International Journal of Teaching and Learning in Higher Education 2018, Volume 30, Number 3, 402-411
http://www.isetl.org/ijtlhe/ ISSN 1812-9129

Interdisciplinary Professional Learning Communities: Support for Faculty Teaching Blended Learning

Laura Terry, Maria Zafonte, and Sherman Elliott
Grand Canyon University

In higher education, despite disciplinary expertise and teaching experience, faculty who are asked to implement curriculum into new modalities, particularly ones that rely heavily on technolo-gy such as blended learning, may be intimidated and overwhelmed. However, instructors may be more willing to explore new modalities if they feel that support is available. Professional Learning Communities, or PLCs, support instructors embarking on teaching in new modalities and and us-ing new technology to support and expand their instruction. The current study looks at how a PLC was utilized to support faculty who piloted a blended learning model of course instruction. Seven faculty members from different disciplines shared their perceptions of how PLC meetings affected their ability to teach in the blended learning modality. Various sources of qualitative data, including surveys, interviews, and meetings notes, were analyzed to see the ways in which the faculty mem-bers viewed and utilized the PLC. Faculty reported that the PLC provided support, new ideas, and enhanced teaching and learning outcomes. The interdisciplinary nature of this collaborative group was particularly helpful in allowing instructors to expand their pedagogical practices within this new modality. They also felt more comfortable in their own ability to teach in this modality after receiving feedback from their peers who were also teaching blended learning sections for the first time. This preliminary study provides support that PLCs can assist in shaping faculty skills and boost interdisciplinary collaboration when faculty adapt their teaching to a new pedagogical modali-ty, such as blended.

A greater focus on student learning outcomes and innovative approaches to teaching have been a driving force in higher education. Blended learning is one resulting instructional culmination of this shift. While the literature does not present a single, agreed upon definition of blended learning, Garrison and Vaughn (2008) nicely summarize it as the "thoughtful fusion of face-to-face and online learning experiences" (p. 5). Institutions choosing to implement this type of experience will face the challenge of determining their own definition of blended learning, and they will need to give equal attention to why blended learning is being implemented, as this purpose will drive the mixed-modality initiative (Niemiec & Otte, 2009).

The creation of this alternative learning experience does not simply mean modifying lesson plans and placing content online. Technology is a necessary tool in this learning model, but consideration regarding how it will contribute to the delivery and understanding of the topic being presented should be considered. According to Schaber, Wilcox, Whiteside, Marsh and Brooks (2010), an ideal blended experience consists of deeper and more active learning tasks that are not solely modeled by the instructor. The blended modality requires teachers to rethink their instruction and create experiences that are novel or that they have never tried in a traditional or online classroom environment. Faculty are challenged to re-evaluate their content and how they teach. Blended learning requires that teachers put a considerable amount of time into a lesson that takes place outside of the purview of their classroom. In asking teachers to take such a leap, it is important that they are supported, yet orthodox and generative views of higher education pedagogy offer little solace to the professor who now needs to design investigatory and creative learning opportunities through a Learning Management System (LMS).

As teachers at our institution undertook an opportunity to pilot blended learning classes within their discipline, faculty began meeting once or twice a month. Though not mandatory and not billed as formal professional development, these ad hoc meetings allowed blended learning instructors from multiple colleges and disciplines to discuss and share challenges and triumphs encountered as they engaged students in this new modality. Through the collaboration and support instructors sought in these informal roundtables, a Professional Learning Community (PLC) had unwittingly been established. PLCs have been discussed as a vehicle for collaboration within many sectors, but particularly in education. Annenberg Institute for School Reform (n.d.) differentiates PLCs from other professional development by the fact that they are ongoing, context specific, aligned to a goal of reform or change, and "grounded in a collaborative, inquiry-based approach to learning" (p. 1). Instructors from various disciplines, who embarked on the blended learning experience for the first time, formed a PLC to share their experiences. The current qualitative study was conducted to capture the impact of the PLC on the blended learning first year experience for faculty, through the use of surveys, faculty interviews, and meeting notes. This data clearly shows that the PLC provided necessary support to teachers implementing blended learning, which ultimately impacted the overall outcomes of students in their classes in positive ways.

Literature Review

In reviewing the literature for this study, a brief synopsis of blended learning, the faculty preparation necessary to implement blended learning, and the role of PLCs in supporting this faculty preparation will be summarized.

Blended Learning

Blended learning is defined and described in the literature in a variety of ways. Kitchenham (2005) defined it as the combination of Internet and classroom resources to provide students with specific skills. Pape (2010) provided one of the most elaborate definitions of blended learning, describing it as an experience that goes beyond the walls of the classroom and that appeals to diverse learning styles, fosters independent learning, and includes online options to enhance the learning experience. For the purpose of this study, blended learning will be defined as a combination of traditional classroom methods and online digital media and technology. Instructors who teach blended learning classes work to create opportunities for students to explore course topics both inside and outside the classroom. More specifically, blended learning will be defined as a class that meets 50-70% of the assigned class time in the face-to-face classroom setting and spends 30-50% of the assigned class time completing course work in a different setting.

Faculty Preparation

King and Arnold (2012) identify course design, communication, and motivation as the three most important factors for faculty to consider in successfully implementing blended learning. Planning for activities that promote active and self-directed learning along with increased use of technology involves a rethinking of teaching practice on the part of instructors. Classes may require revision or a complete redesign to support a learner-centered approach, as this is the key to blended learning (Bates, 2010; Napier, Dekhane, & Smith, 2011). A change in the delivery method, as well as the teaching style, needs to be considered and accommodated to ensure success. Due to the nature of implementing these "planned" and "pedagogically valuable" experiences (Laster, Otte, Picciano, & Sorg, 2005), which provide meaningful learning in areas where a professor might be used to simply lecturing content, faculty must be prepared for an investment of time in planning for blended classes (King & Arnold, 2012).

Lesson planning for blended courses requires different considerations than lesson planning for traditional seated or online courses. Instructors are challenged to identify how to introduce topics in class and expand upon those topics through independent learning activities. This should be considered, because a portion of the face-to-face instruction is replaced with time spent outside of class participating in activities and assignments that reinforce concepts previously introduced. Instructors should also focus on finding engaging ways to allow students to interact with the material. One researcher recounted that it took three weeks of intensive preparation to have a pilot three-week blended unit within a traditional course ready to go; as the unit was presented, refinements were made based on student and course needs and feedback (Kenney & Newcombe, 2011). Creating active learning activities can be challenging for instructors as class time and the online environment are both considerations (Singleton, 2013). Additionally, preparation prior to implementing technology into the blended learning environment is also critical. This may include teachers participating in professional development activities that provide the opportunity to utilize new technologies prior to incorporation into their curriculum. This type of hands-on learning experience allows them to use a variety of technologies and gain experience with them prior to implementing them into blended learning classes.

All these disparate considerations should be taken into account when instructors begin teaching in a blended environment. This additional planning time and commitment can be a challenge to instructors; one way to support faculty through implementation is in peer groups where they can "deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, McDermott, & Snyder, 2002, p.4). The creation of a PLC to provide this needed support became important for the successful implementation of blended learning courses.

Professional Learning Communities (PLC)

PLCs are referred to by many different names; however, in reviewing the literature, it was determined that the goals and outcomes for the groups assembled was consistent: to support the faculty who were participating in the groups. Teaching strategies were shared, advice was provided, and support was felt by those who participated. Below is an overview of the research on PLCs.

Background. Professional development for teachers who are embarking on new methods and modalities of teaching is important. To ensure that teachers have the best opportunity for success, they need to be supported by their colleagues and administration. Stacey and Gerbic (2008) called for more investigation of "successful models of professional development and support of teachers who take up this new mode of teaching [blended learning]" (p. 967). Pape (2010) supported this claim by indicating that more research was necessary to determine the best

professional development practices for blended learning. However, existing research did support the fact that traditional professional development workshops and trainings needed to be supplemented or completely replaced with PLCs (Pape, 2010). In a study conducted by Pape (2010), when face-to-face study groups were created and began to meet regularly to discuss curriculum development and to share results about blended learning, there were positive results for both the instructors and the students. This was a key element that led to successful implementation of blended learning.

In a synthesis of 11 different empirical studies on PLCs, Vescio, Ross and Adams (2008) identified four essential characteristics that are shared by effective PLCs. The first is collaboration between faculty, which required providing them the opportunity to be open in their practice, reflect on their practice, and ultimately engender change. A focus on student learning is also necessary, because the ultimate goal of collaboration and reflection is to impact students. Teacher authority allows the teacher to make the most advantageous decisions for their learners and enables them to experiment and innovate. Finally, continuous teacher learning makes the experience a form of professional development in which teachers are constantly self-evaluating and engaged in becoming better teachers (Vescio et al., 2008).

Benefits and Goals. Cochrane-Smith and Lytle (1999) see PLCs differing from other kinds of professional development efforts in the primacy of the teacher. Where professional development may be seen as giving teachers knowledge, PLCs shift that model so that faculty instead explore their own knowledge of their practice. Benefits of PLCs included better understanding of personal teaching philosophy, more confidence in capability of implementing technology, collaboration and relationships formed with colleagues outside of their discipline (Stacey & Mackey, 2009). In addition, other benefits of participation in PLCs included an increase in faculty motivation and job satisfaction, development and maintenance of faculty relationships, and reduced faculty burnout (Roth, 2014). Improved teaching practices, including reduced time lecturing and increased implementation of active learning opportunities for students, benefits the faculty and students in the class (Roth, 2014). In most cases, teaching practices were improved.

When the goal of the PLC was improving student learning, faculty from various disciplines could come together and share ideas. Cross-discipline professional communities facilitate new ideas and practices (Roth, 2014). PLCs establish support for teachers who feel isolated in their profession, which helps to improve teaching practices and impacts student learning (Roth, 2014). Interdisciplinary design fosters individual learning, critical thinking, and communication skills as new practices and ideas as shared across disciplines. Group members are considering and integrating concepts and ideas from multiple disciplines into an existing framework that allows for professional and personal growth (Moore & Carter-Hicks, 2014; Stacey & Mackey, 2009). The teaching discipline is secondary to the desire to learn from each other, share common interests, and work toward a common goal (Roth, 2014). Collaboration leads to the implementation of new teaching practices, which encourages further discussions in future meetings (Stacey & Mackey, 2009)

Our Blended Experience

Implementation of blended learning at our university began during a pilot summer session with a single introductory math course. In the fall, blended learning classes were offered in six courses in two colleges, including math, sciences, and psychology, and eventually composition was added in the spring. Course objectives and competencies in these blended courses remained the same as the traditional courses. The model is a mix of face-to-face and online class meetings, either 33% outside of the classroom for classes that meet three times a week or 50% for classes that meet twice a week. Though institutions might view blended learning as a cost saving measure to increase the number of course offerings without having to build additional classrooms, instructors participating in this particular pilot study remained in the classroom on the independent, or blended, days. Students were afforded the opportunity to work in the classroom or ask the instructor questions, though they were not mandated to be there. On the independent learning days, learners were asked to complete assignments that went beyond the scope of the traditional course lessons. Deeper learning was fostered with extensive promotion of critical thinking skills that focused on deeper applications of the curricular competencies. Many of the lessons included applied problems that related directly to their majors or the contemporary workplace.

As these courses began, instructors involved in teaching blended learning courses started to meet regularly. The courses being offered in the blended learning modality were initially housed within two colleges. In the spring of 2015 another course was added which was housed in a third college. Therefore, the PLC meetings and discussions were increasingly interdisciplinary in nature. Initially instructors met every two weeks to discuss and share their progress and struggles within this new modality. However, considerations were made regarding the number of meetings that faculty are expected to attend; therefore, it was decided that the PLC would meet monthly. An agreed-upon day and time was established. These meetings, though formally calendared and highly encouraged by the

administration, were largely voluntary, and there were no repercussions if a faculty member's schedule precluded their attendance.

This study recounts and summarizes the perspectives of faculty from various disciplines who met once per month to share best practices, discuss concerns or challenges, and support one another as they implemented a blended learning model into one of their classes. The purpose is to provide an overview of the experiences of the faculty who participated in the PLC and to detail the interdisciplinary nature of the meetings. Additionally, an exploration of how the meetings led to the creation and management of meaningful blended learning experiences will be discussed. Finally, the effectiveness of the PLC in supporting faculty who taught in this modality will be promoted as an effective method for professional development in implementing blended learning.

Method

This study analyzed the perceptions and experiences of eight faculty members who implemented blended learning for the first time. Faculty members were from a variety of disciplines including math, English, psychology, business, physics, and biology. In order to be included in this study, the instructor had to teach one blended learning section of his/her respective course during the summer, spring, or fall semesters. Instructors, who agreed to teach a blended learning course within this timeframe were considered to be part of a pilot group. Of the seven instructors, six taught fulltime in the face-to-face modality and one taught fulltime in the online modality. One of the instructors who taught fulltime in the face-to-face modality had two years of online teaching experience. None of the instructors had experience in teaching a blended learning class prior to this experience.

Table 1
Faculty Perceptions of PLC

Statements (n=6)	Strongly Disagree(%)	Disagree (%)	Neither Agree or Disagree (%)	Agree (%)	Strongly Agree (%)
I looked forward to sharing my experiences with my colleagues at our blended learning meetings	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (50.0%)	3 (50.0%)
I gained valuable information from hearing about my colleagues' experiences	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	5 (83.3%)
I often felt like I wanted to be there more than I had to be there	0 (0.0%)	0 (0.0%)	1 (16.7%)	3 (50.0%)	2 (33.3%)
After hearing about different techniques and my colleagues tips and experiences, I would often experiment with those ideas in my own blended classes	0 (0.0%)	0 (0.0%)	1 (16.7%)	3 (50.0%)	2 (33.3%)
The blended meetings enhanced my teaching and student outcomes	0 (0.0%)	0 (0.0%)	2 (33.3%)	4 (66.7%)	0 (0.0%)
Overall, the blended learning meetings were helpful and supportive in my experience of teaching blended learning	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (33.3%)	4 (66.7%)

The faculty also participated in a PLC that was formed and facilitated by a dean from the College of Humanities and Social Sciences, which houses the disciplines of English, math, and psychology, all of which were represented in the blended pilot; however, faculty from disciplines in other colleges, including the physical and biological sciences and business, were also included in the blended project and the PLC. The PLC employed an informal roundtable format and met one time per month for one hour. During each meeting, everyone who participated in the group was provided the opportunity to share their experience with the blended learning class. An administrator was responsible for time-keeping to ensure the meeting moved along and that everyone was given the opportunity to share and receive feedback from peers. Administrative facilitation was limited to listening and connecting ideas among faculty rather than attempting to solve problems or critique approaches being described.

Data Sources and Analysis

Interviews and surveys were used to collect information from faculty members who taught blended learning courses in the fall and/or spring semester. Faculty interviews were conducted at the end of the fall semester for all faculty who taught a blended learning course. The interviews were transcribed and coded. In addition to the interviews, a faculty blended learning survey, consisting of seven Likert-style questions and three short answer responses, was administered to collect information from instructors. Finally, notes from the monthly PLC meetings were used to support information reported in the interviews or provided on the faculty survey.

Surveys. Six out of eight faculty members completed and returned the faculty survey that was distributed at the end of the first year of blended learning. The survey consisted of ten items including seven Likert-style questions and three short answer questions (Appendix A). The survey gathered feedback on the blended meetings that were held in the first year of implementing blended learning classes. The seven Likert-type scale questions were run through SPSS for basic descriptive statistics (Table 1) while the three short answer response questions were coded to identify emergent themes.

Interviews. Faculty interviews that were conducted at the end of the first semester were analyzed and coded. The Center for Innovation in Research and Teaching (CIRT), a faculty driven initiative that facilitates excellence in research and writing, conducted the interviews and collected the data to help to make the interviews more anonymous. These five interviews asked open-ended questions about the faculty's general views and experiences piloting the blended classes. These interviews were later transcribed and provided to the research team. They were then analyzed and coded for theme (Table 2)

Meeting notes. At the monthly meetings, a note-taker recorded the responses from each participant. Different challenges as well as successes were shared during these meetings. At each meeting participants would briefly describe how their class was progressing; what, if any, challenges or struggles they faced; and what was going really well. Teaching pedagogy, class management, struggling students, LMS issues, and overall feelings about the blended learning classes were shared during this time. These experiences were all captured at each meeting.

The text of the surveys, interviews, and meeting notes were hand-coded into meaning units by each researcher. The researchers each coded individually to gain better facility and understanding of the data prior to meeting altogether. After this initial coding, researchers then met to share their codes and to further analyze and categorize the data into themes based on shared characteristics that the researchers found in the interpretation of the data (Saldaña, 2013). Over the course of several discussions of categories and themes, inter-rater reliability was established between researchers and individual understandings, and codes were solidified into agreed upon themes as outlined in the next section.

Results

In a survey of faculty participants, all strongly agreed (50%) or agreed (50%) that they looked forward to sharing their experiences with colleagues in the PLC (Table 1). One participant stated, "More than anything else, the meeting gave moral support, a sense of not being alone." The theme of support was echoed by others who stated, "[I]t was reassuring to know that I was not alone in the experience," and, "[I]he meetings were a great support." Additionally, they reported gaining valuable information from listening to their colleagues' experiences. In regard to the motivation to join the group, five members reported "wanting" to be involved rather than feeling an obligation or being required to attend the meetings. One participant reported neither agreeing nor disagreeing with this statement of motivation to be a part of the group.

Five out of six participants in the PLC reported experimenting with different ideas that were shared in the PLC. Overall, all of the participants reported that the PLC was helpful and supportive in their experience of teaching the blended learning class.

In addition to the Likert responses, survey short answers and interview responses were analyzed. Themes identified included support, collaboration,

Table 2
Examples of Participants Perceptions of Blended Learning

Theme	Examples
Support	"moral support"; "a sense of not being alone"; "provided encouragement"; "the meetings were a great support"; "encouragement along the way"
Collaboration	"able to brainstorm ideas"; "brainstorming provided new learning experiences to be implemented into the classroom"; "it helped me to realize that we often face common challenges but each of us had a different take on the solution so it was great to see different approaches"; "great help to hear about techniques my colleagues used in their blended classes"; "shared best practices" "could experiment with new things in my teaching"; "helped me to create stronger learning experiences"
Comfort	"sharing of ideas and issues made me feel more comfortable teaching blended"; "helped me personally to be comfortable with my implementation"
Student Experience	"the meetings helped me make better decisions on course structure and delivery and that helped with student outcomes"; "helped me be more prepared therefore the students benefited from it"; "allowed me to help students with the blended format"; "an idea from my blended class has since been implemented in all of my classes"; "positive effect on the student outcomes in all my classes, not just the blended section"
Preparation	"I think that was very similar to a regular class."; "it wasn't an unreasonable workload."; "The work is not the same, of course, but is not 10 times more."

comfort, student experience, and preparation. Faculty reported that the PLC provided moral support, a feeling of not being alone, and encouragement. Participants openly discussed their experiences and challenges while receiving feedback from their peers who were sharing those experiences in their classes. One participant stated the following:

> I considered pulling the plug on the blended learning experience when technical issues plagued my class causing a lot of confusion for students in the beginning of the semester. However, the support from others teaching blended learning classes provided me the support to continue with the experience during the technical difficulties and once they were resolved.

Collaboration led to the ability to step outside of one's comfort zone and try various teaching strategies in the classroom. Through the realization that, due to the nature of our disciplines, "we often face common challenges, but each of us had a different take on the solution," a new approach could be considered and implemented. When one peer reported successful implementation of an activity or teaching technique, this "offered insights to improving practices" for the entire group. For example, one instructor reported that her students particularly enjoyed working in teams on the blended days; this inspired another instructor, who had previously only provided individual activities, to employ collaborative assignments for some of the independent learning days. The shared information and collegial support allowed for more experimentation in each instructor's pedagogy and encouraged them to try teaching approaches not always highlighted within their discipline.

Collaboration led to feeling comfortable in the implementation of blended learning experiences. It provided confirmation that there is not one correct way to conduct a blended learning class. One participant reported, "Listening to the different ideas and methodologies used by my colleagues helped me realize that not all blended learning looks the same. It made me comfortable with my implementation." Another instructor reported that though she "did not directly implement anything gleaned from a colleague," she reported that "the encouragement along the way helped me personally to be comfortable with my implementation." In addition, comfort came from feeling better equipped to teach in this modality. By attending the PLC meetings, instructors reported feeling more prepared and, therefore, more comfortable in implementing blended learning.

Student learning experiences were impacted indirectly through the PLC meetings as reported by the instructors. One participant noted that the experiences shared in the blended learning meetings had a positive effect on student outcomes because "they helped me be more prepared, therefore students benefit from it." Activities that were successfully implemented in the

blended learning section of the course were often later implemented into traditional sections of the course being taught by the same instructor. One instructor explained, "An idea from my blended learning class has since been implemented in all my classes. This idea alone has had a positive effect on the student outcomes in all my classes, not just the blended learning section." In addition, the opportunity to discuss pedagogy with other instructors from various disciplines helped in "making better decisions on course structure and delivery, and that helped with student outcomes."

However, in regard to the work of preparing for the classes—for example, classroom management, grading, and working with students—there was not consistency among the responses faculty provided. One faculty member reported that the workload was about the same and that the type of work was just distributed differently: "But as far as managing the class otherwise, getting the grades in and working with the students, I think that was very similar to a regular class." This instructor reported that "it wasn't an unreasonable workload." Interviewee 2 supported this by stating, "The work is not the same, of course, but is not 10 times more." However, Interviewee 2 then went on to report, "[I]t was a little tricky to handle the grading and making sure that the students get feedback for their work."

Meeting notes from the PLC meetings reflect a framework for the discussions that were most pressing to the instructors. Notes while roundtable sharing in meetings captured the present concerns, challenges, and triumphs in comments such as "going well," "students are responding to visual pieces," and "trying to figure out the best place to post something." These meeting notes were used to triangulate data from the surveys and interviews and helped to provide the framework of topics in the discussion section.

Discussion

There is a learning curve for instructors preparing to teach a blended learning class for the first time. At the beginning of this pilot program, many instructors reported planning as if they were teaching a new class. Blended learning was not something that they had experienced before, and even those who had traditional and online teaching experience were stymied in how to adjust lessons and materials to fit to the blended learning modality. Within the PLCs, faculty were able to share ideas, shortcuts, and time management strategies, which assisted with feeling less overwhelmed and more prepared for the semester ahead.

Preparation and Classroom Management

The literature identifies that preparation for a blended class is different and can put added demands on the instructor's time (King & Arnold, 2012), but supports and best practices shared in a PLC helped to overcome some of those challenges. Faculty teaching blended learning classes for the first time had different perspectives regarding the preparation, perhaps based upon their discipline. One faculty member reported the following:

> Initially, I thought that it was going to be very easy and that was not the case. It was not difficult but it was thinking about teaching differently than I had taught before. I thought that with using my ground and online experience that I would just combine those together and then you would get blended learning. I found that that did not necessarily work out the way that I thought it was going to. I had trouble in the beginning.

Another faculty member reported that in implementing blended learning, "You get pushed out of your comfort zone, and you have to figure some things out."

A variety of different topics were mentioned in regard to the workload for blended learning instructors. One dilemma was whether an instructor should simply adjust existing material used to teach the same class in a traditional face-to-face setting or create all new materials to fit the new learning environment being implemented. Instructors expressed that preparing for the blended learning class took considerably more time than preparing for a traditional class. They compared it to preparing to teach a class for the first time, even though they were teaching the same curriculum in traditional classes. Interviewee 1 stated, "I think for me, there was a little bit more work in preparing what they had to do during the week." Interviewee 3 also felt there was more preparation, because of the following:

> [Y]ou [are] trying to really find something that is engaging for the students and getting things organized. So there's a lot of prep work, I think with this class more than other ones I have done, but I think that if it continues that it will probably decrease a bit.

In addition to supporting each other, collaboration encouraged brainstorming to problem solve. This also generated ideas to provide new learning experiences in the classroom since they came from various disciplinary perspectives. The way a physics instructor might approach explaining a difficult concept is likely different than how a composition instructor might approach a challenging writing task, yet in discussing these concerns through the lens of blended learning, faculty garnered new approaches. As one group member would share an activity that he/she conducted, others would take notes and consider ways to implement or modify that same activity for their

classes. Using an informal roundtable format, this environment was intended to provide a different approach to classroom design and facilitation issues where faculty felt free to share their own challenges in a non-judgmental environment. The new approach may or may not lead to a better outcome, but it would have never been considered if not for time set aside for the group to collaborate.

The PLC was valuable in that it helped instructors to realize they were not alone. The instructors shared the same feelings and views in regard to the workload and preparation for the blended learning class. By discussing best practices, instructors were able to take ideas that were shared and work to implement them into their classes. They were also able to report if the strategies or techniques shared and implemented worked or did not. This helped to determine if the problems experienced were unique to the blended learning experience or if they were discipline-specific.

Faculty who participated in the PLC freely shared their positive experiences and the challenging aspects of blended learning. By sharing experiences in the group, members were able to receive support in areas in which they encountered difficulties; faculty also shared ideas that were working well, allowing others in the group to decide if they wanted to integrate the new shared learning strategy into their own classroom. In these exchanges we found support for the idea that there are pedagogical benefits alongside greater understanding when learning from each other through "disciplinary dialogues and collaboration" (Baker & Däumer, 2015, p. 51).

LMS and Classroom Management

Classroom management was sometimes found to be a challenge when the online discussion forums were being used in larger classes. Some of the blended learning classes had more than 90 students enrolled. In PLC discussions, best practices for using the discussion forums were shared. It was suggested that rather than individual posts, students could work in groups and post completed work to be reviewed in the forums. This would reduce the number of posts in the forums. It would also ensure collaboration among the students as this was the goal in the use of the discussion forum Also, initial technical issues with the LMS led to some student and faculty confusion. There was a glitch in the discussion forum in one of the blended learning sections; therefore, students were not able to complete tasks assigned on the blended learning days. Once the issue was identified and corrected, this problem was alleviated; however, during the diagnosis and correction, the PLC helped to support and encourage the instructor who was struggling. The instructor considered canceling the blended learning experience for the semester and returning to a traditional modality. However, colleagues came forward with suggestions to help alleviate the technological problems until they could be formally corrected. This support and the suggestions that were made encouraged the instructor to continue and complete the semester with successful outcomes.

Future PLC Meetings

These PLC meetings also created a yearning for even more collaboration. One instructor suggested that in future semesters the PLC meeting should begin by each instructor taking a turn at providing a 10-minute "mini-teach" to demonstrate and describe a method used in their blended classes in hopes of seeing "more discipline-focused examples to determine if they could be modified to fit my discipline."

Limitations

Within this study, several limitations were noted. This was a pilot study; therefore, the information collected serves as a baseline. The effectiveness of PLCs was founded in this study, but comparisons cannot be made. Additional studies on PLCs in blended learning will help to determine the effectiveness of PLCs in higher education to support faculty who are embarking on blended learning.

Additionally, the data that was analyzed in this study was self-reported. The participants shared their experience in the PLC and with blended learning in face-to-face meetings, as well as in a survey at the end of the semester. Due to the very small sample size and based upon information that was shared in the meetings, it was hard to maintain confidentiality in this study. The lack of confidentiality may have had an impact on the way that individuals responded in the meetings and on the surveys.

Conclusion

Findings from this preliminary study identify important aspects of faculty experiences and their need for support in adapting to teaching in a blended learning environment. Professional learning communities may be the avenue to promote effective faculty collaboration and to sustain support for one another. Further research should be conducted by expanding the population surveyed and interviewed to different college campuses nationally and internationally. As groups continue to meet in the second and third year of implementation of this professional development support model, it will be interesting to observe if and how the group evolves when individuals have more experience and knowledge. Continuing to conduct research on PLCs that incorporate diverse academic fields such as fine arts, theology, and education, in addition to the disciplines

already represented, would be an area for possible expansion on this topic. This present study contributes to a growing body of research addressing pedagogy and practices in the blended learning environment and to a foundation for increasing interdisciplinary collaboration among professionals in higher education.

References

Annenberg Institute for School Reform. (n.d.). *Professional learning communities: Professional development strategies that improve instruction.* Retrieved from http://annenberginstitute.org/pdf/ProfLearning.pdf

Baker, W. D., & Däumer, E. (2015). Designing interdisciplinary instruction: Exploring disciplinary and conceptual differences as a resource. *Pedagogies*, *10*(1), 38-53. doi:10.1080/1554480X.2014.999776

Bates, T. (2010). Understanding Web 2.0 and its implications for e-learning. In M. J. W. Lee & C. McLoughlin (Eds.), *Web 2.0-based e-Learning: Applying social informatics for tertiary teaching* (pp. 21-42). Hershey, PA: IGI Global.

Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249-305.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. San Francisco, CA: John Wiley & Sons.

Kenney, J., & Newcombe, E. (2011). Adopting a blended learning approach: Challenges encountered and lessons learned in an action research study. *Journal of Asynchronous Learning Networks*, *15*(1), 45-57.

King, S. E., & Arnold, K. C. (2012). Blended learning environments in higher education: A case study of how professors make it happen. *Mid-Western Educational Researcher*, *25*(1/2), 44-59.

Kitchenham, A. (2005). Adult-learning principles, technology and elementary teachers and their students: The perfect blend? *Education, Communication & Information*, *5*(3), 285-302.

Laster, S., Otte, G., Picciano, A. G., & Sorg, S. (2005, April 18). *Redefining blended learning.* Presentation at the 2005 Sloan-C Workshop on Blended Learning, Chicago, IL.

Moore, J. A., & Carter-Hicks, J. (2014). Let's talk! Facilitating a faculty learning community using a critical friends group approach. *International Journal for the Scholarship of Teaching & Learning*, *8*(2), 1-17.

Napier, N. P., Dekhane, S., & Smith, S. (2011). Transitioning to blended learning: Understanding student and faculty perceptions. *Journal of Asynchronous Learning Networks*, *15*(1), 20-32.

Niemiec, M., & Otte, G. (2009). An administrator's guide to the whys and hows of blended learning. *Journal of Asynchronous Learning Networks*, *13*(1), 19-30

Pape, L. (2010). Blended teaching and learning. *School Administrator*, *67*(4), 16-21.

Picciano, A. G. (2006). Blended learning: Implications for growth and access. *Journal of Asynchronous Learning Networks*, *10*(3), 95-102.

Roth, S. M. (2014). Improving teaching effectiveness and student learning through the use of faculty learning communities. *Kinesiology Review*, *3*(4), 209-216.

Saldaña, J. (2013). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage.

Schaber, P., Wilcox, K., Whiteside, A. L., Marsh, L., & Brooks, D. C. (2010). Designing learning environments to foster affective learning: Comparison of classroom to blended learning. *International Journal for the Scholarship of Teaching and Learning*, *4*(2), 12.

Singleton, D. M. (2013). Transitioning to blended learning: The importance of communication and culture. *Journal of Applied Learning Technology, 3*(1), 12-15.

Stacey, E., & Gerbic, P. (2008). Success factors for blended learning. Retrieved from http://www.ascilite.org/conferences/melbourne08/procs/stacey.pdf

Stacey, E., & Mackey, J. (2009). *Researching blended learning practices for teachers' professional learning.* Quality Education Symposium 2009: Education and Research. Retrieved from https://www.researchgate.net/profile/Elizabeth_Stacey/publication/29489326_Researching_blended_learning_practices_for_teachers'_professional_learning/links/54b97e440cf2d11571a4b4a4.pdf

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, *24*(1), 80-91.

Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Cambridge, MA: Harvard Business Press.

DR. LAURA TERRY has worked in the field of education for seventeen years and currently works as an associate professor in the psychology department at Grand Canyon University. She has experience teaching in a variety of modalities including face to face to face, online, and blended learning. She teaches and develops curriculum for undergraduate and

graduate courses in psychology. Her professional research interests include student motivation, blended learning, faculty support, technology and teaching, and integration of faith and learning.

DR. MARIA ZAFONTE is professor of English in the College of Humanities and Social Sciences at Grand Canyon University. In addition to her involvement in composition and English, she has a PhD in psychology with an emphasis in instruction and cognition. She is Executive Editor of the *Canyon Journal of Interdisciplinary Studies*. Her research interests include effective teaching of APA Style and student engagement in various learning situations, including large face-to-face classes, online, blended, and competency-based modalities.

DR. SHERMAN ELLIOTT is the dean of the College of Humanities and Social Sciences at Grand Canyon University. He serves on the board of the AZ Humanities Council and as a reviewer for the National Council for Accreditation of Teacher Education. His research interests include effective strategies for teaching the Holocaust, Holocaust education and adolescent moral development, civic education and professional pedagogical development for university educators.