly or implicitly seek to recreate these personal experiences in their role as faculty" (p. 21). The course design principles and student engagement strategies included in the Pathway can be useful for faculty's development of models of good teaching and fundamental teaching skills applicable in both F2F and online environments. Participants access online course content asynchronously and complete activities that allow them to communicate with each other either synchronously or asynchronously.

The Pathway is offered at the beginning of the fall and spring terms, which typically starts in the second week of the term. It is 14 weeks long and has seven bi-weekly modules. Three F2F class meetings take place on Pitt's Oakland campus at the beginning (Module 1), mid-point (Module 4), and the end (Module 7) of the Pathway. Remote participants from other campuses like Johnstown, PA can join the F2F meeting virtually via web conferencing platforms. The Pathway can be viewed as a hybrid academic course with module assignments that simulates real online learning. Participants' experience as online learners in this hybrid program could empower them to understand challenges their online students might face, what would and would not work in terms of teaching practices in an online course, as well as how to communicate with students effectively in an online environment. Hence, the Pathway is also referred to as a 'course' throughout this dissertation. Appendix A shows details of the course structure and content of each module. Design principles of the Pathway are discussed in the next chapter.

Ideally, participating faculty's learning experience can inform them on how to teach online in the future. The goal is for them to use online teaching strategies learned in the Pathway and their learning experience from the viewpoint of online students to form a framework to develop online teach strategies. Such teaching strategies would enable their students to have enhanced learning experiences.

1.6.2 Pathway Participants

The maximum number of participants allowed in one iteration is 12 based on available resources at the Teaching Center. The Pathway is open to all fulltime and part-time faculty at Pitt. Faculty from regional campuses are encouraged to participate since web conferencing platforms can be used to enable them to join the F2F sessions. Upon successful completion of the Pathway, all participating faculty would receive a certificate of completion, and their department chair would be notified, too. For fulltime and part-time faculty whose contract is shorter than 12 months, they would receive a $300 stipend upon completion of all deliverables of the Pathway in addition to the certificate of completion.

1.7 Chapter Summary

This chapter started with the trend of growing numbers of online courses in education and the need for TPACK for online faculty, which call for faculty development programs for online teaching. The current dissertation in practice, which can be considered as both a formative program evaluation and action research, was situated in such backdrop. The usefulness of Pitt's Teaching

Center's Pathway whose aim is to help prepare faculty to teach online is the focus of this dissertation in practice as it is important to the main stakeholders analyzed in this chapter. The three inquiry questions were designed to address the overall usefulness of the Pathway, explore the benefits of participating faculty's role as learners in the Pathway, as well as identify what pedagogical strategies and technologies the faculty participants of the first two iterations (Fall 2017 and Spring 2018) learned and applied in their own F2F and online courses.

2.0 Literature Review and the Design of the Pathway

The purposes of this formative program evaluation were to evaluate the overall usefulness of the Pathway, understand the contribution of faculty's role as online learners, and understand what participating faculty learned from the Pathway and applied in their teaching. Although there are studies that document barriers that deter faculty from teaching online, as well as faculty's online teaching experiences (Conceição, 2006; Conrad, 2004; Shafer, 2000; Torrisi & Davis, 2000; Whitelaw, Sears & Campell, 2004), little research has been conducted on effective formats of online faculty development programs and what participating faculty members learned and applied in their teaching. Thus, this program evaluation bridges a gap in the literature on preparing faculty for online teaching.

This literature review situates the problem of practice in a broader perspective of the growing trend of online course offerings in higher education, what online teaching entails, faculty's barriers and experience of teaching online, as well as faculty development for online teaching. The design of the Pathway was based on the current literature of online teaching and faculty development. A discussion of the design rationale is at the end of this chapter.

2.1 Background of Online Teaching

With the advancement of technology, online courses have become increasingly common. In fact, it is part of the college experience in that students are likely to take at least one hybrid course during their study (Sener, 2010). Learners, especially adult learners, are attracted to the

flexibility online formats afford (Cavanagh, 2012; Lotti, 2011; Mason, 2006; Park, 2007). The demand has been driving the increasing number of online courses offered (Allen & Seaman, 2016). In the past ten years, online enrollment has been increasing by double-digit percentage points since 2016 (Allen & Seaman, 2016). The trend of online teaching in higher education is growing in response to great demands. In a recent study, more than 60% of surveyed higher education institutions reported online offerings (Bailey et al., 2014). Many courses are in either hybrid or fully online format as a way to reach students who may not be in the same location as the institute, among which many are non-traditional students. While higher education institutions enjoy the revenue online courses or programs generate, faculty are in the center of the changes online instruction entail, as well as the challenges online instruction pose to their assumptions of teaching and learning (Wiesenberg & Stacey, 2008). Instructors may be pressured to teach online and challenged to teach in an unfamiliar medium (the internet) that is very different from what they have been used to, especially when they have never learned or taught online at all.

2.2 Literature Converges on Three Main Roles for Online Instructors

Instructors recognize that teaching in an online environment differs from teaching F2F courses in that teaching online is unfamiliar and their roles change (Conceição, 2006, Conrad, 2004; Diekelmann, Schuster, & Nosek, 1998; Morris, Xu, & Finnegan, 2005). Baran et al. (2011) conducted a literature review on online teacher roles and found that online teaching required that faculty function in various areas. For example, online instructors play their roles in these four different areas: pedagogical (facilitate learning), social (facilitate relationship building among group members), managerial (establish procedures for discussion and develop activities), and

technical (use technology and learning interface) (Berge, 1995, as cited in Baran et al., 2011). Palloff and Pratt (1999) also recognized these roles, which entail that online instructors need to not only be subject matter experts who know how to teach the subject, but also use technology to facilitate teaching and learning, as well as manage the course materials and students' learning.

Coppola, Hiltz, and Rotter (2002, as cited in Baran et al., 2011) believed that a virtual professor in a synchronous learning environment had changing roles in affective, cognitive, and managerial domains, which means that they need to be able to address affective aspect of learning, present knowledge and help students learn, and manage the virtual class space and course materials. Apart from academic support in students' handling with cognitive and intellectual issues in the course, instructors also need to offer support in the affective aspect of learning. Goodyear, Salmon, Spector, Steeples, and Tickner (2001, as cited in Baran et al., 2011) described an online instructor as a process facilitator, counselor/adviser, assessor of learning progress, researcher, content facilitator, technologist, designer, and administrator/manager.

Garrison, Anderson, and Archer (2000) further delineated online instructors' function in the three areas of social, cognitive, and teaching practice. As introduced in the CoI model in Chapter One, Garrison et al. (2000) proposed three areas that warrant online instructors' attention: teaching presence, social presence, and cognitive presence. Teaching presence refers to course structure and facilitation of students' construction of knowledge by the instructor. Social presence is understood as a positive online learning atmosphere that supports learners to reach their learning objectives within the community. This is usually created by the instructor's fostering trust and interpersonal relationships (Garrison, 2007). Cognitive presence is concerned with how students co-construct experience and knowledge collaboratively, rather than individually in an online learning community, through analysis of content, questioning, and challenging assumptions

(Garrison et al., 2000). Learner's discussions and reflections through quality communication with each other are crucial in their learning (Garrison, 2007). To achieve these three types of presence, it is necessary to use technology pedagogically due to the online nature of courses. In other words, online instructors must pay attention to students' affective factors and help students to bond with each other, design and structure the course to present content knowledge, and facilitate students' collaborative learning and co-construction of knowledge.

The CoI framework illustrates specific and necessary aspects that need to be considered in the design and facilitation of a hybrid or fully online course. If it is not properly designed, an online course can be overtly text-heavy (Song & Yuan, 2015). If it is not facilitated well, learners may feel they are isolated and learning on their own. Based on the CoI framework, Song and Won (2013) shared specified activities they did under the three types of presence when facilitating a 16-week online faculty development course, which had two methods of delivery—asynchronous learning with Blackboard and synchronous instruction through Adobe Connect, a web conferencing platform. Both the asynchronous and synchronous learning incorporated all three types of presence, providing a meaningful classroom experience in an online environment. Appendix B shows the learning activities and practices in that course based on the CoI framework.

To be successful, online course instructors should consider the three types of presence (Garrison, et al., 2000; Song & Won, 2013; Song & Yuan, 2015). However, it may be challenging to reexamine their role as an instructor. They will realize that they need to pay close attention to course design and details, and be more facilitative and supportive in their students' learning. Due to the increased student responsibility and participation in the online learning environment (Barker, 2003; Gallant, 2000; Jaffee, 2003), faculty's role as a subject matter expert who passes on knowledge to students expands. For instance, McQuiggan (2011) articulated the multiple roles as

the following: curriculum/content developer, facilitator of students' learning. Song and Yuan (2014), and Moor (1989) considered instructors as instructional designer who deliberately design opportunities for learner-learner, learner-content, and learner-instructor interaction. Online teaching does not entail only going into a classroom and lecture; rather, it involves offering technical and non-technical student support, administration, and tutoring students (McQuiggan, 2011). The multitude of responsibilities placed on faculty may be a barrier for them to explore the new task of teaching online.

The aforementioned models and research studies converge on three main roles as online instructors, as reflected in the CoI framework: 1) design, organize, and manage the course online, 2) use technology pedagogically to help students establish bonds, and 3) facilitate co-construction of knowledge in a community of learning in which they support each other's learning as a coherent group; this also include supporting students' affective side of learning.

The complexity of instructor roles, online course design, and facilitation is often unknown to faculty. Instructors know little about the new medium they are entering, and rely heavily on F2F experiences and their own pedagogy (Conrad, 2004). In Conrad's (2004) study, five interviewed instructors who taught in an online program at a Canadian university reflected that they perceived their roles mainly as deliverers of content. The results of the study showed the instructors had little awareness of issues like the role of community in an online learning environment, collaborative learning, and learners' social presence. Cobb (2014) asserted that faculty learned to teach online from real examples and contextualized product-focused presentations, through the overall experience of professional development, and by engaging others. The reality of teaching online and the realization of their role changes may make them feel they are novice teachers again (Diekelmann et al., 1998; Gallant, 2000; King, 2002; Lawler, King, & Wilhite, 2004). They may

feel their identity as an expert challenged, resulting in resistance to attempting to teach online (McQuiggan, 2011). The next section presents an analysis of faculty barriers to online teaching.

In designing the Pathway, I highlighted online instructors' functions in ensuring the three types of social, teaching, and cognitive presence working in tandem by including the CoI framework into Module 2. While the participating faculty learn about the CoI framework, they may experience my facilitation of the Pathway, which demonstrates how to achieve these three types of presence. Their learning experience in the Pathway, in turn, may help inform them on how to teach online.

2.3 Barriers to Teaching Online

Despite the prevalence of and demand for online courses or programs, many instructors are hesitant to teach online for several reasons. First, their impression of online education may be negative. For example, in Allen & Seaman's (2016) national study, only 29.1% of all surveyed chief academic officers reported that their faculty "accept the value and legitimacy of online education" (p. 6), perhaps due to unfamiliarity with it.

Second, instructors realize preparation for online courses can be labor-intensive (Choi & Park, 2006; Hinson & LaPrairie, 2005) and requires attention to detail (Hinson & LaPrairie, 2005). Compared to F2F courses, online classes require significantly more time spent on all areas of online courses (Cavanaugh, 2005). For instance, Cavanaugh (2005) reported that an F2F courses required 62 total hours, while an online course required 155. Given the nature of online courses, everything, including handouts, needs to be planned and prepared ahead of time; this differs from teaching a F2F course in which a certain degree of spontaneity is allowed (Conceição, 2006;

Diekelmann et al., 1998). To some instructors, this may be a deterrent as they know online teaching requires tremendous amount of planning, development, and organization of materials done ahead of time. To faculty who are already busy, this is a challenge as they simultaneously juggle different priorities, such as research, grant application, academic publishing, and teaching.

Third, online teaching does not necessarily provide faculty with the same type of contact with their students, so it may not be as appealing to faculty who value F2F time with students (Conrad, 2004; Diekelmann et al., 1998). The online delivery format may also result in reduced human interaction, which concerns some faculty members (Ward, Peters, & Shelley, 2010). Additionally, online teaching requires more learner participation (Jaffee, 2003), and it enables a shift of instructional approach from teacher-centeredness to learner-centeredness (Barker, 2003; Conceição, 2006; Conrad, 2004; Gallant, 2000; Hinson & LaPrairie, 2005; Jaffee, 2003; Tallent-Runnels et al., 2006). What this shift entails is that learners need to take more responsibilities of their own learning and instructors assume the role of a guide to learners (Barker, 2003; Gallant, 2000) or a facilitator of students' learning (Institute for Higher Education Policy, 2000; Jolliffe, Ritter, & Stevens, 2001; National Education Association, 2000; Palloff & Praff, 1999, 2001; Shearer, 2003;). Instructors may find it difficult to motivate online students and facilitate communication in an online environment (Choi & Park, 2006).

Fourth, faculty's perception of online learning is mixed (Felege & Olson, 2015). Allen and Seaman (2013) reported that 77% of surveyed academic leaders believed online learning was as effective as or better than F2F learning, whereas 23% viewed it to be inferior to F2F learning. They also found that the educators at institutions that had online course offerings were much likelier to hold a positive view toward online learning than those at institutions that do not offer online courses (Allen & Seaman, 2013). Some instructors hold the belief that online learning is not

appropriate for traditional-aged students (O'Quinn & Corry, 2002). In 2000, The National Education Association (NEA) surveyed its higher education members. A total number of 402 distance faculty and 130 traditional faculty responded to the survey that focused on their perception of and attitude toward distance education. The findings showed that 50% of the faculty had negative or uncertain feelings towards online learning. Faculty concerns included lack of standards of online courses (Institute for Higher Education Policy, 2000; NEA, 2000). The quality of online course can be inferior to that of traditional F2F courses because student interaction is usually decreased in online courses (Dooley & Murphrey, 2000; Jones & Moller, 2002). This is not to say that online courses are inferior to traditional F2F courses by default. It is uneasy to design and implement a good online course due to the many factors and areas elaborated in the previous section about instructor roles in an online course. It is worth noting that the concerns about the quality of online courses arise from instructors who have never taught online before (Betts, 1998; Dooley & Murphrey, 2000; Jones & Moller, 2002; O'Quinn & Corry, 2002; Schifter, 2000). These instructors believe that online teaching would sacrifice course quality, consequently they would rather not teach online. Dooley and Murphrey (2000) found that faculty were also concerned about misinformation available online and would rather not risk being perceived as having similar content online. Perhaps some of the faculty who hold negative perceptions of online teaching and learning have never taken an online course or their prior online learning experience was not satisfactory. Ulmer, Watson, and Derby (2007) found significant difference in perceived value of distance education between faculty with and without teaching experience in distance education.

In addition to faculty's negative perception of online teaching and learning, their resistance to change (Berge, 1998; Parisot, 1997; Smith & Herckis, 2018; Wingo, Ivankova, & Moss, 2017) and resistance to using technology (Smith & Herckis, 2018) may also deter them from teaching

online. In Berge's (1998) study, 20% of the surveyed faculty were reluctant or unable to cope with changes online teaching often requires, which includes using technology. These faculty members often had not integrated technology in their traditional F2F courses, so teaching an online course is a daunting task to them.

Finally, what may be inhibitors for faculty to teach online are concerns about unclear copyright policies and intellectual property rights (Berge, 1998; Dooley & Murphrey, 2000; O'Quinn & Corry, 2002), lack of time for preparation, lack of scholarly respect in tenure application process and promotion, lack of training in how to teach online (Baldwin, 1998; Bonk, 2001; Lee, 2001; Northrup, 1997; O'Quinn & Corry, 2002; Parisot, 1997). Institutional support also plays a role in motivating faculty to attempt to teach online. When they feel the presence of institution support, they are more motivated and dedicated to online teaching (Lee, 2002; Lloyd, Byrne, & McCoy, 2012). Betts' (1998) study showed that faculty were more likely to engage in online teaching when administration eliminated inhibiting factors, such as heavy workload and lack of technical support and release time, among others. Ideally, both administrators and faculty need to understand the value of distance education and need to participate in professional development programs that focus on it (Betts, 1998).

The above-mentioned factors are important to consider when supporting faculty who may have negative perceptions of teaching online. I took these factors into consideration in the design and content of the Pathway. As shown in Table 2 on page 55, the modules focusing on demystifying online teaching and learning, copyright and accessibility, and instructional technology use are intentionally provided to enable clearer understanding of these crucial aspects of online course design and facilitation. The literature shows that faculty members who have not experienced online teaching or learning are likely to misunderstand that online courses are inferior.

Letting faculty assume the role of students in the Pathway may help them gain first-hand experience of learning online and establish their own views of online teaching and learning.

2.4 Faculty Development Initiatives Vary in Format and Focus

Prior to the beginning of the 20th century, faculty development was only concerned about character development and other personalities, but the focus later shifted to instructional skills and aptitude because faculty were considered subject matter experts (Gaff & Simpson, 1994). Sabbaticals, conferences, travel and research grants, as well as fellowships were designed to help faculty stay up to date in their fields (Gaff & Simpson, 1994). In the past few decades, greater attention has been paid to instructional effectiveness in higher education and remains the focus of faculty development (Baiocco & Dewaters, 1995; Meyer, 2014), which gave rise to faculty development that focuses on teaching skills (Baiocco & Dewaters, 1995).

In the 1980's, higher education institutions began to establish teaching centers or instructional development centers (Lawler & King, 2000), some of which are also called center for teaching excellence. No matter what they are called, they all provide faculty development opportunities. Faculty development, educational development, instructional development, professional development, and academic development are sometimes used interchangeably (Amundsen & Wilson, 2012; Poole & Iqbal, 2011). They all refer to the support higher education institutes provide in order to improve teaching quality and learning experience (Kearns, 2015). Faculty development programs are ubiquitous at most higher education institutes (Elliott et al., 2015), and they are usually optional and in-person (Calderon, Ginsberg & Ciabocchi, 2012; Daly & Dee, 2009; Elliott et al., 2015; Grant, 2004; Hixon et al., 2011; Hornum & Asprakis, 2007;

Kane, 2003; Kukulska-Hulme, 2012; Lackey, 2011; Meyer, 2014; Meyer & Murrell, 2014; Ragan, Bigatel, Kennan & Dillon, 2012; Vaill & Testori, 2012).

Since most faculty, who had extensive training in their discipline, have little or no training on pedagogy for imparting their expertise to students, the value of professional development is intensified in higher education (Elliott et al., 2015). The prestigious professional organization in the United States called Professional Organizational Development Network (2017) denotes that faculty development programs offer opportunities to faculty to develop as teachers and scholars. Central to the professional development offerings or efforts is viewing faculty as primarily teachers, as opposed to researchers. Professionals involved in providing professional development experiences to faculty are called professional developers, instructional designers, or teaching and learning consultants. Their expertise is often in curriculum design, instructional design, observation, and workshop design and facilitation. Their responsibilities often involve providing support to faculty in the said areas.

For smaller institutions that may not have teaching centers, there may be faculty members who have dual appointments as instructors in their home department and as faculty developers who organize professional development events or efforts. Individual schools or departments within the institution may also have faculty who are interested in and qualified to support professional development.

2.4.1 Faculty Development Programming Formats

In general, faculty professional development programs or initiatives can be categorized according to format and focus (Elliott et al., 2015), which are various (Kennedy, 2016). Common formats are formal events like workshops and panel discussions, and informal collaborations at

meetings in which participants share concerns and solve problems (Hornum & Asprakis, 2007). The format can be further divided into the following modes of learning: online, F2F, synchronous, asynchronous, and recurring (Elliott et al., 2015). F2F faculty development includes workshops, seminars, conferences, mentoring, consultations, and others (Boucher et al., 2006; Hixon, et al., 2011). From my own experience in faculty development in two higher education institutions, a teaching center typically offers professional development in the forms of one-on-one consultations, observation and feedback sessions, workshops, panel discussions, seminars, and book discussions. Additionally, faculty development can also include faculty learning communities, which typically consist of a group of six to 15 trans-disciplinary faculty engaging in a collaborative semester- or year-long program in which they discuss a focus related to teaching and learning (Cox & Richlin, 2004).

Felder and Brent (2010) asserted that the limited research suggested a preference for F2F faculty development. Elliott et al. (2015) reasoned that the majority of studies on faculty development focused on programs that targeted on-campus faculty. The research conducted between 1963 and 1980 showed that the most common types of faculty professional development activity were workshops and seminars (Levinson-Rose & Menges, 1981). Consistent with Levinson-Rose & Menges' (1981) findings, Maxwell and Kazlauskas (1992) observed that workshop was the primary format and lamented that faculty participation was low. One of the reasons might be when the researchers conducted their studies, web conferencing platforms on which synchronous or asynchronous faculty development programming rely were not as sophisticated and ubiquitous as they are now. Another important reason might be faculty's limited time, as it is the greatest barrier to participating in professional development programs (Dailey-Hebert, Mandernach, Donnelli-Sallee, & Norris, 2014; Steinert, McLeod, Boillat, Meterissian,

Elizov, & Macdonald, 2009 as cited in Elliott et al., 2015).

As a common F2F format, the one-shot workshop has been criticized for its unpopularity among in-service instructors (Kennedy, 1998). For example, Smylie (1989) found that in-service programs in the form of workshop were ranked last by instructors among 14 possible sources of learning. In contrast, the following were the top-rated sources of learning in the study: instructors' own classroom experiences, consultation with other teachers, independent study, and observations of other teachers. The content of one-shot workshops is usually predetermined. Due to the set time allotted to the workshop and its predetermined content, one-shot workshops are typically inflexible. To overcome drawbacks of the one-shot workshop, researchers and policy analysts made several recommendations: 1) longer in-service teacher professional development programs, 2) engage instructors in identifying training content rather than imposing the content to them, 3) schedule interspersed meetings with classroom practice instead of concentrated meetings, and 4) allow instructors to work in groups, as opposed to in isolation (Kennedy, 1998). With the help of technology, asynchronous learning allows geographically-dispersed faculty to participate in online discussions, self-paced workshops, web-based tutorials, recorded discussions, and other formats (Elliott et al., 2015). The literature reveals that applied, collaborative engagement is critical to the success of faculty development programming, but it offers little guidance on its format (Elliott et al., 2015).

2.4.2 Faculty Development Topics

In terms of the topics of professional development for faculty, different scholars found different topics at different times. Levinson-Rose & Menges' (1981) study of faculty development from 1963 to 1980 found that most of the topics for faculty development were on instructional

methods and strategies. Kennedy (1998) identified the following four: general teaching practices, subject-specific teaching practices, curriculum and pedagogy, and how students learn. Lawler & King (2000) contended that faculty development had been focused on these three areas: teaching effectiveness, adaptation to new student populations, and learning technology. Elliott et al. (2015, p. 162) identified these five areas: practical pedagogical techniques, theoretical approaches (e.g., transformative learning), institution expectations such as LMS training, specific faculty population (e.g., new faculty training), and disciplinary content (e.g., critical thinking in particular disciplines). Even though Levinson-Rose & Menges' (1981), Lawler and King (2000), Kennedy (1998) and Elliott et al. (2015) identified slightly different foci, the overlapping area is pedagogy.

Maxwell and Kazlauskas (1992) found that general teaching skills were often emphasized, but faculty were more attracted to "disciplinary knowledge and specific teaching tasks" (p. 356). After surveying the faculty completed workshops on active learning and technology, Wilhite, DeCosmo, and Lawler (2006) drew a similar conclusion that faculty were more concerned with immediately applicable examples in their own disciplines than with generalized teaching methodology, even though general teaching strategies are usually applicable in teaching regardless of subjects. They are less motivated to attend faculty development programs if they do not find relevance or perceive that they can immediately apply the knowledge (Elliott et al., 2015).

As for the quality and effectiveness of professional development programs, scholars found that the evaluation of these programs did not usually go beyond the satisfaction level of the programs themselves, so they did not generate data to inform subsequent decisions (Centra, 1976; Elliott et al., 2015; Levinson-Rose & Menges, 1981). Within the realm of F2F faculty development, Felder and Brent (2010) argued that programs that promoted interactive exploration and created group collaboration could lead to program success, and that problem-solving and

hands-on exploration were able to yield higher likelihood of implementation of such practices in their teaching. Their argument is in line with the recommendations provided by other scholars (Elliott et al., 2015; Kennedy, 1998; Steinert et al., 2008). It is challenging to objectively measure what faculty learned and the changes they made as it would require subsequent class observations, and it would also require thorough evaluation on faculty's behavioral change and how that translates into students' learning improvement. However, it is necessary in perfecting faculty professional development programs.

In summary, faculty development programs' foci and formats vary. Generic teaching practices are often emphasized and the one-shot workshop format yields low attendance due to its limited length and predetermined content. Busy faculty members are more concerned with disciplinary knowledge and immediately applicable knowledge or practice that are relevant to their own fields. This mismatch might contribute to low attendance rate of workshops, which is a prevalent format of professional development. Research shows that faculty value professional development initiatives that allow active application in their teaching (Steinert et al., 2009). This section focused on faculty development in general. The next section will focus on the literature about faculty development for online teaching specifically.

2.4.3 Faculty Development Initiatives for Online Teaching Vary

While supporting faculty in online teaching is a widely recognized need and universities develop their professional development programs (Cobb, 2014), ways to support them take various forms (McQuiggan, 2011) and content may vary because faculty development professionals "typically rely on commonly held assumptions about what faculty need to know" (Taylor & McQuiggan, 2008, p. 29). It is commonly understood that instructors are likely to teach the way

they were taught, and their teaching is often shaped by their prior learning experience in traditional classrooms (Conrad, 2004; Lawler & King, 2000; Marek, 2009; Smith & Herckis, 2018). Such classrooms are teacher-centered and lecture and discussion are prevalent, resulting in faculty's teaching in a teacher-centered manner (Lawler & King, 2000). As discussed in the first chapter, successful online teaching requires that faculty be able to balance social presence, teaching presence, and cognitive presence, and that they shift from a teacher-centered approach to one that centers the learners. To achieve that, faculty members need to be equipped with technological pedagogical content knowledge (TPACK) as described in the first chapter in that they, as subject matter experts, need to be able to teach their expertise pedagogically using technology. This calls for pedagogically-robust, learner-centered professional development programs that teach faculty how to use technology for teaching. However, many fail to make significant changes to teaching itself, focusing on only the technical side of teaching online and breaking it down into skill sets as opposed to pedagogy (Lawler & King, 2000). Professional development for online teaching needs to enable faculty's teaching change in the fundamentally different online development. As Lawler and King (2000) recognized, although skills, especially technology skills are important, faculty development professionals also need to consider faculty's role changes, the shift toward student-centered teaching, and basic values and assumptions about teaching. It is a misconception that faculty with experience teaching traditional F2F courses can automatically successfully teach online (Lawler & King, 2000).

Although it is known that faculty need training and assistance to transition from teaching F2F classes to teaching online (Palloff & Pratt, 1999; Yuksel, 2009), little is known about the best way to do so (Taylor & McQuiggan, 2008). Some universities like the New Mexico State University, Montgomery College, and Dallas Baptist University mandate training for all faculty

who teach online, but many, including Pitt, made training for online teaching voluntary (Taylor & McQuiggan, 2008).

1) Formats of faculty development initiatives for online teaching

Similar to general faculty development programs, a variety of models of professional development program for online teaching are available in response to the growth in online education (McQuiggan, 2011; Meyer, 2014), from formal F2F workshops, seminars, and structured mentoring programs to informal consultations with mentors/colleagues, instructional designers/technologists; and from instructor-led or fully online self-paced modules to static online resources or references. For instance, the North Carolina State University offers a one-week summer institute in which faculty learn to use tools and pedagogy for online teaching (Taylor & McQuiggan, 2008). The University of Florida has a comprehensive website about various aspects of online teaching, such as student engagement, assessment, and learning analytics (Online Teaching Resources, n.d.). The Indiana University offers short videos on teaching online along with relevant resources (Teaching Online at IU, n.d.). The University of Denver has a three-week fully online course on teaching online (University of Denver, n.d.). Journell et al. (2013) observed that these kinds of professional development initiatives typically belonged to two categories (p. 122): 1) "crash courses" on using an existing LMS like Blackboard without much emphasis on online theories (e.g., Gold, 2001; Pankowski, 2003; Wolf, 2006, as cited in Journell et al., 2013), and 2) a series of short training sessions over an extended period of time (e.g., Maor, 2006, as cited in Journell et al., 2013).

The University of Central Florida has a semester-long course for online teaching using a combination of seminars, labs, consultations, and web-based instruction (Teach Online, n.d.). Cobb (2014) reported that the College of Humanities and Social Sciences at Kennesaw State

University offered a compulsory course called "Build a Web Course" in which faculty would "participate in authentic and applied learning in the role of an online student" (Cobb, 2014, p. 18). The course was 12-weeks long and consisted of eight F2F and four online sessions. Each session was two hours. By the end of the course, the faculty would develop a hybrid or online course which must pass the review process described by Quality Matters (n.d.), a prominent non-profit organization that trains online instructors and provides guidelines for ensuring online course quality. "All faculty who successfully complete the professional development by attending all 12 sessions and presenting part of the course they developed earn a certification of participation, the Quality Matters certification, and a $3000 stipend" (Cobb, 2014, p. 18-19). At Pitt, in addition to a 90-minute workshop and a self-paced online presentation on online teaching, the Teaching Center offers a more intensive, semester-long hybrid course—the Pathway, which is the subject of study.

In addition to internal professional development opportunities, external training programs are available (Cobb, 2014). The OLC and Quality Matters offer training and certification programs that aim to develop faculty's online teaching skills. However, these programs may not be cost-effective. For example, the OLC's course Online Teaching Certificate in the format of a ten-week asynchronous workshop with "three electives or learning specializations that focus on improving overall competency within a specific area of academic focus" and "a final capstone presentation" costs $2325 per person (Online Learning Consortium, n.d.). Although some faculty members may enjoy learning in such programs, sending all instructors who would soon teach online to external training programs like this is likely to cause financial burden to institutions.

Faculty's preferences of the formats may vary depending on the individual and the broader contexts in which they teach. However, few studies shed light on this area. Hixon et al. (2011)

surveyed the participating faculty of four cohorts (2006-2009) of the Purdue University Calumet's mentoring program, which guided the faculty participants to design an online course through a one-year, staged peer review-based process. The four stages allowed the faculty to: 1) learn about the instructional design process and the Quality Matters Rubric (QMR), a popular online course design guideline, in two days and four monthly workshops, 2) teach online the courses they designed with mentor review, and 3) have their courses reviewed and assessed by the mentor team, and be recognized at a luncheon once their courses successfully passed the QMR. The findings from 47 respondents of the total number of 97 surveyed suggested that this mentoring-based online course positively impacted them beyond the course they designed. The enrollment of the program did not grow steadily; instead it dipped in the third year the program was offered and went slightly back up. The number of faculty participated in this mentoring program consisted of about 44% of all faculty who teach online at the university. This program seemed to be oriented towards faculty who have already started teaching online. The structures and activities described by the authors did not appear to enable participating faculty to develop online student perspectives.

Taylor and McQuiggan (2008) surveyed 260 online faculty to learn about online professional development programs at the Pennsylvania State University. The respondents (N=68) reported that the format most preferred was informal or self-paced learning. About 43% of the respondents requested self-paced materials, 41% of them requested informal F2F training events, and 33% chose informal online training. The researchers also asked the faculty about their preferred learning modes for these types of professional development activities. One-on-one with a mentor or colleague was valued the most with 55.9% of faculty choosing it. They appreciated learning about online teaching experiences of another instructor. Meeting one-on-one with an instructional designer (52.5%) and with technical staff (33.4%) were also rated highly. Compared

to one-on-one or online learning modes, F2F learning was considered the least effective. A possible explanation is that F2F learning may require coordination and time that faculty members do not have due to their other multiple responsibilities, such as conducting research and advising students, among others. As discussed earlier in this chapter (and in Chapter One), time constraints is the number one barrier to faculty development. Time and scheduling constraints may deter faculty to participate in faculty development, even if they are interested in the topic (Amburgey, 2006; Thomas, Karr, Kelly & McBane, 2012). On the other hand, Elliott et al. (2015) investigated faculty attendance of 37 development programs for online faculty at a university and found that the faculty had no preference on format or topic, indicating the complexity of the issue.

The literature does not shed light on an effective model or format for professional development for online teaching. In her analysis of the research on faculty development for online teaching, Meyer (2014) cited various models or formats of professional development initiatives for online teaching from more than ten institutions of higher education, pointing out the need for evaluations for identifying which interventions would work best. She found that theoretical frameworks on which these initiatives were based were unclear in the academic articles she reviewed. She speculated that although the faculty developers might have based their program model or formats on adult learning theory, they did not make it clear to the public. Due to the complexity of professional development programs and the reality that faculty developers may need to quickly respond to an urgent need, they may not be able to conduct detailed evaluations (Meyer, 2014). Current literature neither offers an understanding of the effectiveness of professional development programs for online teaching nor suggest the best way of supporting faculty in online teaching. This dissertation in practice, which is a formative program evaluation of the Pathway can contribute to the scant literature of detailed program evaluation of faculty development for

online teaching.

The literature of in-depth faculty development courses contains few examples of courses in which participating faculty can blend online learning theories with practical application of designing and implementing their own online curricula (Journell et al., 2013). The literature on faculty development for online teaching and faculty program evaluation reveals no courses that are like the Pathway, which is a voluntary course that enables faculty to learn to teach online in a formal semester-long hybrid course for teaching online. No apparent reasons for the lack of such courses are articulated in the literature. It appears that the most similar courses to the Pathway are the University of Central Florida's semester-long course with a combination of consultations, labs, seminars, and online instructions (Teach Online, n.d.) and the Kennesaw State University College of Humanities and Social Sciences' compulsory "Build a Web Course" in which faculty learn as online learners in a 12-week long hybrid course, as introduced earlier in this chapter. Although the University of Central Florida's course is being offered as shown on their website, it is unclear whether the "Build a Web Course" is still available as no information was provided on the Kennesaw State University College of Humanities and Social Science's website at the time of writing of this dissertation. It would be beneficial to learn about the effectiveness of such courses, but no program evaluation seems to be available. In fact, the program evaluations rarely go beyond measuring the satisfaction level, as pointed out by scholars (Centra, 1976; Elliott et al., 2015; Levinson-Rose & Menges, 1981). This reality underscores the importance of this study that explored what the Pathway participants learned and applied in their teaching, going above and beyond the satisfaction level.

2) Topics of faculty development initiatives for online teaching

Faculty development for online teaching focuses on different aspects of online teaching,

such as content organization, technology use, and pedagogy (McQuiggan, 2011). Technology use and pedagogy overlap the topics for general faculty development, which was discussed in detail in the previous section. The overlap makes sense in that both general faculty development and faculty development for online teaching programing aims to improve faculty's teaching effectiveness and teach them how to use technology. For online teaching, it is imperative to empower faculty to use technology pedagogically. Comas-Quinn (2011) stressed the need to show faculty not only how to use the tools, but also *why* they should use them.

Supporting and training for faculty on online instruction is often focused on technology use, rather than pedagogy (Baran et al., 2011; Gold, 2001; Pankowski, 2004; Taylor & McQuiggan, 2008; Wolf, 2006). For instance, Blackboard workshops often focus on how to use it, without addressing the pedagogical aspect of using Blackboard and its communication tools like wiki, discussion forum, journal, and blog. According to the University of Kansas' website (Blackboard at KU, n.d.), it offers a series of Blackboard workshops that focus on each of the following topics: getting started, assignments, discussions, grade center, tests, and collaboration tools (wikis, blogs, and journals). The State University of New York offers one-hour Blackboard workshops on similar topics. For example, the objective of the workshop "Blackboard Learn 9.1: Assessments" states that "participants will be able to create, configure, and deploy individual and group assignments to collect student submissions to manage grades and feedback" by the end of the workshop (Blackboard Training Workshops, n.d.). As described in these university workshop titles and objectives, technology use, instead of pedagogical use of the technology, seem to be the focus. Quality Matters appears to have more comprehensive training on instructional design, in addition to using Blackboard.

Many authors suggested specific sets of competencies for online instructors (Diehl, 2016;

Lawler & King, 2000). Baran et al. (2011) found a long list of competencies from the literature. For instance, selecting concepts to teach, managing materials and courses, carrying out pedagogical tasks, and building relationship with students in a virtual environment, among others. The Pennsylvania State University offered a list of competencies organized in three categories: pedagogical competencies, technological, and administrational competencies, helping faculty and administrators develop a clearer understanding of what is required in online teaching (Penn State Online Faculty Engagement Subcommittee, 2011). The University of Denver's 11 recommended competencies also cover these three broad categories (University of Denver, n.d.).

Building on Quality Matter's board member Jurgen Hilke's previous work and after a review of 195 published articles about online instructors' competencies expanding from 1995 to 2015, Quality Matters (Diehl, 2016) suggested six areas of competence that encompass all the competencies identified in those articles:

1. Institutional context (understanding of the institutional context)
2. Technologies (knowledge of the technologies used in online teaching)
3. Instructional design (understanding of the instructional design requirements of an online course)
4. Pedagogy (understanding of the pedagogical components of the online teaching and learning process)
5. Assessment (knowledge about various methods of measuring the success of the teaching and learning process in an online environment)
6. Social Presence (establishing a social presence and communicates effectively through writing and/or audio/video)

This list overlaps the TPACK model in the sense that pedagogy and technology are both

important components in online teaching. Since Quality Matters is nationally-recognized in training online faculty and developed widely adopted rubrics for online course design, I incorporated Quality Matters' six areas of competency in the Pathway. Yuskel (2009) conducted a meta-synthesis on 14 studies and book parts regarding the online instructors' roles and competencies, suggesting that online instructors should possess both instructional skills or competencies and technological skills, and that training for online instructors should be planned in accordance with the roles (as discussed in the section about instructor roles) and competencies. Although the Pathway is not a competency-based program, I took a heuristic approach and embedded pedagogical strategies and technological skills necessary for online instructors to function in establishing social, cognitive, and teaching presence.

2.4.4 Faculty as Adult Learners Are Often Overlooked

Successful learning programs for adults should take into consideration their background knowledge and life experience. McQuiggan (2011) analyzed 14 models of online faculty development programs and concluded that few online faculty training programs had taken into consideration the fact that faculty are adult learners with their own unique experiences. Faculty as learners are, first of all, adults. Their teaching and learning experience need to be acknowledged in professional development programs. Their characteristics and specific teaching contexts need to be taken into consideration in the facilitation of their learning (Lawler, 2003). Nevertheless, few faculty development models view faculty as adult learners with prior experience (Layne, Froyd, Simpson, Caso, & Merton, 2004; McQuiggan, 2011). Consequently, most professional development programs are teacher-centered and designed to be one-size-fits-all (McQuiggan, 2011).

As described earlier in this chapter, faculty often prefer training programs that could fit into their schedules, scaffold their learning, match their own learning styles, and offer strategies that could be used immediately (Tallent-Runnels et al., 2006). Needs assessment of those who work in the capacity of an instructor at the institution is necessary in order to offer positive faculty development experiences for online teaching (Taylor & McQuiggan, 2008). To make it practical for faculty to participate in professional development opportunities focusing on online teaching, it is necessary to consider factors, such as faculty's busy schedules, backgrounds and prior experiences with online teaching and learning. Research suggests useful practices. Hinson and LaPrairie's (2005) study stressed the need to give instructors opportunities to apply online teaching skills within their own curriculum. Lorenzetti (2009) recommended offering new online faculty: 1) a new online "playground" (p. 8), i.e., access to the LMS so that they can become familiarized with the LMS and try new tools, 2) access to successful courses, 3) new faculty orientations, 4) asynchronous training courses, 5) mentoring, 6) virtual brown bags, 7) knowledge base, and a few others. Baker (2003) suggested instructors should be added to an online course as observers to understand better online teaching and learning. This type of indirect learning experience can be helpful as they observe online teaching practices in a contextualized environment, even though they do not learn about online teaching in a formal faculty workshop or course. Even though some scholars recommended online instructors studying in an online course to understand online learning (Taylor & McQuiggan, 2008), the literature offers little insight as to the feasibility of such a practice, not to mention whether or not it is practical to enroll faculty into a hybrid or online course like the Pathway on online teaching.

2.4.5 Transformational Learning Needed for Online Instructors

Transformational learning refers to learners' perspective change. Since it was first developed by Jack Mezirow in 1978, transformative learning theory has evolved into "a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton, 1994, p. 22). Mezirow (1991) contended that for learners to change beliefs, attitudes, and emotional reactions, "they must engage in critical reflection on their experiences, which in turn leads to a perspective transformation" (p. 167). Brookfield (2000) asserted that reflection by itself does not result in transformative learning unless learners were engaged in a process in which they critically reflect, analyze, and recognize assumptions taken for granted. Transformative learning requires time and space for such a process which changes adults' perspectives (Meyer, 2014). This theory and adult learning theory are often what faculty development initiatives are based upon (Meyer, 2014).

Instructors who teach online often resort to the traditional teaching approaches they learned from their own effective instructors (Baran et al., 2011), who formed the approaches over years of teaching F2F classrooms mostly without teaching preparation (Kreber & Kanuka, 2006). Transitioning to online learning requires new approaches to education and skill sets for online course facilitation (Palloff & Pratt, 1999). This includes developing new ways to engage students in class discussion and collaborative reflection (Gustafson & Gibbs, 2000).

Baran et al. (2011) reviewed qualitative and quantitative studies published in a 20-year period between the 1990's and 2011, investigating online teacher development through the lens of transformational learning, the following dimensions were lacking in many approaches to developing online instructors:

1. Empowering online teachers. Transformational learning contributes to empowering

instructors, but this dimension does not seem to be clearly defined. Therefore, how to empower online instructors in the practice of faculty development requires further exploration.

2. Integrating technology into pedagogical inquiry. Echoing findings by faculty development professionals (DiStefano, Rudestam & Silverman, 2004; McQuigan, 2011), Baran et al. (2011) argued that including only technology in faculty development and support programs is inadequate. Technology skills cannot be treated as knowledge unrelated to knowledge about teaching (Koehler, Mishra, & Yahya, 2007). To help faculty develop online teaching skill sets, it is necessary to integrate technology into pedagogy.
3. Promoting critical reflection. Critical reflection refers to the crucial reflections on assumptions, validating "contested beliefs through discourse, taking action on one's reflective insight, and critically assessing it" (Mezirow, 1997, p. 11). Critical reflection is essential to transformational learning (Mezirow, 1997).

Baran et al. (2011) concluded that faculty support programs should consider faculty as active agents during the process of online course development. Instructional technologists and instructional designers should collaborate with online instructors and listen to their voices, as the instructors "*transform and create their online teacher personas*" (p. 434), rather than building courses for them. The authors suggested that instructors be engaged in learner-centered teaching approaches and that they be encouraged to promote community building for online teaching.

The same authors discovered the lack of research that addresses the issues of empowerment of online teachers that promote critical reflection and integration of technology into pedagogical inquiry (2011). They called for online teaching professional development programs that consider the instructors as adult learners who transform to online instructors through the continuous process

of reflection and action.

The design of the Pathway was based on findings of the aforementioned research and recommendations from the literature and aligns with the dimensions identified by Baran et al. (2011). The following section describes the design principles and key features of the Pathway. Although the focus of this dissertation in practice is not on justifying the course design, it is necessary to present design principles and features since it was its overall quality and usefulness that I evaluated.

2.5 Design Principles and Features of the Pathway

Pitt recognizes the need for helping instructors to teach online but does not mandate faculty to undergo training on teaching online. Hence, the Pathway was designed to attract interested faculty members who have not taught online or would like to strengthen their online teaching. As understanding of instructors' multiple roles in online teaching and the need for TPACK are critical, these notions are explicitly taught in the Pathway with emphasis on pedagogy and technology, targeting the TPK (technological pedagogical knowledge) in the TPACK model. Every participating faculty member is given a sandbox course site—the "playground" (Lorenzetti, 2009, p. 8) where they can use Blackboard functions and construct course content. Participants are required to meet or speak with an instructional technologist at least once to receive assistance on their sandbox course site setup and other aspects. The Pathway is full of opportunities for faculty to experience course structure, engagement strategies, and pedagogical use of technology. An effective way to empower adults to learn and improve learning outcomes is to allow them to digest learning content and consider how they might apply it in their own contexts. Kolb's (1984)

experiential learning model was used in the design of the Pathway to enable participants' reflections after concrete experiences in the Pathway.

Kolb's experiential learning model depicted in Figure 3, is rooted in Dewey's (1938) work, which denotes that there is connection between learning and one's personal experience (1984). This model has four phases in the process of experiential learning: concrete experience, observations and feedback, formation of abstract concepts and generalizations, and testing implications of concepts in new situations. After a learner has a concrete experience, observations and reflection occur. The learner's reflection is then distilled into abstract conceptualization, which informs the learner implications and actions for future references. The last step in an experiential learning cycle is active experimentation where the learner actively tests her or his conceptualization drawn from the concrete experience and reflection.

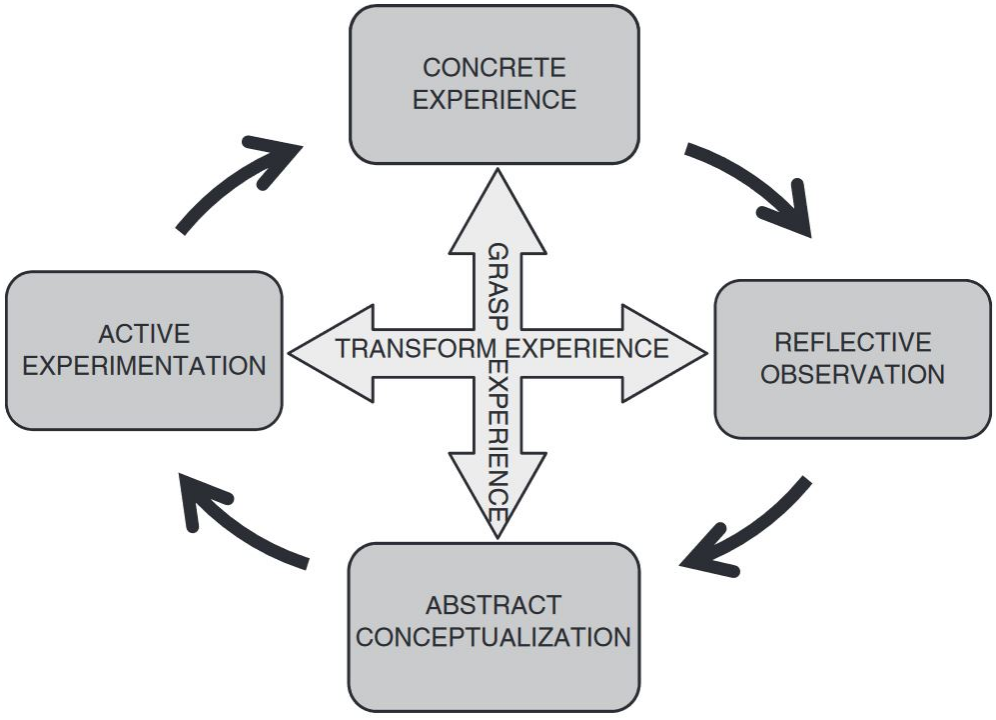

Figure 3 Kolb's Experiential Learning Model

The experiential learning cycle is often used in instructional design for adults. In the Pathway, participants experience a wide variety of engagement strategies, activities, pedagogical use of various technologies, and course facilitation techniques on the 'receiving end' as online learners. This is referred to 'wearing the student's hat' in the Pathway.

Emphasis is given to reflective observation and abstract conceptualization illustrated in the experiential learning model, although active experimentation is necessary to help participants build upon and fully utilize what they have previously experienced in the first stage of the experiential learning process. Hence, all participants are given a sandbox course shell for practicing the use of the technologies and building content and activities there with considerations of how they might adopt and adapt the activities they experienced as students in the Pathway—this is referred to as the 'teacher's hat' in the course. By engaging participants in 'wearing the student's hat and teacher's hat', participants constantly reflect upon curriculum design and activity design from both student and instructor perspectives, which enables them to find a balanced approach in course design and facilitation.

Participants enroll the rest of the cohort as students in their sandbox course so that they can receive peer feedback on course structure, content organization, and activity design. Elements from these components are interwoven in the design and content of the course. Table 1 shows three design principles used to guide the design process and how they align with Baran et al.'s (2011) dimensions. Descriptions of main activities that reflect the principles are included in the table as well.

Table 1 Design Principles and Main Activities

Design Principle	Baran et al.'s (2011) Dimension	Main Activities
1. Participants as learners	Empowering online teachers	Participants navigate the course site, consuming and generating content in each module as a learner. By 'wearing the teacher's hats and student's hat', participants gain perspectives as a learner and instructor.
2. Practicality	Integrate technology into pedagogical inquiry	Participants read an explicit comparison of Blackboard communication tools (i.e., journal, wiki, discussion forum, and blog) and analyze four scenarios in which these tools were used in real classes.
		Participants read the descriptions of 14 activities commonly used in traditional F2F classes. In groups, they brainstorm how to adapt these activities using different instructional technologies for online learning. Participants analyze real-life scenarios in which different instructional technologies were used unconstructively and suggest appropriate technologies that should be used, as well as what can be improved in the activity design. Participants design an activity/assignment for an online course and received peer feedback.
		Participants explore some Web 2.0 tools in pairs and compare the pros and cons, as well as how the technologies can be used. Specifically, they experience using the technologies, compare them, draw conclusions, and brainstorm how to use them in their teaching environments.
		Direct instruction about formative assessments. Participants design a formative assessment. Technology use may be needed.
		All of the content in the Pathway, as well as participants' use of the course site and experience of using technology and giving peer feedback.
3. Promote critical reflection	Promote critical reflection	Reflection questions are in the beginning of each module. Participants can keep their reflections to themselves. They can also share them at F2F meetings. Some reflections are written using Blackboard's journal function. Such reflections are shared by the participant and facilitator only.

The next few paragraphs delineate the connection between findings of the literature and design principles and features of the Pathway.

Design Principle (1) Participants as learners: Participating faculty assume the role of online learners in the Pathway.

As shown in the literature, the role of faculty as adult learners is rarely considered in faculty development programs (Lawler & King, 2000) in that faculty's knowledge and teaching experiences are overlooked. The Pathway enrolls faculty as learners in a hybrid course on how to teach online with learner-centered activities. The participants' learning experience enables them to learn effective online teaching strategies directly as a learner in this course. It is known that online faculty use traditional teaching strategies for online teaching because those might be the only ones they have observed and learned from their own instructors in a F2F setting (Baran et al., 2011). By exposing faculty to an effective hybrid course, they are likely to learn effective online pedagogy and use of technology (Lorenzetti, 2009). This can be empowering to faculty members because they can rely on direct experience of learning in a hybrid course that not only deals with how to teach online, but also models how. Such an experience addresses Baran et al.'s (2011) dimension of empowering faculty in their transformational learning for online teaching.

Features in the Pathway:

Participants navigate the course and interact with the content as students; complete deliverables (assignments) and do activities in each module individually and collaboratively. Their experience as students can inform them in their teaching online. Since faculty are learning in a hybrid course designed using the experiential learning model (as explained in the third design principle), there are reflection opportunities, discussions with colleagues in the Pathway, and applications in their own courses. They support one another's learning because the activities in the

Pathway allow them to discuss topics and provide peer feedback on case analysis, course organization, activity design, assignment design, and formative assessment design.

Design Principle (2) Practicality: Integrate technology into pedagogical inquiry to make this professional development course practical.

It is understood that faculty have competing priorities and teaching is often not the top priority (DiStefano et al., 2004). This means that they have limited time for faculty development programs, and that is often cited as the greatest and most common barrier to participation (Dailey-Hebert et al., 2014; Steinert et al., 2009; Taylor & McQuiggan, 2008). Since time is an issue, faculty development programs need to be perceived as practical to enable participants to believe they can easily put into use the knowledge introduced (Lawler & King, 2000). In the Pathway, participants should see the practical value and applicability of the content they learn and be able to immediately try out the techniques in F2F and online teaching. Practicality can make the course more motivating and useful. Technology is integrated with pedagogy so that participants practice using technology with clear pedagogical purpose in mind. This addresses the dimension that is lacking in faculty support and development programs, as identified by Baran et al. (2011).

Features in the Pathway:

Participants have opportunities to apply knowledge in activity and assessment design for their own courses. Because each participant has a practice sandbox course site, which is accessible to everyone in the Pathway, individuals can upload content and set up activities in their own sandbox course sites. By doing so, the participants practice using technology for pedagogical purposes.

Design Principle (3) Promote reflection: Encourage reflection by adopting the experiential learning model.

Mezirow's (1997) transformational learning accentuates critical reflection in transformational learning. Adopting the lens of transformational learning, Baran et al. (2011) identified reflection as a key component in online faculty's transformational learning. Reflection is an integral part of an experiential learning model, whether it is Kolb's (1984) version for general instructional purposes or one that is adapted by Estepp et al. (2012) for agricultural instructors' professional development. Since the Pathway design adopted the basics of a Kolb's experiential learning model, there are abundance of opportunities for faculty's reflection. This design principle echoes Schön's (1988) notions of *reflection in action* (during the experience) and *reflection on action* (after an experience). Thus, it addresses the dimension of reflection in Baran et al.'s (2011) literature review of what is lacking in online faculty's transformational learning.

Experiential learning is widely used in workshop and course design. It is especially useful in faculty training courses. Each of the seven modules of the Pathway takes participants to go through the four phases in Kolb's (1994) experiential model—experience, reflection, experimentation, and practicing technological and pedagogical skills.

Features in the Pathway:

Each module starts with questions that allow participants to reflect on their learning experience in the pathway and/or their teaching experience. In some modules, such reflections are designed to be written and shared only between the participant and facilitator, whereas in other modules reflections are private. However, in each of the three F2F class meetings, participants are invited to share their reflections verbally.

As a way to gauge participants' understanding of online teaching and learning before their enrollment into the Pathway, they are asked to write in a blog, which is viewable by all participants, what they perceive as online teaching and learning. At the end of the Pathway, participants are

asked to write about it in a blog again in the format of online teaching philosophy. Such reflection opportunities allow participants to look back and examine whether there is growth in understanding or change in attitude.

All seven modules provide critical and foundational knowledge to faculty who would like to learn how to teach online or finetune their online teaching skills. To meet the needs of faculty who have different technological proficiency levels, two bundles (i.e., options) are available for participants to choose from. Faculty who choose Bundle A would follow the instructions in each module to practice using a basic set of Blackboard functions, and people who choose Bundle B would practice more sophisticated use of Blackboard functions. Together with the main concepts in each module, the content and learning aims in every module ensure that participants have a chance to learn new knowledge and practice applying it. The following table offers details regarding important concepts introduced and the learning aims in each module.

Table 2 Modules, Important Concepts, and Learning Aims of the Pathway

Module	Important Concepts	Delivery Formats	Learning Aims
1. Orientation and Demystifying Online Teaching and Learning (This module provides participants an overview of the Pathway course, a general understanding of what online teaching is, as well as characteristics of online learners.)	• Usability • Predicable design • Synchronous • Asynchronous • Hybrid • Online learning • TPACK	1st F2F meeting and Asynchronous	1. Navigate the course site with ease. 2. Conduct self-introduction virtually by making a post in a discussion forum and reply to others posts. 3. Differentiate terms related to online teaching and learning. 4. Identify challenges online students may face.
2. Course Content Organization (This module introduces the concept of alignment of objectives, activities	• Alignment (of course objectives, activities, and assessment) • Backward Design	Asynchronous	1. Align objectives, instructional activities, and assessments in participants' own courses. 2. Create a folder for each

Table 2 continued

Module	Important Concepts	Delivery Formats	Learning Aims
and assessments in a course. It also introduces backward design, spiral curriculum, and other important design concepts.)	• Bloom's Taxonomy • Backward design • Chunking • Cognitive load • Growth mindset • Scaffolding • Scope & sequence • Spiral curriculum		week or module with space holders for learning objectives, key terms, main content, reading list, and deliverables (homework assignments) in participants' own sandbox course sites.
3. Copyright and Accessibility (This module introduces copyright related notions and best practices that ensure course accessibility.)	• Copyright • Attribution • Accessibility • Fair use • Public domain • Creative Commons	Asynchronous	1. Differentiate terms related to copyright. 2. Given a course site, identify areas that need to be improved in terms of accessibility. 3. Make suggestions on enhancing accessibility in the course site.
4. Instructional Technology (Participants explore various technologies that can help engage students in the online environment.)	• Instructional technology • Web 2.0 tools	2nd F2F meeting and Asynchronous	1. Differentiate the Blackboard built-in tools (wiki, blog, journal, and discussion board). 2. Describe what Web 2.0 tools are. 3. Design one interactive online activity using a communication tool of participants' own choice (from wiki, blog, journal, and discussion board or the Web 2.0 tools introduced in the F2F session).
5. Class Activity and Assignment Design (This module focuses on activity design for online learning.)	• Information gap activity • Silent Round Robin, Think-Pair-Share and several other activity types • Community of Inquiry • Rubric	Asynchronous	1. Adapt activities used in F2F classrooms to online classes. 2. Draft a learning activity or homework assignment for participants' own F2F or online classes.

Table 2 continued

Module	Important Concepts	Delivery Formats	Learning Aims
6. Assessment and Feedback (This module introduces formative assessment and summative assessment, as well as various ways to conduct formative assessment.)	• Formative assessment • Summative assessment • The difference between assessment and test • Ways of conducting formative assessment using exit cards, direct paraphrasing, concept maps, and one-sentence summary frames, etc. • Written feedback vs. verbal feedback	Asynchronous	1. Differentiate between formative assessment and summative assessment. 2. Brainstorm and implement some of the formative assessments in participants' own courses.
7. Putting It All Together (This module helps participants recall what they have learned so far in the Pathway and apply knowledge in the process of analysis of common online teaching scenarios.)	• Recall and review of important instructional design concepts and instructional technologies • Identify characteristics of an effective online instructor • Identify best practices of online teaching	3rd F2F meeting and Asynchronous	1. Analyze authentic cases of online teaching and make suggestions to resolve issues emerged in these cases. 2. Categorize instructional technologies according to types of activities they enable instructors to design. 3. Recall all available resources for topics of copyright, instructional design, accessibility, and tech support, etc. 4. Reflect and come up with participants' own online teaching strategies.

2.6 Chapter Summary

This chapter reviewed literature with regard to 1) online teaching, 2) faculty's multiple roles as online instructors, 3) barriers for faculty to teach online, 4) faculty development formats and topics, and 5) faculty development for online teaching. Teaching online entails role changes in that instructors are not only passing knowledge on to students who are often viewed as passive receivers of knowledge in F2F classrooms. Online faculty's multiple roles, such as content developer, curriculum developer, instructional designer, student support, and facilitator of learning may be daunting to faculty. The section on faculty barriers depicts a multitude of challenges faculty face and deterrents that may discourage faculty from attempting or continuing teaching online. Research in faculty development shows that the need for supporting them is widely recognized, and that there are different models and topics for online faculty professional development. The approach of viewing faculty as adult learners to inform design and implementation of online faculty development programs is rarely observed.

Online programs continue to be one of the strategies for higher education institutions to contest the negative effects of funding cuts and enrollment declines. It is imperative to ensure the quality of online courses by empowering faculty to be able to teach online effectively through training. As the literature shows, the one-size-fits-all faculty development programs focusing on teaching online are often ineffective. The literature on faculty development for online teaching offers little insight into the best way to prepare faculty for online teaching. However, it is clear that faculty development professionals need to offer pedagogy-and-technology-focused programs that respond to faculty's prior experience and skill levels, and they should also provide time and space for faculty to absorb and apply learned knowledge in teaching. The Pathway, a semester-long hybrid course, which was designed based on experiential learning, offers participating faculty

a pedagogically-robust course that simulates online learning, enabling critical thinking and application of knowledge in their teaching.

One distinct feature of Pathway is that faculty participants assume the role as learners in the hybrid course. Such an approach has not been found in the literature. This formative evaluation of the Pathway can shed light on the usefulness of this approach and identify what the participating faculty learned from the Pathway that they applied in teaching their classes.

3.0 Methodology

This chapter starts with the inquiry questions, inquiry setting, and the participants, followed by data collection methods and analysis. A discussion of the trustworthiness of the study concludes the chapter. The overarching goal of this study is to understand the usefulness of the Pathway. Specifically, it aims to answer the following inquiry questions (see the first chapter for more details):

1) To what extend did the participating faculty find the Pathway useful.
2) How did participating in the Pathway as online learners contribute to faculty's learning about online teaching?
3) What did the participants learn in terms of pedagogical strategies and technology use in the Pathway that they applied to their F2F and online teaching?

3.1 Inquiry Setting

Pitt is a large public university that relies on state funding. It has 16 schools that offer undergraduate and graduate education across different disciplines, such as medicine, business, engineering, and others. Besides traditional F2F education programs and courses, Pitt offers online degree programs, online certification programs and courses, and F2F courses and certification programs to nearly 33,000 students (University of Pittsburgh Office of Institutional Research, 2019). Online courses are common at Pitt. Currently, no official data reveal the total number of online courses. Nevertheless, based on the information obtained by the Teaching Center, where I

work as a teaching and learning consultant, every school offers, or is preparing to offer, online courses. Some of the programs are either hybrid or fully online. For instance, the Doctor of Education program in the School of Education is a hybrid program, and the Nursing Informatics program in the School of Nursing is fully online.

Pitt's Teaching Center is under the Provost's Office. It provides services related to teaching and learning to all departments and schools. The Teaching Center does not mandate faculty training; rather, its role is to provide assistance to all faculty across disciplines. Pitt's faculty development efforts can be seen as decentralized in that the departments and schools may have their own faculty committees or groups that lead faculty development efforts (Jacob, Xiong, & Ye, 2015). What the Teaching Center can offer in terms of faculty development for online teaching is mostly in the forms of a 90-minute workshop, a one-on-one consultation with faculty, and the new semester-long faculty course, the Pathway, which is the focus of this dissertation.

Successful implementation of the Pathway may help passionate instructors to prepare for future online teaching roles. However, since enrollment is not mandatory, the Pathway attracts only the instructors who are interested in online teaching and willing to dedicate their time to participate. A $300 stipend is offered upon completion of the Pathway to fulltime and part-time instructors whose contracts are shorter than 12 months. Albeit small, this monetary incentive may motivate more instructors to participate in the Pathway and complete it. Although participants of the Fall 2019 iteration would receive an increased stipend, whether or not it will remain available beyond this iteration is unpredictable.

3.2 The Participants

The participants of this study were the faculty who successfully completed the Pathway in the first two iterations—Fall 2017 (N=9) and Spring 2018 (N=6). Three and four participants dropped out of the Pathway in the two iterations respectively due to role changes and added workload. One of them decided to discontinue within two days after the first F2F meeting, realizing the course required a lot of time. Two of them managed to hang on until the mid-point of the course. These seven participants were excluded from this study.

Most of the participants were teaching on Pitt's Oakland campus with the exception of one teaching on another campus away from Oakland in each iteration. The participants taught courses in math, education, composition, foreign language, literature, computer science, health sciences, and other fields. Table 3 shows their demographic information collected when they signed up for the Pathway. The participants who did not complete the Pathway are excluded from the table.

Table 3 The Participating Faculty Who Completed the Pathway

	Fall 2017 Iteration	**Spring 2018 Iteration**
Number of female faculty	7	4
Number of male faculty	2	2
Number of fulltime faculty	8	4
Number of part-time faculty	1	2
Number of faculty who had online learning experience	1	1
Range of years of F2F teaching experience	2-34	0.5-15
Average number of years of F2F teaching	14	7.91
Range of years of online teaching experience	0-5	0-8
Average number of years of online teaching	1.63	1.33

As shown in the above table, the majority of the participants were fulltime faculty. Most of the participants had years of experience in teaching F2F. Four participants in the Fall 2017 iteration had online teaching experience ranging from 1 to 5 years. Most of the participants in the

Spring 2018 cohort had no online teaching experience, except one person who taught online for eight years part-time. Only two participants had online learning experience.

With the exception of two participants holding advanced degrees in education, most participants did not receive formal training on teaching or education in general. All of the participants stated that the Pathway was the first formal training program in which they participated for online instruction. The participants who started teaching online shared in the interviews that they were asked to teach an online course because they were seen as good at technology or had intimate knowledge of the content of the course they would teach. Only one of them volunteered to teach a hybrid course.

3.3 Research Design

I aimed to evaluate the usefulness of the Pathway with the purpose of improving it iteratively. As this was the first hybrid faculty development course on teaching online at Pitt, I had no previous lessons from which comparisons could be drawn. Formative program evaluation is often used for evaluating new or emerging programs for gathering data for future program adjustment (Newcomer, Hatry, & Wholey, 2015). Since existing research offers little insights as to the effectiveness and feasibility of a faculty development hybrid course that centers faculty as online learners who learn to teach online, it is appropriate to use grounded theory because it supports the idea of discovering emerging patterns in the data through coding and generating theories from data (Henry, Smith, Kershaw, & Zulli, 2013; Walsh et al., 2015).

As stated earlier, this formative program evaluation is also an action research study. The iterative characteristic of action research encompasses both action and research outcomes (Gravett,

2004). Action research is a cyclical process with stages of planning, action, observation, and reflection (Kincheloe, 2003; Mills, 2013; Zuber-Skerritt, 1996). This type of research is good for identifying areas for immediate improvement, which is widely adopted in educational settings. Particularly, this action research study examines the overall usefulness of the Pathway, the benefits of the faculty's role as online learners, and what the they learned from the Pathway that can be applied to their teaching.

This study relied on participants' self-reporting in the survey instruments, interviews, and focus groups. Their responses were descriptive in nature. Thus, qualitative methods were applicable in this study (Mertens, 2015). What was considered as quantitative was the participants' demographic information, such as years of experience in teaching. Some survey items were also quantative in nature, eliciting the participants' overall rating of the quality of the course and likelihood of recommending this course to a colleague.

I used multiple data collection methods (i.e., survey, interview, and focus group). In each of the first two iteration of the Pathway, I administered a survey at the mid-point (Mid-Point Survey) and two post-course surveys—one immediately after the Pathway (the Upon-Completion Survey), and the other a term after the completion of the Pathway (the One-Term-After Survey). Two different colleagues from the Teaching Center conducted a focus group at the end of the Fall 2017 Pathway and Spring 2018 Pathway respectively. I also interviewed seven out of eight volunteer participants of the Fall 2017 iteration in January and February, 2018. For the Spring 2018 cohort, I interviewed five out of six participants in May and Jun, 2018. The interviews took place within four to six weeks of completion of the Pathway for both iterations.

3.4 Instruments and Data Collection

This dissertation in practice featured four instruments for data collection:

1) The Mid-Term Survey with five items administered at the second F2F class meeting.

Before the end of the second F2F class meeting, which kicked off Module 4 of the Pathway, the participants clicked on a link in Module 4 on Blackboard and completed the Mid-Term Survey on Qualtrics, a survey builder available to Pitt staff and faculty. The survey was designed to gauge participant satisfaction and elicit suggestions for improvement of the course.

2) The Upon-Completion Survey with nine items administered via Qualtrics at the end of the Pathway.

The participants completed it at the end of the Pathway as the last class activity during the last F2F class meeting. Using a laptop, they clicked on the link, which was provided in the content of Module 7, to access to the survey designed on Qualtrics. The questions in this survey helped investigate participants' change in teaching approaches and their perceived helpfulness of the Pathway.

3) A protocol that governed the focus groups conducted by a Teaching Center colleague at the end of the Pathway.

The purpose of the focus groups was to elicit richer responses for better understanding of the participants' learning experience as well as what they learned and applied in their teaching. The protocol contained ten questions and the duration of each focus group was about 40 minutes.

4) A semi-structured interview protocol with 11 items for interviewing the participants who were willing to be interviewed.

At the last F2F class meeting, I invited all participants to be interviewed by me. They were aware of this study as early as the beginning of the Pathway, so it was not a surprise to them. Seven

of the eight participants from the Fall 2017 iteration accepted my invitation to interview and I interviewed all seven of them. All of the six participants from the Spring 2018 iteration agreed to be interviewed and I was able to interview five. I waited four to six weeks after the completion of the Pathway to interview the participants, allowing them time to apply the knowledge learned in the Pathway to their own teaching. The participants chose the time and place for the interview, which typically took one hour. The interviews were recorded and uploaded to a password protected storage space called PittBox.

The interview questions elicited participants' learning experience in the Pathway and their initial online teaching experience. The interviewees had a chance to share what they learned and applied in both F2F and hybrid/online teaching.

5) The One-Term-Later Survey with three items administered one term after the completion of the Pathway.

The participants completed a short survey one term after the completion of the Pathway. For the Spring 2018 iteration, they received the survey link via email in the Fall 2018 academic term, rather than Summer 2018 because some faculty might not teach in the summer and consequently would not be able to apply the knowledge. The open period for the One-Term-Later Survey was seven days. The questions in this survey elicited examples of participants' application of knowledge learned in the Pathway.

To sum up, both qualitative and quantative data collection methods were used in the current study. Surveys, focus groups, and semi-structured one-on-one interviews were used in the data collection process, which stretched across two academic terms. Not all instruments were used to address each inquiry question. To address the second inquiry question about faculty's role as online learners, the participants were asked what they learned and applied in the interviews, focus groups,

and surveys. The table in Appendix C shows how the inquiry questions, evidence, and analysis of evidence were aligned. Table 4 present a summary of the instruments, types of data, and when and how they were collected, as well as the completion statistics.

Table 4 Instruments and Completion Statistics

Instrument	Number of Items	Via	Types of Collected Data	Data Collection Timing	Number of Completed Participants
Mid-Point Survey	5	Qualtrics	Qualitative and quantitative	Toward the end of the 2nd F2F class meeting (Module 4).	14 (of 15)
Upon-Completion Survey	9	Qualtrics	Quantitative and qualitative	Survey link in Module 7. Participants completed it at the end of the 3rd and last F2F class meeting.	13 (of 15)
Focus Group	10	In the classroom	Qualitative	About 50 minutes before the 3rd and last F2F class meeting concluded, a focus group facilitator elicited participant responses to a list of questions.	15 (of 15)
Interview	11	In-person; time and location selected by interviewees	Qualitative	Within six to eight weeks after the conclusion of the Pathway, I interviewed volunteered participants to elicit richer responses.	13 (of 15)
One-Term-Later Survey	3	Qualtrics	Qualitative	Survey link sent to participants via email one term after they completed the Pathway.	11 (of 15)

3.5 Data Analysis

For the quantitative survey items, such as the participants' satisfaction level of the Pathway, descriptive statistics were used for analysis. The numerical ratings addressed the first inquiry question about the overall usefulness of the Pathway. As for the qualitative items, which included open-ended questions about what the participants learned from the Pathway that they applied in their teaching, I used inductive thematic analysis to discover themes (Fereday & Muir-Cochrane, 2006). Qualitative data from the two iterations were aggregated for ease of reporting.

The audio recordings of the semi-structured interviews were transcribed by two student workers at the Teaching Center. I provided them with transcription protocols for consistency. The participants' names were replaced by pseudonyms during the transcription process. I coded the data from the interviews through inductive thematic analysis in Excel by extracting themes from the interviews.

As mentioned in the Instruments and Data Collection section, two colleagues from the Teaching Center conducted the focus group for the Fall 2017 and Spring 2018 iterations respectively. They each independently listened to the audio recordings of the focus group they conducted and wrote up a report with emerging themes. The focus group participants were invited to review the reports for accuracy and clarity. Applying the same inductive thematic analysis, I coded the reports in Excel. To address the second and third questions about usefulness of assuming the role as online learners and what the participants learned and applied in their teaching respectively, I separated the qualitative data into two broader categories accordingly and further coded them into sub-themes.

3.6 Trustworthiness

Four types of trustworthiness exist in qualitative research: confirmability, credibility, dependability, and transferability (Lincoln & Guba, 1985). I recognize that my multiple roles as the designer and facilitator of Pathway and the evaluator of this program might threaten the confirmability. As the designer and facilitator of the program, I wanted to see it as successful. This personal bias could have had an impact on the processes of data collection and analysis, and it could have prevented me from viewing the findings objectively, missing important elements that seemed negative. Nevertheless, insights I gained by having these three perspectives can shed light on how to improve the Pathway for future participants. Hence, I took a conservative stance and took measures to eliminate threats to the trustworthiness.

First of all, the design of this study incorporated quantitative and qualitative data collection. The participants' numeric ratings left no room for misrepresentation. Using surveys, focus groups, and interviews, I collected data from the participants at the mid-point of, the end of, and one term after the Pathway. The credibility of this study was enhanced with the multiple methods of data collection.

Second, two of my colleagues conducted the focus groups, which helped eliminate my personal bias in the data collection. I provided transcription guidelines to two student workers to transcribe the recorded interviews, removing myself away from the raw data. Another threat to the validity of this study is that I was the only person coded the data. Due to time and budget constraints, I was unable to find another person to code the data. Being aware of this threat, I paid attention to unanticipated findings that were not necessarily relevant to the three inquiry questions. Examples of these were the participating faculty's attitude toward the monetary incentive at the completion of the Pathway and their focus group comments that the word Pathway in the course

description they saw when signing up for it caused confusion about its format. Findings like these actually shed light on the usefulness and overall quality the Pathway. Details of these two findings are explained in the next chapter.

Additionally, I implemented member checks and peer debriefings to enhance the trustworthiness of this study. Member checks can reduce researcher bias and improve the credibility of research findings by engaging participants and stakeholders to evaluate findings, data interpretation, and conclusions (Birt, Scott, Cavers, Campbell & Walter, 2016; Thomas, 2006;). The focus group participants were offered an opportunity to review summaries from the focus groups, and they were able to clarify, add or correct items in the summaries. This helped ensure that the summaries accurately reflected their thoughts. In addition, peer debriefings helped enhance the trustworthiness of this study. The peer debriefings included discussions with faculty development professionals, my committee members, and fellow doctoral candidates who were interested in online faculty development, gave me feedback, and helped me identify researcher biases.

3.7 Chapter Summary

The purpose of this inquiry was to analyze the overall usefulness of the Pathway in terms of the participating faculty's role as online learners, and I wanted to identify what they learned from the Pathway that they applied to their teaching. A qualitative formative program evaluation (McClintock, 1994) using semi-structured interviews, surveys, and focus groups afforded the opportunity to understand the usefulness of the Pathway and address the three inquiry questions for the purposes of perfecting the course iteratively for future faculty participants. I recognize that

my multiple roles as the designer and facilitator, as well as the evaluator of the Pathway might affect the data collection and analysis. To ensure trustworthiness of the findings, I used qualitative and qualitative data collection methods and took specific measures to reduce personal biases.

4.0 Findings and Discussion

This chapter presents findings from surveys, interviews, and focus groups in relation to the three inquiry questions presented in the first chapter. The findings are organized in sections according to the inquiry questions. At the end of this chapter, I will discuss the findings accordingly.

4.1 Usefulness of the Pathway

This section presents the findings in relation to the first inquiry question: To what extent did the participating faculty find the course useful? Th data were drawn from the Mid-Point Survey and Upon-Completion Survey, which contained questions that elicited the participants' ratings on different items, such as the quality of the Pathway and likelihood of recommending it to others, among others.

In responding to the question 'Overall, on the scale of 1 to 5 with 5 being very much, how much have you been enjoying this Pathway?' in the Mid-Point Survey, out of a total of 14 responded participants from the Fall 2017 (eight participants) and Spring 2018 iterations (six participants), nine participants selected 4, and five selected 5. The average rating was 4.36. On the overall quality of the course, which was asked about in the Upon-Completion Survey, the average rating was 4.54. The ratings showed that the participants enjoying the course and thought highly of its quality.

According to the ratings of the relevant questions in the Mid-Point Survey and Upon-

Completion Survey, the participants of the Fall 2017 and Spring 2018 iterations found the course very helpful in the areas of learning about teaching best practices, engaging in discussion with other participants, receiving feedback, and redesigning their course materials. Figure 4 provides a summary of the ratings on the relevant aspects of the Pathway.

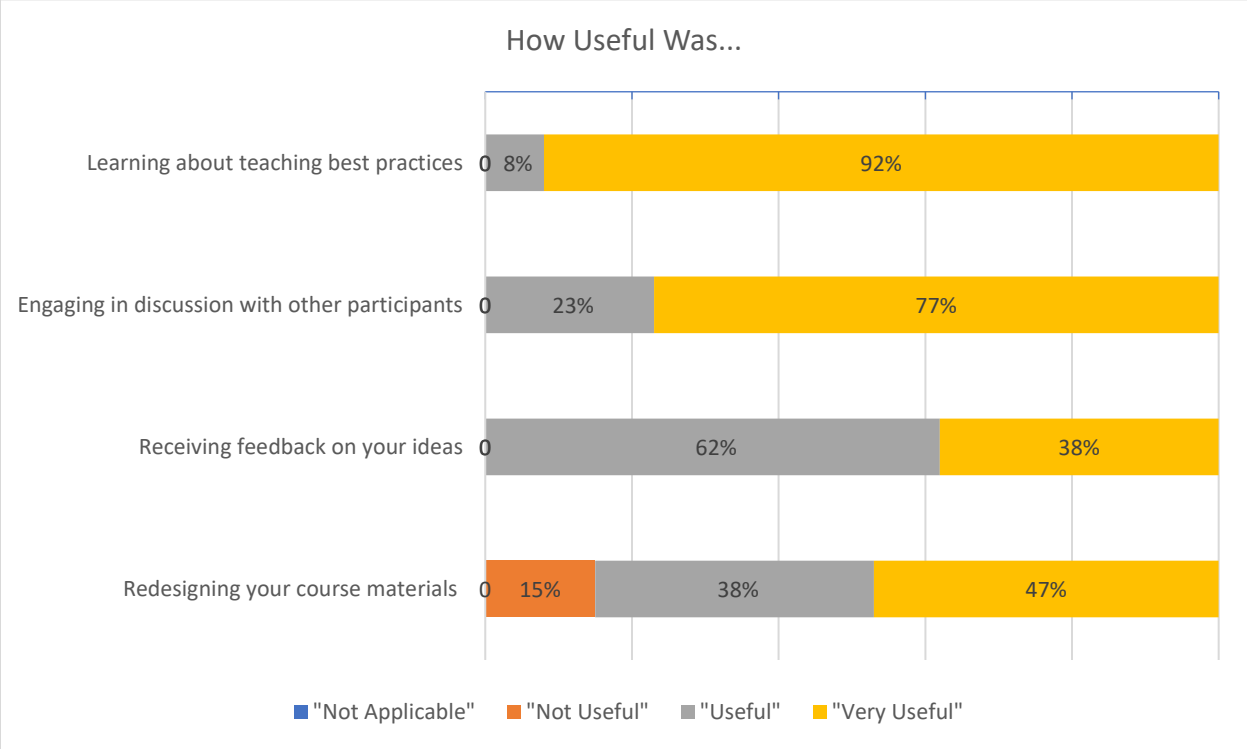

Figure 4 Summary of Ratings on Usefulness from the Upon-Completion Survey

In the Upon-Completion Survey, the participants rated their likelihood of recommending this Pathway to a colleague on the scale of 1 to 5, with 5 being definitely recommend it to a colleague. Nine participants rated 5 and four rated 4, and no participants rated lower than 4. The average rating was 4.70, indicating a high likelihood of recommendation.

Another question asked whether the small financial incentive ($300 as stipend given to the participants upon successful completion of the Pathway) influenced the participants' decision to participate in this Pathway on the scale of 1 to 5, with 5 indicating the incentive greatly influenced their decision of enrolling into the Pathway. Most of the participants rated 1 and the average rating

for this item was 1.85, indicating that the financial incentive was of low importance. The correlation between the likelihood of recommending the course to colleagues and the monetary incentive was negative (Pearson r = -0.07). The correlation between the likelihood of recommending the course to colleagues and participants' rating of the quality of the course was positive (Pearson r = 0.72). Table 5 presents additional analysis of this unexpected result. Among the seven participants rated the Pathway's overall quality 5 (the highest), five did not think the monetary incentive influenced their decision of enrolling into the Pathway, as they rated it 1 or 2. Only two of these seven participants considered the monetary incentive mattered by giving it a value of 4 or 5. On the other hand, six participants gave a rating of 4 on the overall quality of the Pathway, and only one of them thought the incentive mattered by rating its influence on her/his decision of enrolling into the Pathway 4. No participants rated the overall quality of the Pathway lower than 4.

Table 5 Comparison of Ratings on Overall Quality and Importance of the Incentive

Overall Quality of the Pathway	Number of Participants Rated	Incentive Did not Matter (Rating of 1 or 2)	Incentive Mattered (Rating of 4 or 5)
5 (the highest)	7	5	2
4	6	5	1

The correlation indexes indicated that the participants were overall satisfied with the course, and that monetary incentive did not seem to be the factor that motivated them to recommend the course. It is likely that the participants would like to recommend the course to others due to their high overall rating of the course.

One unanticipated theme emerged in the focus group of both iterations: some of the participants found the term Pathway confusing in that they did not realize that this was actually a course, even though the description of the Pathway was available on the website for registration.

Some of the participants saw and remembered only the mentions of three F2F meetings, thinking the Pathway required only three meetings without additional tasks. Consequently, some were surprised to find out in the first F2F session that there was actual work or assignments that they had to complete. This might explain why some participants dropped out of the program. The comments on the name Pathway causing confusion was surprising because we thought that the descriptions about the Pathway were clear. One participant said that he realized that the Pathway would take much more time than he thought, but since his department chair knew he signed up for the it, he would not want to disappoint the chair by dropping out. This comment seemed interesting as it reflected a departmental factor that motivated him to complete the Pathway. Another unexpected finding was that teaching an online course while attending the Pathway might be helpful to the participants to apply knowledge learned from the course. Three participants reported that they felt teaching an online course while taking the Pathway was very helpful in that they could immediately apply the strategies and technologies learned in the Pathway, evaluate the results of their applications of knowledge, and discuss with colleagues in the Pathway and me for feedback.

The last unexpected finding was that it seemed that the participants became more aware of what the Teaching Center can offer. One person stated that he used the Teaching Center's service to record video clips and that he would like to receive more assistance in the near future. Three participants requested consultations with me after the Pathway. This showed that the participants began to value and use the Teaching Center's resources.

4.2 Faculty's Role as Online Learners in the Pathway

This section presents findings that would address the second inquiry question: How did participating in the Pathway as online learners contribute to faculty's learning about online teaching? The data were drawn from three sources: focus groups, one-on-one semi-structured interviews, and the Upon-Completion Survey. One interview question directly asked the participants to reflect on their learning experience as learners in the Pathway and comment on how that role contributed to their learning. In response to the focus group question about what the participants learned, the participants shared their thoughts on being learners in the Pathway. In response to the question about what they learned that would enhance their teaching, some participants commented on the role as learners. Therefore, those comments from the focus groups and Upon-Completion Survey were included in the thematic analysis.

All 12 of the interviewed participants said that assuming the role of online learners contributed to their learning. Thematic analysis of the focus group comments and the Upon-Completion Survey, as well as the interview responses related to the role of learners and the interview transcripts, generated four themes presented in the order of frequency: (1) Experienced engagement strategies and practical Blackboard functions, (2) Developed strategies for online learning as students, (3) Transferred knowledge to teaching, and (4) Developed empathy and realistic expectations for students. In the next few paragraphs, specifics of each code are discussed in detail.

4.2.1 Experienced engagement strategies and practical Blackboard functions

Nine participants reported that as learners in the Pathway, they experienced the different

ways of engagement, including individual and group synchronous and asynchronous activities like games, discussions, and wiki projects. Two participants reported that they explicitly appreciated the learning opportunities, saying that unlike K-12 education, postsecondary faculty were hired without any teaching certificates because research skills were much more emphasized, and that the Pathway offered them an excellent opportunity to learn how to teach for the first time.

The participants mentioned specific facilitation strategies. These strategies included: selecting student group leaders; elevating the prompts in terms of the Bloom's Taxonomy in discussion forums by making them opportunities for students to apply knowledge (instead of asking them superficial comprehension-check questions); setting up a structure for students to identify classmates whose posts they would reply to in a discussion forum; and synthesizing discussion forum posts and composing digests to show students that their posts are read, rather than replying to each post.

A participant noted that the icebreaker Two Truths and a Lie conducted in the discussion forum even before the first F2F session in the Pathway set a warm and friendly tone early on. A participant reported enjoying receiving feedback throughout the Pathway. Another participant appreciated the opportunity of using technology as a learner in the course, stating that "the Pathway was my first exposure of blog, wiki, and journal. Using them in the Pathway as students allowed me to evaluate them."

A focus of the second F2F session was how to use Adobe Connect and Zoom, which are web conferencing software that allow participants to be grouped into virtual breakout rooms. Since at least one person participating from a different location in each iteration participated virtually, the demonstration of using the web conferencing platforms was also out of necessity. As a result, the participants were able to see how these tools functioned in real-life. One participant referenced

to the virtual breakout rooms that helped her/him to see the possibility of having small synchronous student group discussions online.

The participants noted how the Pathway was structured, i.e., the organization and structure of the content of the course site. One participant reported that her course site, which was similar to that of the Pathway, was designed by professionals. After being a learner in the Pathway, she began to understand why her course site was designed the way it was. The participants also noted practical functions of Blackboard, such as adaptive release and the 'Mark Reviewed' function in Blackboard, which enables students to mark an item as reviewed, allowing instructors to know the status of that item for future reference. This function is especially helpful to ensure that students read mandatory reading materials like syllabus and course policies. In both iterations, the participants asked me how to set up and use the 'Mark Reviewed' function during the first F2F class meeting because I set it up so that they had to 'mark reviewed' the course documents prior to coming to the first F2F. Perhaps this practice aroused their curiosity and raised their awareness of the usefulness of the function.

Three participants thought the Pathway demonstrated what a good online course looked like and that I modeled how to facilitate an online course. They believed online courses could be done well. As discussed in the first chapter, such a message might be challenging to send to faculty otherwise, due to the misconception about online courses that they are inferior to traditional F2F courses. By allowing the faculty to participate in this hybrid course, it appeared that they formed a favorable impression that online courses can also be good. This is helpful in "fostering faculty's acceptance of online delivery methods", which is critical to higher education institutions that include online learning as part of their strategic plan (Wingo, Ivankova, & Moss, 2017, p. 15). Unexpectedly, a participant wrote that s/he noticed how much effort I had put into the course. I

suppose that was due to the amount of comprehensive content, careful course and activity design, constant communication with, and periodical feedback for the participants.

When asked during the interviews whether the participants 'borrowed' ideas, activities or materials from other participants, all but two said they had. The responses to this question gauged the participants' learning as a group, which indirectly reflected the participants' learning experience and interaction among themselves. Even though research shows that faculty are more attracted to disciplinary knowledge (Maxwell & Kazlauskas, 1992) and are more concerned about examples immediately applied in their own disciplines (Elliott et al., 2015), the two cohorts reported they learned from each other, even though they came from different disciplines.

4.2.2 Developed strategies for online learning as students

Three participants reported that they realized they had to set aside time and mark their calendars to remind themselves of deliverables they needed to complete. One of these three participants shared that she would review the module content on a bus on the way home. She also stated that she would have printed the materials to read, if she were to be tested on them. Another participant specified that he would work on the module deliverable on weekends because it was hard to set a side time during the week. It seemed that the participants, most of whom did not have experience learning online prior to the Pathway, had developed strategies to weave their learning in this hybrid course into their busy schedule.

4.2.3 Developed empathy and realistic expectations for students

Three participants expressed that they developed empathy and realistic expectations for

students. Among them, two reported that it had been a long time since they were students, and it was great to become students again in the Pathway. The participants reflected that they had developed empathy for students because they had to do the work. They realized studying in a hybrid/online course required dedication, as reflected in the following participant comment in the Upon-Completion Survey:

> I really got to see how on-line classes require a lot of work and dedication by the student… This exposure was so informative to me and will definitely help adapt my on-line courses in the future. All the little tidbits, from copyright information to on-line assessment activities are additional tools that I can add to my teaching toolbox. This was truly a wonderful experience!

Since the faculty participated by completing the deliverables in each module of the Pathway, they developed realistic expectations for students as they strived to weave the Pathway into their busy schedules. The following are excerpts of the participants' reflections emerged in the interviews: "I realized how busy students could get. It's necessary to be predictable and send reminders. My expectations of students can keep track of their own learning might not be practical." Another participant reflected, "When I think back, a lot of my students are taking four other courses. I would be willing to be flexible and tell students how to best approach an online class—I didn't think about this before the Pathway."

4.2.4 Transferred knowledge to teaching

Three participants explicitly appreciated the emphasis on 'wearing two hats (teacher's hat and student's hat)' in the Pathway. The student's hat referred to the participants' role as a student in this professional development program for the purposes of improving the participants' teaching

in their own courses. Hence, the participants were explicitly reminded and encouraged to consider how they might approach the activities and teaching strategies in the Pathway as an instructor. The participants referred to the 'two hats', commenting that this approach was helpful in transferring the knowledge to the courses they were teaching or were going to teach. A participant said that because they did the activities, they knew how they worked, which was helpful for them to evaluate the effectiveness of the content organization, activities, and engagement strategies implemented for the purposes of inspiring them to adapt them in their own courses. In one participant's own words, the role as online learners was "one of the best parts of the course."

The above themes were identified in the data drawn from the interviews, focus groups, and the Upon-Completion Survey when participants commented on the role of learners. In explaining what, in terms of knowledge, they transferred to practice, the participants shared what they applied to their own teaching, which is further explored in addressing the third inquiry question in the next section.

4.3 Knowledge Learned and Applied

The data from the Mid-Point Survey, Upon-Completion Survey, One-Term-Later Survey, interviews, and focus group were drawn to address the third inquiry question: What did the participating faculty learn in terms of technology use and pedagogical strategies in the Pathway that they applied to their F2F and online teaching? A number of themes emerged. For easier identification and organization, the themes and sub-themes are categorized to the three types of presence in Table 6 according to Appendix B, which is a list of specific tasks for online instructors in an online course based on the CoI framework (Song & Won, 2013).

Table 6 Emerged Themes According to the Three Types of Presence in the CoI Framework

	Social Presence	Cognitive Presence	Teaching Presence
Themes	• Build rapport • Foster learning atmosphere • Communicate with students	• Facilitate group learning • Feedback • Assessment (formative and summative) • Open educational resources	• Q&A forum for student questions • Clear expectations • Easy access to content • Efficient course management • Content organization on Blackboard • Course design principles and notions • Flipped classroom • Activities for engagement • Accessibility • Easy access to content

Detailed descriptions of the sub-themes under the three types of presence are organized in Table 7, Table 8, and Table 9. They contain descriptions of the particular knowledge learned and applied under each theme. The number in each row indicates the frequency of the items mentioned in the sequential points of data collection (i.e., the Mid-Point Survey, Upon-Completion Survey, focus group, interview, and One-Term-Later Survey).

4.3.1 Themes under Social Presence

Based on Song and Won's (2013) list of tasks (Appendix B) for instructors in an online course in light of the CoI framework, the themes and descriptions that belong to the social presence aspect of an online course are organized in the following table, along with the number of mentions in the Mid-Point Survey, Upon-Completion Survey, focus groups, interviews, and One-Term-Later Survey, which took place sequentially.

Table 7 What the Participants Learned and Applied in Terms of Social Presence

Theme	Sub-Themes (descriptions/activities)	MPS	UCS	FG	I	OTLS
Build rapport	Used the icebreaker Two Truths and a Lie	2	1	3	5	
	Asked students to upload profile pictures				1	
Foster learning atmosphere	Used a more casual and conversational style in writing to students to make communication personable				1	
	Used Flipgrid to have students introduce themselves and discuss reading assignments				1	1
Communicate with students	Sent out announcements and reminders				2	
	Consistent communication		1			1

Note: MPS stands for the Mid-Point Survey, UCS stands for the Upon-Completion Survey, FG stands for focus groups, I stands for interview, and OTLS stands for the One-Term-Later Survey.

What is noteworthy is that the icebreaking activity Two Truths and a Lie used at the beginning of the Pathway was quickly implemented in the participants' own courses. As indicated in the table, two participating faculty members shared that they used it in their courses in the Mid-Point Survey. Two Truths and a Lie was also the most used activity because it was mentioned as many as five times at the interviews, which means almost half of the participants used it in their courses. In the interviews, two participants shared that they actually used this icebreaker soon after they first experienced it—one used it when she was going to teach the class the second time, which was a day or two after she experienced it, and the other participant used it the next day. Overall, the participants recognized the need for building rapport and fostering a group learning atmosphere.

4.3.2 Themes under Cognitive Presence

The following table presents emerged themes categorized under the cognitive presence, according to Song & Won's (2013) list of online instructor tasks (Appendix B) categorized by the three types of presence in the CoI framework.

Table 8 What the Participants Learned and Applied in Terms of Cognitive Presence

Theme	Sub-Themes (descriptions/activities)	MPS	USC	FG	I	OTLS
Facilitate group learning	Sent out discussion forum digests periodically				1	
	Monitored student attendance and performance, and approached students whose performance dropped					1
Feedback	Considered types of feedback and when to give feedback to students				1	
	Enabled students to be discussion forum facilitators				1	
	Used different strategies to give feedback				1	
	Used Panopto to record feedback			1	1	
	Allowed students to leave anonymous comments on concerns or issues and addressed them in a timely manner					1
	Opened a survey during the semester so that students can provide feedback at any time					1
Assessments (formative and summative)	Used Socrative, a formative assessment tool, for exit cards as a form of formative assessment				1	1
	Implemented online activities for formative assessment		1			
	Used a variety of assessments		1			1
	Differentiated formative and summative assessments		1			
Open educational resources	Encouraged students to use Creative Commons	2				
	Added attribution whenever necessary	1				
	Sought permission to use copyrighted materials			1		

Note: MPS stands for the Mid-Point Survey, UCS stands for the Upon-Completion Survey, FG stands for focus groups, I stands for interview, and OTLS stands for the One-Term-Later Survey.

It is notable that these themes did not emerge until the Upon-Completion Survey with the exception of the theme of using open educational resources, which emerged in the Mid-Point Survey. It is likely that the content about open educational resources was presented in the third module before the Mid-Point Survey was administered and that the themes of facilitating group learning and providing feedback might have required time to experience in the Pathway and reflect upon. Formative and summative assessments were not presented until the sixth module, so it would explain why the participants did not mention it in the Mid-Point Survey.

4.3.3 Themes under Teaching Presence

This section presents themes that belong to the teaching presence aspect of an online course, according to Song and Won's (2013) list of instructor tasks (Appendix B) in the categories of the three types of presence reflected in the CoI framework.

Table 9 What the Participants Learned and Applied in Terms of Teaching Presence

Theme	Sub-Themes (descriptions/activities)	MPS	UCS	FG	I	OTLS
Q&A forum for student questions	Added a Q&A forum for student questions				1	
Clear expectations	Paid more specific attention to the objectives and revised them to make them more measurable	1	1		2	
	Gave students more specific instructions and clearer expectations				1	
	Added explicit connections of what students should take away from readings				1	
Easy access to content	Included links to sections in Blackboard or content referred to in announcements				1	
	Added descriptions of the content to make it easier for students to understand the nature and purpose of the content			1		
	Asked students to include links in their emails of synthesis of discussion forums				1	
Efficient course management	To save time, moved away from responding to individual student posts; instead, sent students synthesis of the forum discussion				1	
	Used the 'Mark Review' function to ensure students read the academic integrity statement				1	
	Put tests on Blackboard to give more learning time for activities in class				1	
Content organization on Blackboard	Organized content by week, rather than by category (i.e., reading, videos, and homework, etc.)				1	2
	Divided the course into modules		1			
	Used the checklist from the Pathway to ensure everything is updated and ready before making the course site available				1	

Table 9 continued

Theme	Sub-Themes (descriptions/activities)	MPS	UCS	FG	I	OTLS
	Created a 'Start Here' section				1	
Course design principles and notions	Backward design	1	1		3	1
	Predicable design		2		3	
	Universal Design for Learning (UDL)	1	1		1	
	Alignment model				2	
	Gamification	1				
	CoI framework		1		2	
	Bloom's Taxonomy		1		1	
	Scaffolding		1			
	Chunking	1				
Activities for engagement	Designed more group work activities	1	1		1	2
	Added games as a way to introduce topic				1	
	Organized more in-class group activities and relied less on lecture				1	1
	Asked students to construct mind maps in groups			1	1	
	Organized students to debate in groups			1	1	
	Grouped students to play Jeopardy in teams (one participant used student generated questions)			1	1	1
	Paid greater attention to engagement of online instruction					3
Flipped classroom	Put tasks online for students complete before and after class meeting	1				
	Created videos for flipping the classroom			2	1	
Accessibility	Made content less text-heavy				1	
	Added closed captioning on created recordings				3	

Note: MPS stands for the Mid-Point Survey, UCS stands for the Upon-Completion Survey, FG stands for focus groups, I stands for interview, and OTLS stands for the One-Term-Later Survey.

As shown in the table, the participants as a group applied almost all of the course design principles and notions presented in the Pathway. Backward design enables instructors to develop courses with course goals in mind. Predicable design places an emphasis on predicable organization of course content, which would help learners better navigate the course site.

Three participants explicitly stated that they became aware of students' potential special needs and the necessity for making course content accessible. They added captions to their recorded presentations. One of these three participants said that when making his recordings, he

actually followed the steps that I shared with them, such as writing scripts first. He also recognized the need for receiving assistance from the Teaching Center.

It is noteworthy that the concept of the flipped classroom emerged in the data because it was not explicitly taught in the Pathway. However, since the participants experienced the hybrid format of the Pathway and was exposed to ways of putting content online for learners' consumption, it was likely that the participants considered this way of teaching to enhance flexibility in their F2F classes. For example, one participant indicated that she would consider this approach particularly when she had to be away from the students for a conference or take care of a sick family member during the semester.

4.3.4 Technology Use

Pedagogical use of technology was one of the main foci of the Pathway. Since technology use supports course design and facilitation, the above data analyzed in Sections 4.3.1, 4.3.2, and 4.3.3 were extracted and organized according to technology use. Table 10 shows how the participants used technology to support their course design and facilitation, as well as students' learning.

Table 10 Participants' Technology Use in Their Own Courses

Technology	How Technology Was Used	MPS	UCS	FG	I	OTLS
Blackboard's functions	Wiki for group activities	1			6	1
	Blog for individual reflection and showcase	1			2	
	'Mark Reviewed' function for academic policies to prevent students from denying they read them	1			1	
	Discussion forum—enabled students to apply concepts in context, elevating the level of thinking according to Bloom's Taxonomy	1			2	
	Discussion forum—to save time, sent out synthesis of the forum discussion to students			1	1	

Table 10 continued

Technology	How Technology Was Used	MPS	UCS	FG	I	OTLS
	instead of responding to individual student posts					
	Discussion forum—set up a structure for students to reply to designated classmates				2	
	Quiz	1			1	
	Rubrics				1	
	Adaptive release				1	
	Blackboard in general		1			
Web 2.0 tools	Mentimeter, an audience response system, for synchronous word clouds and quizzing		3		1	
	Dotstorming, a group-decision making platform, for student generated questions		1			
Screen capturing tool	Panopto for content presentation and recording feedback to students				3	
Web conferencing platform	Zoom for synchronous sessions		1		1	
Gaming platform	Kahoot for quizzing	1		2	1	
Info-graphic generator	Canva for information presentation			1		
Technology not introduced	Piazza for discussions					1
	Camtasia for screen capture	1				
	Socrative for exit cards for formative assessment				1	

Note: MPS stands for the Mid-Point Survey, UCS stands for the Upon-Completion Survey, FG stands for focus groups, I stands for interview, and OTLS stands for the One-Term-Later Survey.

The participants adopted a wide range of technologies, including everything from Blackboard's built-in tools to external Web 2.0 tools like Dotstorming; from Pitt's licensed screen capturing tools like Panopto to an external gaming platform such as Kahoot. Apparently, some technologies were more popular than others and might be easier to adopt. For instance, wiki was already adopted by one instructor by the time the Mid-Point Survey was administered, and it was mentioned seven times in total. A participant reported that she used Kahoot in her class in the evening of the day on which she used it as a learner at the second F2F class meeting in the Pathway. An excellent example of flexible use of technology for unusual needs emerged in an interview: A

participant who taught English composition shared that when she had a surgery on her right arm and could not write on student papers as she usually did, she opened student papers in Word and used the screen capturing tool Panopto to record verbal feedback with the computer cursor pointing to specific sections on the papers. She said she was inspired by my verbal feedback on her sandbox course organization and design recorded using Panopto.

It was surprising to see that three participants had used technologies not taught in the Pathway. Piazza is a built-in Q&A tool in Pitt's Blackboard, but it was not introduced in the Pathway. Camtasia, a screen-capture and screen-recording tool, is not a standard software available to all faculty, although it might be in some departments. Socrative is an external cloud-based student response system that is popular among some instructors or departments. It is encouraging to know that some of the participants used these technologies. Perhaps their self-efficacy was increased, as one participant reported that she felt more confident in using technology because the Pathway enable her to use several technologies that she would not have otherwise touched.

The discussion forum is probably the most familiar communication tool in Blackboard. Rather than reporting that they used this tool, the participants reported that they learned how to more effectively set up a structure for students to comment on each other's original posts, and what types of guiding questions they ask as prompts, instead of using comprehension-check questions that do not invite students to apply knowledge. One participant explicitly spoke about enabling students to use the higher order thinking skills as specified in the Bloom's Taxonomy by posing discussion questions that are likely to stimulate deeper thinking, reflection, and knowledge application.

To further examine what the participants learned and applied, the participants in the second cohort (Spring 2018) were asked whether their teaching (F2F and/or online) had changed since

taking the Pathway—this question was added to the Upon-Completion Survey starting from the second cohort. In other words, the first cohort was not asked about this until the One-Term-Later Survey. All five responded participants (the Spring 2018 cohort had 6 participants) reported that they did change how they approached teaching. As a group, they collectively made a number of changes. Individuals in this group: redesigned some course materials; shifted from, in a participant's own words, "a one-way deliverer of knowledge" to a facilitator of learning who put students as the center of learning and designed more collaborative learning activities; adjusted expectations for students to make them more realistic; became more transparent to students; made an effort to establish teaching presence, social presence, and cognitive presence in the CoI framework; used more instructional technologies; used chunking and backward design to guide course design to make engagement of online students more consistent; and made online courses "less dry" and text-heavy by incorporating different engaging activities to achieve the same objectives. The changes in these areas reflected that the participants recognized the need for interactive, collaborative learning and a shift from the teacher-centered to student-centered approach.

The One-Term-Later Survey also contained a similar question about whether the participants' approaches to teaching (F2F and/or online) was changed since taking the Pathway. Six participants from the Fall 2017 iteration and five from the Spring 2018 iteration responded, making the total number of respondents 11. All of these respondents chose "Yes" to this question. Additionally, the same survey had a question that asked if the participants had the opportunity to make changes to their courses or teaching based on what they learned in the Pathway. One respondent reported that s/he had not had a chance to make changes because s/he was not teaching. Nevertheless, s/he planned make changes in the categories of course design, activities, and use of

technology. The rest of the respondents (N=11) chose "Yes" to the question. Figure 5 represents the percentages of the changes reported by these ten participants by category.

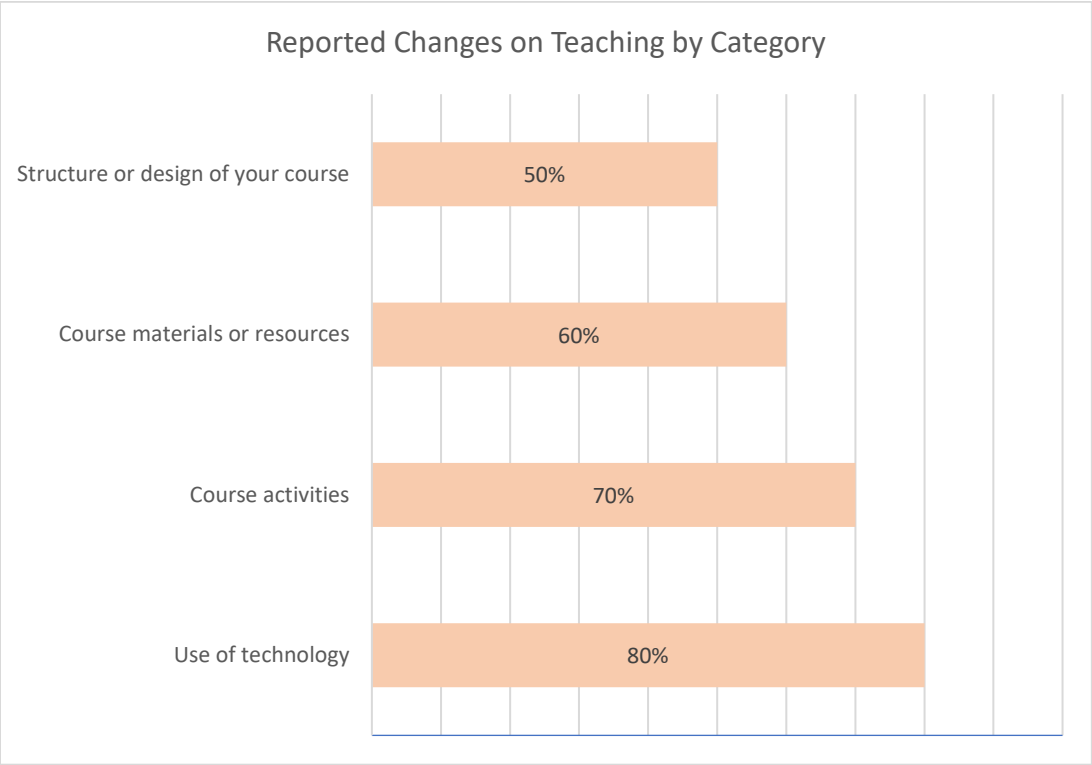

Figure 5 Reported Changes on Teaching by Category

As shown in the graph above, half of the respondents made changes on the structure or design of their courses. The majority of participants made changes in their use of technology (80%), course activities (70%), and course materials or resources (60%). It is encouraging to see that the participants made changes in their use of technology in only one term after their completion of the Pathway, especially considering how technology use is typically challenging to adopt for faculty in higher education (Smith & Herckis, 2018), as explained in the literature review in Chapter Two.

4.3.5 What Participants Realized

In the data drawn from all the sources, one noteworthy theme was what the participants said they realized. Although it would not address any of the inquiry questions, it is worthy of examination since realization is the very beginning step for uptake and adoption of activities and tools in the future. The following table shows what the participants realized through internal reflection opportunities explicitly structured in each module, as well as journal and blog entries in some of the modules. They reported their realizations in the surveys, focus groups, and interviews at the different points of data collection. Note that journal and blog entries were not included in the data due to the time and resource constraints of this dissertation in practice.

Table 11 What the Participants Realized

Sub-Themes (under teaching presence)	Specifics	MPS	UCS	FG	I	OTLS
Clear expectations	Instruction needs to be clear and specific		1		1	
	The need for clear rubrics		1			
Easy access to content	Videos and links need to be set up				1	
Content organization on Blackboard	Content needs to be concise and streamlined				2	
	The need to check everything, including links and due dates for accuracy before the course site becomes live				1	
	The need for explicit instructions on how to navigate the course site				1	
	Visual aids on the course site are important		1		1	
	An online course needs to be well-organized		1	3	12	1
Activities for engagement	The need to use different ways to keep students engaged				1	
Accessibility	Students might have learning challenges that are unknown to instructors, and greater accessibility of		1		1	

Table 11 continued

	the course may help					
Flipped classroom	The concept of flipped classroom				1	
	Flipping the classroom can be one of the ways to solving teaching problems			1		

Note: MPS stands for the Mid-Point Survey, UCS stands for the Upon-Completion Survey, FG stands for focus groups, I stands for interview, and OTLS stands for the One-Term-Later Survey.

It appeared that all of the themes were under the category of teaching presence, and that all 12 interviewed participants recognized the need for well-organized online course content. Two participants reported that because of the ease of navigation in the Pathway course site, it made them think about how their students navigated in their course sites. Another participant mentioned that the explicit and clear instructions in each module of the Pathway enabled her to see the need for explicit instructions for her students.

The concept of flipped classroom was not included in the course, but two participants mentioned it. One of them requested that I explain the concept and offer suggestions on how she could adopt it in her courses after the interview. Another participant explicitly pointed out that she realized she had options to solve her teaching problems. For example, she could use Panopto for recording presentations on course content to students ahead of time and spend time in class for students' knowledge application. A possible explanation for their realizations is that as learners in the Pathway, which is a hybrid course, they were presented with information in different formats like recorded videos and then came to the F2F class meetings where they discussed the content presented. They also became aware that they could take advantage of technology like Panopto to present information because they were exposed to it in the Pathway.

4.4 Discussion

This section further discusses in detail the findings, which are categorized into the usefulness of the Pathway, the participating faculty's role as learners, and the pedagogical strategies and technology learned and applied in their own classrooms.

4.4.1 Usefulness of the Pathway

The participants found the Pathway useful in learning about the best practices of teaching, engaging in discussion with other participants, and receiving feedback on their ideas. They enjoyed the Pathway and most of them would definitely recommend it to a colleague. It seemed that their decision to recommend was not based on the small financial incentive given upon successful completion. This finding is encouraging as the participants were motivated to learn in the program not because they would get paid. Since financial incentives may not always be provided, any faculty professional programs that rely on monetary incentives as a way to attract participants may not be sustainable.

4.4.2 Faculty as Online Learners in the Pathway

Faculty members participate in various professional development programs in different formats, such as workshops and faculty learning communities. Putting faculty in the shoes of a student in a formal semester-course is uncommon in the literature of faculty development. The participating faculty in this Pathway were students in a hybrid course, completing deliverables, providing and receiving peer feedback, and receiving instructor feedback. The participants'

feedback showed appreciation of their role as online learners in the Pathway, which focused on how to teach online. They reported that they gained perspectives of the student and instructor, and realized that both the student and instructor need to be engaged in the online teaching and learning process. The participants' role as online learners helped them understand what learning online was like. Since most of them did not have experience in teaching or learning online, which is in accordance with what is reported from the literature as online instructors' prior online experience, the exposure of learning online was able to empower the participants to gain important insights into this unfamiliar learning environment.

Several participants from the two cohorts reported that they gained empathy for students, since they were students in the Pathway, and that they realized dedication, commitment, and time management skills were necessary. The participants experienced learning activities that were engaging, and they adapted them for their own teaching. These realizations helped them prepare for teaching online as instructors, who would need to utilize technology and design engaging activities that foster the three types of presence in the CoI framework (Garrison, 2007).

Compared to teaching how to teach online in a workshop format, the Pathway was much more intensive and in-depth. This hybrid, semester-long course, centered the participants as learners. I stressed that the participants would 'wear two hats—a student's hat and teacher's hat' because they would experience everything, including consuming content, generating content, doing in-class and asynchronous activities, and completing deliverables, in the Pathway as learners. The faculty learners constantly reflected on their learning experience with the mindset that they would evaluate the effectiveness of the organization and presentation of the content, as well as activities and technology use for their own teaching in a F2F or online course. I modeled the learning activities and teaching strategies for engaging them throughout the Pathway, enabling

them to evaluate those activities and strategies for the purposes of adapting them in their own courses, as recognized by a participant.

4.4.3 Learned and Applied Pedagogical Strategies and Technology

In terms of what the participants learned and applied to their teaching, almost all the course design principles and notions were applied in the participants' teaching. Backward design, an important curriculum design principle, seemed to be remembered and applied by multiple participants. The icebreaking activity Two Truths and a Lie conducted at the beginning of the Pathway was quickly applied by several participants in their courses, showing thoughtful consideration of how to help their students to bond with each other. This reflected their establishment of social presence in their courses. It also reflected that this particular icebreaking activity was relatively easy to take and use right away. It seemed that some participants became aware that their students might have special needs that they were unaware of. Therefore, accessibility was a topic to which they would pay attention in designing courses. For instance, three participants reported that they added captions to their recorded presentations. The participants also learned about copyright laws and best practices. As a result, some reported that they requested permission to use other people's materials, whereas they were unaware of the need to do so before the program.

The participants also adopted a wide range of technologies, such as wiki, blog, journal, Web 2.0 tools, and Panopto, among others. Based on their descriptions of how these technologies were used, the technology use appeared to be pedagogical. Three participants respectively used Camtasia, Piaaza, and Socrative, which were not taught in the Pathway. Their adoption of the new technologies might be due to their exposure to the wide variety of technologies they were required

to use in the Pathway. Their self-efficacy might have been increased as they felt confident using the different technologies introduced in the Pathway.

Some pedagogical activities and technology use were applied earlier and more often than others. Such examples were the icebreaker Two Truths and a Lie and wiki, as discussed in this section. The scattered mentions of other items reflected in Tables 7, 8, 9, and 10 showed that the faculty did not acquire and apply the same knowledge or technology. This might be due to their individual teaching and learning experiences, preferences, tech savviness, and teaching beliefs.

It appeared that the sub-themes of what was learned and applied under the category of teaching presence were more than those under social presence and cognitive presence. It was possibly due to the fact that the main content of the Pathway was about how to teach online, and many facilitation strategies were demonstrated and explained in this course. The participants, as learners, might have remembered them more since they experienced those facilitation strategies.

Initially, I asked separate questions about what participants applied in F2F teaching and online teaching. All the interviewees expressed that they felt that almost all that they learned could be applicable to teaching in both environments. Therefore, in reporting the findings, I did not separate the specific content they applied in terms of traditional F2F teaching and online teaching. Overall, the data presented a wealth of knowledge learned from the Pathway and applied in the participants' own teaching.

4.5 Chapter Summary

This chapter reported findings based on data drawn from the surveys, focus groups, and semi-structured one-on-one interviews, addressing the inquiry questions. The participants' ratings

showed that they found the Pathway very useful, and their comments about their role as online learners were very positive. They developed empathy and realistic expectations for students as a result of assuming the learner's role in the Pathway. It seemed that the faculty's experience as online learners helped them understand online students' challenges.

The two cohorts also reported implementation of a wide range of instructional design principles, notions, best practices, and technologies in their F2F and online teaching. Three of the participants tried new technologies that were not introduced in the Pathway. All 11 of the respondents of the One-Term-Later Survey stated that their approaches to teaching F2F and/or online had changed since the enrollment of the Pathway. They also reported that they made changes to their courses or teaching based on what they learned in technology use, course activities and materials. The exception was one person who reported that s/he planned to make changes because s/he had not taught a course after the completion of the Pathway. In summary, the results indicated that the participants appreciated learning in the Pathway and were able to implement what they learned in their teaching, although when and what they applied greatly varied.

5.0 Conclusions

This study evaluated a faculty development program for online teaching using multiple methods for data collection. The data drawn from different sources were analyzed and discussed in the previous chapter. This chapter presents conclusions, recommendations for future Pathway iterations, implications, limitations, and recommendations for future research.

5.1 Conclusions

First, as discussed in the previous chapter, the data showed that the participants rated the Pathway highly and reported that it was useful in these areas: learning about teaching best practices, engaging in discussion with other participants, receiving feedback on ideas, and redesigning course materials. Some of the participants became aware of the Teaching Center's services and began using them, e.g., one-on-one consultations and the recording room. The small financial incentive did not appear to be an important motivational factor for their enrollment of the course. In a participant's own words, "It was not the game changer." It is likely that they would recommend the Pathway to other colleagues because they thought highly of it. Since the monetary incentive did not influence the participants' enrollment of the program, it may not even be necessary to include. For future professional development programs, as long as the quality is satisfactory, monetary incentives may not be needed as faculty are attracted to professional development opportunities that allow them to adopt behavior change (Lawler & King, 2000). In the environment in which institutions are faced with funding cuts, this is good news.

In the focus groups for the two cohorts, some participants pointed out that the term Pathway caused confusion about its format and intensiveness, in spite of the descriptions on the sign-up webpage, as discussed in the previous chapter. Since this confusion may cause future participants to drop out from the Pathway once they find out the commitment level required, the Teaching Center decided to rename the Pathway 'Seminar', which may better communicate to Pitt faculty the format than the word Pathway did.

Waitlists were created for those faculty members who were unable to register before the course reached its maximum enrollment of 12 participants. Unfortunately, even though some faculty members withdrew from the course, the faculty members on the waitlist could not join the course because the course had already started. The faculty members who decided to withdraw often did so because they underestimated the workload in the Pathway program. To ensure every participant is aware that they need to complete tasks asynchronously outside of the three F2F meetings, the enrollment process is set to be changed to an application format. In other words, potential participants need to submit an application and compete with other applicants to be accepted into the course, as opposed to registering on the webpage on the first-come-first-served basis.

Second, assuming the role of learners in the Pathway, the participants gained perspectives of both the student and instructor. They participated in learning activities, completed deliverables, provided and received peer feedback, and received facilitator feedback on their own course structures, and activity and assessment design. They did not need to completely accept the pedagogical strategies and activities they were exposed to in the course; rather, they were encouraged to consider how they might adopt or adapt them for their own teaching in both F2F and online environments. As the interviewed participants expressed, the unique experience was

valuable in allowing them to: experience online learning and student engagement strategies, develop online learning skills, develop empathy and realistic expectations for students, and transfer knowledge learned in the Pathway to their teaching.

As the literature shows, some faculty members, especially those who have no online teaching experience, tend to hold low opinions toward online courses (Betts, 1998; Dooley & Murphrey, 2000; Jones & Moller, 2002; O'Quinn & Corry, 2002; Schifter, 2000). The Pathway allowed the participants to experience a useful online course. Misconceptions about online courses should have been corrected after learning in the Pathway. From what the participants reported in the data, they thought the Pathway modeled an effective online course and that they thought online courses could be as good as traditional F2F courses. The participants were also able to practice using Blackboard and other technologies as learners before they are ready to implement them in their own courses. This helped them overcome fear of using technology, which is a barrier to teaching online (Berge, 1998).

Baran et al. (2011) discussed the lack of empowerment in teacher training for online instruction, but it is vague and ill-defined in the literature. Allowing faculty to learn in an online course about how to teach online, thereby developing online learning skills, empathy and realistic expectations for online students, is a way to empower instructors. Through course activities and reflection opportunities in the Pathway, they were empowered as autonomous and self-directed professionals engaged in problem-solving, decision-making, reflection, and collaboration with others (Baran et al., 2011). The participating faculty's role as online learners in the Pathway empowered them. They would not otherwise have been able to do so by attending one-size-fits-all workshops and training programs in other formats that do not simulate an online learning environment.

Third, similar to what was reported in the literature (Journell et al., 2013), most of the participating faculty of the Pathway did not have formal training on teaching and they were asked to teach an online course either because they were deemed proficient in using technology or were experts of the course content. The selection of these faculty members reflected the belief that teaching online requires proficient use of technology and familiarity of course content. Although both of these two elements are necessary, successful online teaching requires TPACK (Koehler & Mishra, 2009), which means faculty not only need to know the subject matter well, but also need to know how to use technology to teach it pedagogically. The pedagogical knowledge required is critical for an engaging, student-centered online course. The pedagogical strategies and technologies implemented by the participants showed that the Pathway was able to provide TPK in supporting faculty's teaching.

The participants were able to quickly apply the knowledge, such as technology use and activity design quickly in their own teaching. The Pathway's content included instructional technologies like the built-in communication tools in Blackboard, Web 2.0 tools, and most importantly, design principles like backward design, UDL, and predicable design. It also contained information about copyright and accessibility. It appeared that the participants as a group were able to apply these tools and concepts in their teaching, as showed in the data, although when and what each individual applied varied. Two Truths and a Lie, wiki, and Kahoot were almost immediately applied. These examples of quick implementation indicated that the participants were able to find practical teaching strategies and pedagogical technology use that could be easily transferred to their teaching with some adaptation. Practically, the second design principle of the Pathway was embodied, addressing Baran et al.'s (2011) finding of the lack of integration of pedagogy and technology use.

Notably, the participants reported that they applied the pedagogical strategies and technologies in *both* F2F and online teaching. Moreover, they did not differentiate them in their sharing in the interviews and focus groups, even though they were asked what they applied in F2F and online teaching in separate questions. In a way, the Pathway was able to support their F2F teaching, in addition to online teaching, because of the foundational pedagogical knowledge and strategies introduced.

Finally, the literature also shows that some faculty are concerned about unclear copyright policies and a lack of awareness of issues related to intellectual property rights, which may be an inhibitor for them to teach online (Berge, 1998; Dooley & Murphrey, 2000; O'Quinn & Corry, 2002). It is encouraging that some participants in the Pathway reported that they became aware of copyright issues and started requesting permission to use copyrighted materials. Copyright knowledge may be able to contribute to helping faculty to embrace the idea of teaching online. Overall, the Pathway offered the participants a good opportunity to experience online learning and to acquire foundational pedagogical and technological knowledge. Importantly, it also provided time and space for practice.

5.2 Recommendations for Future Pathway Iterations

First, as stated earlier in this dissertation in practice, the focus group data revealed that the word Pathway did not communicate to the faculty a recognizable format of professional development. The workload and format of the Pathway seemed to be unclear to some participants, even though the registration website provided detailed descriptions. The Teaching Center decided to call the Pathway 'Seminar' as it may better indicate the nature of the program than the word

Pathway did. The original first-come-first-serve registration process will be changed to an application process in which faculty members would compete with other applicants. This process would ensure they understand the nature, format, and workload of the program. It can also attract the most enthusiastic faculty members who are willing to allocate the time for learning in the program.

Second, it is important to continue to allow participating faculty as online learners in the Pathway because this format enables faculty to experience the instructional technologies and teaching practice first-hand as online learners, which is a direct way to demonstrate to faculty the effectiveness of these technologies and teaching practices. By experiencing them as learners, they are more informed of the effectiveness and adaptability of these technologies and teaching strategies. Herckis noted that her research showed that faculty would "adopt new tools and practices if they believe that they, their students, and their institution will benefit from the change" (as quoted in "Educators Will Adopt", 2018, para. 9). Participating faculty are in a better position of evaluating whether the recommended tools and strategies in the Pathway would benefit them, their students, and Pitt since they wear the 'student's hat' and 'teacher's hat', considering adoption and adaption of the pedagogical strategies and tools from the two perspectives.

Third, faculty members are drawn toward things that they can apply quickly (Lawler & King, 2000). It is critical to continue to identify and include notions, strategies, and technologies that are easily adoptable in the Pathway. Instructors cannot implement something that is unavailable to them. Since instructional technologies change rapidly (Smith & Herckis, 2018; Westra, 2016), and different departments and schools use myriad technologies, it is important to understand what is available in the departments and schools, and replace technologies that are introduced in the Pathway that became obsolete or no longer available.

Finally, the effort into participating faculty's satisfaction toward the Pathway needs to be continued. The Mid-Point-Survey, Upon-Completion-Survey, and focus groups should be conducted as ways to collect participant feedback and suggestions, although individual items can be changed to tailor for specific foci. These are necessary routine steps to understanding and ensuring the program quality.

5.3 Implications

In higher education institutions, especially the R1 universities like Pitt, faculty are often hired because of their subject matter expertise, research interests, and research ability. A great number of the faculty do not have a background in education or have not received formal training in teaching skills (Elliott et al., 2015). Pedagogical focus in training programs for online teaching can support faculty's F2F teaching, as reported by the Pathway participants. Such pedagogy-oriented programs can have far-reaching effects beyond online teaching.

Currently, faculty members do not typically have online learning or teaching experience, as reflected in the Pathway participants' demographic data. Faculty development for online teaching in the format of a hybrid course appears to be a plausible way to engage faculty to experience what learning online would feel like. Instructors who believe traditional courses are better than online courses may not resist the idea of teaching online because they believe that online teaching would sacrifice course quality (Betts, 1998; Dooley & Murphrey, 2000; Jones & Moller, 2002; O'Quinn & Corry, 2002; Schifter, 2000). Allowing faculty to learn how to teach online in an effective online course may be able to correct such misunderstanding, enabling faculty to venture out to online teaching.

When faculty are put in the position of teaching online, this experience would likely enable them to establish realistic expectations for their students. Since it is recommended that faculty take an online course in preparation for teaching online (Taylor & McQuiggan, 2008), faculty development professionals might as well offer them an online course that teaches how to teach online for the sake of efficiency. Even though enrolling faculty in an online course to learn how to teach online has not been reported in the literature on faculty development for online teaching, this approach may be highly practical and rewarding because faculty participants can gain first-hand experience of learning online and develop strategies for teaching online, according to the findings of the Pathway research data.

In terms of topic or focus of faculty training initiatives for online instruction, important concepts such as UDL, predicable design, backward design, CoI, copyright, and accessibility should be included as they are essential in curriculum design and activity design for online courses. Tools like wiki, blog, and journal might be new to faculty, but they should be also presented in a way that embodies pedagogical use, for it is important to also explain why they should be using them (Comas-Quinn, 2011). Meyer (2014) called for the need to "disentangle the various treatments included in faculty development programs" and assess usefulness of separate activities, rather than evaluating the professional development program as a whole, to understand what to include in the program (p. 5). The pedagogical strategies, activities, and technologies quickly applied by the participants of the Pathway indicate their usefulness. Thus, they should be included in professional development programs for online teaching.

It would be worthwhile if faculty members could experience the use of these tools as learners so that they can evaluate the advantages and disadvantages of using them. However, faculty development experts should be cautious in recognizing that faculty courses like the

Pathway are longer and more intensive, which may be a deterrent to busy faculty members who have other competing priorities. In other words, such programs may attract only a small number of enthusiastic faculty who are willing to invest considerable time and effort. Therefore, it is critical to offer faculty development programming in different formats requiring varied commitment levels at different times to reach a broader audience, as suggested in the literature (Comas-Quinn, 2011; Lawler & King, 2000). Such approach is beneficial to all online faculty because their backgrounds and skill levels vary (Ragan, Ko, & Redmond, 2014), and their learning preferences differ (Meyer, 2014).

Since three participants reported that teaching an online course was helpful while learning in the Pathway, faculty development experts may consider offering two separate programs for faculty who are teaching online courses and those who have no online teaching experience. The participants appreciated the help from instructional technologists as it was required for them to meet or talk with one at least once in the Pathway. Pairing with an instructional designer and/or technologist is helpful for instructors in the design and facilitation of an online course for it can reduce their workload, thanks to instructional design experts' time-saving tips and development support (Conceição, 2006). Hence, this approach should be considered, although it can be resource-demanding.

Faculty development cannot be successful without institutional support (Betts, 1998; Lee, 2001; Lloyd et al., 2012). Monetary rewards and alike motivate faculty extrinsically to take advantage of faculty development programs. However, as demonstrated in this inquiry in practice, monetary incentives are not important (Lawler & King, 2000). Release time, adjusted workload, graduate student support, public recognition, notes of appreciation, and other options are what faculty identified as factors that motivate them to pursue faculty development opportunities

(Taylor & McQuiggan, 2008). On the other hand, intrinsic motivation propels faculty to attend professional development programs (Lawler & King, 2000). Intrinsic motivation can be further divided to the desire of adopting new things, as well a sense of pride and satisfaction (Lawler & King, 2000). Faculty development for online teaching needs to appeal to these intrinsic factors when designing and delivering professional development programs. Faculty developers can collaborate with schools and departments to come up with ways to recognize faculty's effort in professional development. In the case of the Pathway, a small monetary incentive and a certificate of completion were awarded to faculty, and the department chairs were notified. Transparency between the Teaching Center and the departments seemed to have motivated one Pathway participant in that he did not want to drop out the program to disappoint his chair. This example showed that if providers of professional development programs communicate to the departments, and the departments put emphasis on faculty development, faculty may be more inclined to sign up for and complete professional training programs.

5.4 Limitations

Even though I took steps to ensure the trustworthiness of the findings, this formative program evaluation presents several limitations worth examining. First, it is a formative program evaluation of the Pathway, so the scope of this inquiry is limited to the participants who completed the program and does not address areas concerning the bigger context of Pitt faculty's professional development for online instruction. Each iteration of the Pathway has only 12 seats and enrollment is not mandatory. The Pathway's reach is limited to a very small number of instructors who showed interest in learning about online teaching. Three and four participants discontinued in the Fall 2017

and Spring 2018 iterations respectively, making the sample number even smaller. Therefore, the findings of this study are limited due to this reality and are not generalizable. This inquiry is also limited in that it included only the participating faculty in the Fall 2017 and Spring 2018 iterations, excluding those who participated in the Fall 2018 iteration due to the time constraints of this study.

Second, this inquiry in practice relied on self-reported data, which might incur social-desirability bias because participants tend to respond in a way that would make them perceived favorably by others (Edwards, 1957). While it was important to give the participating faculty opportunities to share their experiences and thoughts, it would have been more objective to examine the actual activity design and aspect of changes as reported by the participants. This may require permission to access the participants' course sites, materials, and assessments. To further evaluate the participants' design of activities, it may require class observations of F2F and online courses, which would not have been practical to complete within the timeframe given in this inquiry in practice. However, observation is a good way to evaluate the efficacy of the design and implementation of class activities.

Furthermore, I was the only person who coded the quantitative data due to limited resources. Having at least another coder would have been helpful in ensuring validity and reliability of the codes. Also, having another person review my codes would have been constructive.

5.5 Recommendations for Future Research

The recommendations for future research stem from the limitations of this study as discussed in the previous section. In addition to online faculty development program participants'

self-reported data, researchers can evaluate their course design and/or activity design to gain a more objective understanding of their learning. Observation of their teaching in synchronous and asynchronous formats can offer in-depth understanding of knowledge transfer from the faculty development program to actual teaching. The findings of the current study, especially the findings of what was learned and applied to teaching, can be compared with that of another faculty development program for online teaching with similar design and format to understand faculty's learning and behavior change.

The Pathway enrolled part-time and fulltime faculty, whose self-reported data were aggregated. Future research can be focused on investigating whether there are differences between these two groups in terms of knowledge transfer. Researchers can also look into whether tenured faculty and not-yet-tenured faculty differ in attendance and learning in faculty development initiatives for online instruction, since the priorities of these two groups of faculty are typically different.

Since the participating faculty applied learned pedagogical strategies and utilized technology in both online and F2F teaching, indicating the Pathway's impact on F2F teaching improvement. A couple of studies showed that online faculty drew on their experiences of teaching online to solve their F2F teaching problems (Comas-Quinn, 2011; Kearns, 2015; McQuiggan, 2012). In a study that aimed to find out how teaching in the blended online environment influenced instructors' teaching beliefs and practices, faculty who taught in online, blended, and F2F formats reported changes in some of their assumptions about teaching (Skibba, 2009). It may be worthwhile to investigate how training for online teaching and the practice of online teaching might impact F2F teaching, as some scholars considered teaching online a catalyst for faculty's

teaching improvement (Khanova, 2012; McQuiggan, 2011; Roblyer, Porter, Bielefeldt, & Donaldson, 2009; Rodgers & Talbut, 2013; Shea, Pelz, Fredericksen, & Pickett, 2002).

Teaching online can be disorienting to many instructors (Mezirow, 1990). Faculty development for online teaching is a widely recognized need, although current literature offers limited understanding of how to best support faculty. It is important for institutes to offer flexible professional development programs in different formats to fit in faculty's schedules. More in-depth research on formats and topics of such initiatives, as well as how different faculty populations learn to teach online will offer more insights into the issue of supporting faculty to develop skills for online teaching.

Appendix A Course Information of the Hybrid/Online Teaching and Learning Pathway

Length: One semester (14 weeks); average time needed for each module: 2.5-3 hours

Frequency: Offered in each semester (except summer)

Maximum enrollment: 12

Format: Hybrid. Faculty participants meet three times in person, but they can also join virtually via Adobe Connect. In addition to in-person sessions, faculty consume online content at their pace, interact with classmates, and complete deliverables within the timeframe of each of the seven bi-weekly modules.

Targeted audience: Fulltime and part-time faculty on all branch campuses

Course Objectives:

By the end of this course, participants will be able to:

1. Describe how teaching online works;
2. Evaluate applications of Blackboard communication tools such as blog in real situations;
3. Apply best practices in structuring their own online course modules;
4. Design class activities or assignments using educational technologies introduced;
5. Design formative assessment and summative assessment for participants' own courses.

Deliverables:

1. Evaluate the use of Blackboard communication tools in real situations;
2. Critique the design and structure of a sample course site;
3. Use Blackboard to construct at least a module of participants' own online courses, following copyright and accessibility guidelines;
4. Use Blackboard tools or external technologies to design class activities or assignments;
5. Design formative assessment and summative assessment for participants' own online courses;
6. Summarize best practices of online teaching and formulate participants' own online teaching philosophies.

Appendix B Learning Activities and Practices Based on the CoI

Social Presence	Cognitive Presence	Teaching Presence
1. Weekly welcoming messages and greetings 2. Self-introductions 3. Netiquettes 4. Co-generated norms 5. Water cooler (virtual café): sharing of local community information and personal interests 6. Use of emoticons via DCO 7. Sharing of personal goals and expectations from the course 8. Ice-breakers 9. Energizers (warm-up or personalized activities) at the beginning of each synchronous session 10. Resources contributed by the learners and facilitators 11. Recognition of learner contribution: periodic announcements, and quotes from participant comments	1. Learner-created content on PBworks (e.g., activity pool) 2. Learner-moderated threaded discussion on the learner-chosen topics 3. Posting digests of group discussions (e.g., co-formulating teaching strategies on learner issues and other topics) 4. Peer class observations: using PBworks to exchange constructive feedback and suggestions for further improvement 5. Group projects: designing lesson plans, and writing about implications of learning theories into teaching practices 6. Individual reflection on the participation and contribution to the class learning 7. Q & A forum: the learners also answered questions	1. Instructional design and organization of content to build an eLearning community: 6 key components • Authentic learning activities • Learner autonomy • Assessments • Facilitator and peer feedback • Interactions and collaboration • Learner support 2. Facilitation: gradual transition from facilitator-directed to learner-led sessions and threaded discussions: • Pair/group presentations • Individual research project • Timely feedback • Posing and answering questions 3. Direct instruction: • Facilitator-led discussion forums • Posting digests of discussions • Mini-lectures • Confirming/reinforcing learner understanding • Technology demos • Quizzes

Appendix C Inquiry Questions, Evidence, and Analysis of Evidence

Inquiry Questions	Evidence	Methods
1. To what extent did the participating faculty find the Pathway useful?	Questions such as the following: **Mid-point survey**: *Question 1*: Overall, on the scale of 1 to 5, how much have you been enjoying this Pathway? **Upon-completion survey**: *How useful was*: 3. Learning about teaching best practices? 4. Engaging in discussion with other participants? 5. Receiving feedback on your ideas? 6. Redesigning your course materials? *Question 7*: Please rate your likelihood of recommending this course to a colleague on a scale of 1-5, with 5 indicating that you will definitely recommend this course to a colleague. *Question 8*: Please rate the overall quality of this course on a scale of 1-5, with 5 being the best rating. *Question 9*: This course offered a small financial incentive. Please rate how much the financial incentive influenced your decision to participate in this course, with 5 indicating that the financial incentive greatly influenced your decision.	Analysis descriptive data; thematic analysis of the open-ended questions.
2. How did participating in the Pathway as online learners contribute to faculty's learning about online teaching?	Questions such as the following: **Semi-structured 1-on-1 interview**: *Question 5*: Reflect on your experience of learning as a student in the Pathway. Did that contribute to your learning? If yes, in what way? *Question 9*: Have you "borrowed" ideas, activities or materials from other participants in the Pathway?	Thematic analysis of the open-ended questions.

Inquiry Questions	Evidence	Methods
	Upon-Completion Survey: Question: What have you learned in this Pathway that you believe will enhance your teaching? Please provide specific elements you will use. **Focus group:** *Question 6:* What was helpful in your learning? What was NOT helpful in your learning?	
3. What did the participants learn in terms of pedagogical strategies and technology use in the Pathway that they applied to their F2F and online teaching?	Questions such as the following: **Mid-point survey**: *Question 3*: Is there something you have learned in this course that you have already tried in your traditional F2F course? *Question 4*: Is there something you have learned in this course that you have already tried in your hybrid/online course? **Upon-completion survey**: *Question 1*: What have you learned in this Pathway that you believe will enhance your teaching? Please provide specific elements you will use. *Question 2*: Think about how you approached teaching before you participated in the pathway. Has your approach to teaching face-to-face and/or online changed since taking the pathway? **One-Term-Later survey**: Question 2: Have you had the opportunity to make changes to your course or teaching based on what you learned in your Pathway Program? **Focus Group:** *Question 4:* What have you learned that you've already used in your **hybrid/online** course(s)? *Question 5:* What have you learned that you've already used in your	Thematic analysis of the open-ended questions.

Inquiry Questions	Evidence	Methods
	face-to-face course(s)? **Semi-structured 1-on-1 interview**: *Question 6*: What have you learned that you've already applied in your traditional face-to-face course(s)? *Question 7*: What have you learned that you've already applied in your hybrid/online course(s)?	

Appendix D Mid-Point Survey

The Mid-Point Survey was administered via Qualtrics in the 2nd F2F session (Module 4)

There are 5 questions in this quick poll to understand your experience in this course so far. Your responses are invaluable in improving your learning experience in this course.

1. Overall, on the scale of 1 to 5, how much have you been enjoying in this pathway?

   1 (not at all), 2, 3, 4, 5 (very much)

   (This scale is in the form of a slide bar on Qualtrics)

2. What concepts have you learn that are impactful to your teaching (including F2F and hybrid/online)?

3. Is there something you have learned in this course that you have already tried in your traditional F2F course?

   Yes. Specify here: (textbox in Qualtrics)

   No.

4. Is there something you have learned in this course that you have already tried in your hybrid/online course?

   Yes. Specify here: (textbox in Qualtrics)

   No.

5. Moving forward, what can be helpful to improve your learning experience in this course?

Thank you for completing this survey!

Appendix E Upon-Completion Survey

Please take a few minutes to complete this survey about your experience in the Hybrid/Online Teaching and Learning Pathway. Your feedback helps us to improve.

1. What have you learned in this Pathway that you believe will enhance your teaching? Please provide specific elements you will use.

2. Think about how you approached teaching before you participated in the pathway. Has your approach to teaching face to face and/or online changed since taking the pathway?
    a. Yes, I changed my approach to teaching. Please let us know about your change: _____ (textbox in Qualtrics)
    b. No

How useful was:

3. Learning about teaching best practices?
    a. Not useful
    b. Useful
    c. Very useful
    d. Not applicable

4. Engaging in discussion with other participants?
    a. Not useful
    b. Useful
    c. Very useful
    d. Not applicable

5. Receiving feedback on your ideas?
    a. Not useful

b. Useful
c. Very useful
d. Not applicable

6. Redesigning your course materials?
    a. Not useful
    b. Useful
    c. Very useful
    d. Not applicable

7. Please rate your likelihood of recommending this course to a colleague on a scale of 1-5, with 5 indicating that you will definitely recommend this course to a colleague.

8. Please rate the overall quality of this course on a scale of 1-5, with 5 being the best rating.

9. This course offered a small financial incentive. Please rate how much the financial incentive influenced your decision to participate in this course, with 5 indicating that the financial incentive greatly influenced your decision.

Appendix F One-Term-Later Survey

Please take a few minutes to complete this survey about your experience in the Hybrid/Online Teaching and Learning Course. Your feedback helps us improve.

1. Think about how you approached teaching before you participated in the Pathway. Has your approach to teaching face-to-face and/or online changed since taking the Pathway?
    a. Yes, I changed my approach to teaching.
    b. No.

2. Have you had the opportunity to make changes to your course or teaching based on what you learned in your Pathway Program?
    a. Yes, I made changes to my course or teaching.
        i. To which of the following did you make changes as a result of completing a Pathway Program? Select all that apply.
            1. Structure or design of your course
            2. Course materials or resources
            3. Use of technology
            4. Course activities
            5. None of the above
            6. Other (please specify)
        ii. What impact do you believe the changes you made had on student learning outcomes?
            1. Student performance improved
            2. Student performance did not change.
            3. Student performance declined.
            4. I am not sure
        iii. Additional comments about changes in student performance:
        iv. What impact did changes you made have on student engagement?

1. Student engagement improved
2. Student engagement did not change.
3. Student engagement declined.
4. I am not sure

v. Additional comments about changes in student engagement:

b. No, I have not had the chance to make changes to my course or teaching yet, but I plan to.
    i. To which of the following do you plan to make changes based on what you learned in your Pathway Program? Select all that apply.
        1. Structure or design of your course
        2. Course materials or resources
        3. Use of technology
        4. Course activities
        5. None of the above
        6. Other (please specify)
c. No, I have had the opportunity to make changes, but chose not to.
    i. Why did you decide not to make changes to your course or teaching after completing your Pathway Program?

3. Do you have any specific recommendations for how we might improve this Pathway Program in the future?

Thank you for completing this survey.

Appendix G Focus Group Questions

1. What have you learned in this Pathway?

2. What was your workload in this Pathway? How many hours did you typically spend in one module, which is two weeks long?

3. We want to fit this pathway into the faculty's busy schedule, so we would like to perfect it. What can be improved for the future Pathway participants?

4. What have you learned that you've already used in your **hybrid/online** course(s)?

5. What have you learned that you've already used in your traditional **face-to-face** course(s)?

6. What was helpful in your learning? What was **NOT** helpful in your learning?

7. How has your learning experience in this pathway influenced your teaching traditional F2F course(s), if any?

8. What might be the next step you will take, in terms of applying what you have learned in this pathway?

9. Did the Pathway meet your expectations? Why or why not?

10. Any final comments or suggestions that you would like to make?

Appendix H Interview Protocol

First of all, thank you for spending time to talk with me. What I would like to talk about is your experience of learning in the Hybrid and Online Teaching and Learning Pathway and your teaching experience (both online and face-to-face). The goal of my study is not to evaluate your teaching at all; rather, I am trying to learn about your learning experience in the Pathway and how that experience might influence your face-to-face teaching and online teaching (hybrid and fully online courses), as well as your understanding of teaching and learning.

The IRB office has reviewed the purposes and methods of my study, and told me that it would not require their oversight. Please note that you can stop at any point during the interview because your participation is voluntary. I will use a digital recorder to record our conversation today to help my note-taking. The digital sound files will be stored on a password-protected space.

Let's start by talking about your teaching background. And then, I would ask you to compare face-to-face teaching and online teaching, your learning experience in the Pathway, and what you have learned from the Pathway and applied in your online and face-to-face teaching.

Questions:

1. What was your preparation or training for face-to-face teaching?

2. What was your preparation for online teaching?

3. How did you come to teach online?

4. What are the differences between teaching a hybrid/online course and a face-to-face course? Were you aware of the differences before taking the Pathway?

5. Reflect on your experience of learning as a student in the Pathway. Did that contribute to your learning? If yes, in what way?

6. What have you learned that you've already applied in your traditional **face-to-face** course(s)?

7. What have you learned that you've already applied in your **hybrid/online** course(s)?

8. Can you share instances in which you experienced an unsolved problem in your face-to-face teaching that caused you to reflect on your online teaching (or what you have learned in the pathway), make comparisons between the two modalities, and, as a result, implement some kind of change in their face-to-face teaching.

9. Have you "borrowed" ideas, activities or materials from other participants in the Pathway?

10. Do you have at least one colleague in mind who is willing to share with you teaching strategies and ideas, including online teaching strategies and ideas?

11. How comfortable do you feel contacting one of the classmates in the Pathway to get feedback on your activity design, rubrics, and other changes or creations for your F2F or online courses? What made you feel comfortable?

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