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Reflective Practice: The Impact of Self-identified Learning Gaps on Professional Development

Cover Page Footnote

PD: Professional Development

Reflective Practice: The Impact of Self-Identified Learning Gaps on Professional Development

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Abstract

The ebb and flow of education creates unique challenges within educational programming. Universities are charged with the directive to offer more diverse field experiences within their course requirements. As a result of the directive, not every topic nor instructional scenario can be addressed in the program coursework, challenging the programs to bridge the pedagogical learning gaps of their candidates. The purpose of the professional development (PD) being studied was to connect pedagogical methods to candidates' own learning by providing self-selected PD with instructional tools that candidates could directly put into practice. The self-selected PD based on self-reflection of knowledge had the potential to promote meaningful, purposeful, and valued PD.

1. Introduction

As education ebbs and flows and the focus of instruction shifts to student-centered, active engagement, teacher education programs are charged with the directive to provide more diverse field experiences to help pre-service teachers think more deeply, connecting their content and pedagogy to their context for learning (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Coffey, 2010; National Council for the Accreditation of Teacher Education, 2010; Zeichner, 2010). The world of education is continuing to re-invent itself; therefore teacher education programs must stay forward-focused because those changes impact teacher preparation. The goal of increasing the number of diverse field experiences was to strengthen pre-service teachers' understanding of their learners in an ever-changing system, but they also need to be metacognitively aware of their own learning.

In this article, the term "field" is defined as the location that pre-service teachers work collaboratively with a classroom mentor teacher (CMT) to develop and implement lessons and

fulfill professional internships. Due to the directive to increase diverse field experiences, the onus is on the pre-service teachers to be reflective and cognizant of their instructional learning gaps, because every topic or instructional scenario cannot be addressed in program coursework. Therefore, teacher educators must determine how to bridge the pedagogical learning gaps of their pre-service teachers due to the increased time in the field--not an impossible task but challenging.

Due to the directive, field experiences were created at Parkway State (university pseudonym) from freshman through senior year. Parkway State is a Midwest University graduating over 400 pre-service teachers each year. They observe and actively engage in diverse contexts for learning, including but not limited to urban, rural, and suburban settings. Pre-service teachers may tutor one-on-one or in small groups, volunteer at instructional camps across the content areas or work in community centers (senior living facilities, juvenile residential centers or detention centers, churches, special needs facilities). In addition, they have opportunities to observe and co-teach in a variety of grade levels in different school settings.

At the end of pre-service teachers' third year in the education program, they are expected to draw from their content knowledge for a state-mandated content knowledge assessment, and then by their fourth year, they are supported as they actively engage students through careful planning and instruction, using data they glean from their day-to-day practice to inform future instruction. Pre-service teachers are encouraged to critically reflect on their own instruction and experiences to assess learning gaps that guide their next steps as a professional. Pre-service teachers are expected to be reflective about their teaching practice and knowledge (Greene, Sandoval, & Braten, 2016; Hofer, 2016).

Teacher educators at Parkway State also engage in reflection as they examine educational programs and student learning. Continually programs are modified and restructured to meet the needs of students and the ever-changing world of education. According to research, traditional views of effective teachers must be transformed (Darling-Hammond, 2006, 2009; Mockler & Sachs, 2011; Shostak, 2011), as well as teacher programming. Teacher educators at Parkway State took this seriously. With careful analysis of courses and student learning, faculty designed professional development that existed outside of coursework, providing the opportunity to bridge some of the pre-service teachers' self-identified learning gaps.

Senior year plays a crucial role in pre-service teachers' professional thinking and may also play a role in programmatic decisions when teacher educators listen to the learning needs of students. In this study, pre-service teachers applied reflective practice (Shön, 1983, 1987, 1991) and identified their learning needs including several instructional issues including but not limited to: classroom management, Individual Education Plans (IEP), individualized accommodations, behavior management, and various other miscellaneous challenges.

Professional development was implemented that reflected the pre-service teachers' self-identified needs. The purpose of this study was to connect pedagogical methods to pre-service teachers' learning by providing self-selected professional development with instructional tools that candidates could directly put into practice.

2. Review of Literature

Schön's (1983, 1987, 1991) groundbreaking work on professional reflective practice paved the way to address critical reflection in teacher education (Many & Many, 2014; Hofer 2017). According to research, an examination of beliefs that emerged from critical reflection promoted the development of more flexible and intentional approaches to effective teaching and learning (Korthagen, 2017; Schoffner, 2009; Sockman & Sharma, 2008;). Critical reflection occurs when learners construct their own narratives based on learning experiences and professional practice (Greene, Sandoval, & Braten, 2016; Hoffer, 2016). These reflections can take place individually or collaboratively and may take place during or after instruction. Reflection occurring during instruction is reflection-in-action, and reflection that takes place after instruction is reflection-on-action (Kovas & Corrie, 2017; Moore & Whitefield, 2008). Reflective dialogue that promotes intellectual and peer support, and connects classroom experiences with the real world generally takes place after instruction (Gut, Wan, Beam, and Burgess; 2016; Many & Many, 2014) and pulls colleagues and peers together to think critically about instruction.

Self-reflection and evaluation integrate teacher knowledge and skills that encourage change in teacher practice (Donovan, Bransford, & Pelligrino, 1999; Greene, Sandoval, & Braten, 2016; Hoffer, 2016; Timperley et al., 2007). Through professional inquiry of student needs, implementation of strategies, and the value of the professional development (Black & Wiliam, 1998; Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004), pre-service teachers have an opportunity to process new learning (Jang, Reeve, Halusic, 2016; Kusrkar, Ten Cate, Vox, Westers, & Croiset, 2013; Vansteenkiste, Simons, Simons, Lens, Soenens, & Matos, 2005) and have autonomy in their learning. Autonomy, in this context, refers to the pre-service teachers participating in the decisions about their learning (Smith, 2008).

By analyzing the valued student outcomes and how they are fostered by teacher behaviors (Black & Wiliam, 1998; Van der Sijde, 1989), the content and effectiveness of professional development can be evaluated meaningfully and purposefully (Brophy, 1999; Timperley, Wilson, Barrar, & Fung, 2007). According to Weaver (2015), we must engage students if they are to be successful and motivated learners. By providing teachers with targeted, professional development, opportunities for more complex thought can take place, and the professional

development can change teacher practice (Patterson et al., 2018). Pre-service teachers can then evaluate the session's effectiveness, reflecting on their own learning and practice (Korthagen, 2017; Timperley et al., 2007).

3. Theory

This study was grounded in the work of Shön, Dewey, and Piaget. Using reflective practice (Shön, 1983), teachers must reflect on their own interpretations and construct personal understandings of what it means to be a teacher (Sellers, 2012). According to Dewey's (1938) experiential learning theory learning ensues through experience, and those experiences reconstruct one's knowledge when the prior knowledge fuses with new knowledge (Dewey, 1934). Piaget (1954) examined Dewey's theory of reconstruction further by breaking it down into assimilation or accommodation. When a learner consciously reflects on experiences, the new learning either fits into existing schema through assimilation or the existing schema is reshaped through accommodation which takes place when the new knowledge does not fit into the existing schema. Throughout the four-year educational program, pre-service teachers are having to fuse their experiences together, reconstructing their knowledge, and their knowledge and experiences shape their encounters with texts and new happenings.

By examining pre-service teachers' histories, learning experiences, attitudes, and values, teacher educators can align them with curriculum and programming. The researchers created professional development that was thoughtful, investigative, and evaluative by responding to pre-service teachers' self-identified learning gaps when developing programming. The professional development has the potential to promote reflective practice and have the greatest impact on instructional quality and student achievement (Donovan, Bransford, & Pelligrino, 1999; Timperley et al., 2007). Through a process of pre-service teachers' reflection and teacher educators' responses, professional development sessions were created that brought continuity and a stronger program that promoted growth and a restructuring of pre-service teachers' belief systems around teaching.

4. Methods

Though more is known about the potential benefits of professional development (PD) for practicing teachers, little research has examined the effectiveness of professional development that is requested and self-identified by pre-service teachers. The PD went beyond the confines of mandatory classroom attendance and was requested by the integrated language arts and social studies pre-service candidates at the end of their methods semester. Faculty offered

sessions in the afternoons after regular school hours to encourage attendance, but attendance was voluntary. The objective of this study was to examine the value pre-service teachers' put on the professional development and its impact on instruction. It was important for pre-service teachers to reflect on their prior knowledge about the teaching profession, what knowledge and skills they perceived as integral to teaching, and what learning or instructional gaps they perceived themselves as possessing.

Researchers gave 40 pre-service teachers who were going to be teaching grades 7-12 language arts and/or social studies a simple survey at the end of their methods semester that asked, "What else do you want to know before going into the teaching field?" To formulate the professional development for the following semester, the researchers tallied the responses, analyzing the data for the four most popular teacher candidates identified as learning gaps: English Speakers of Other Languages, Universal Design for Learning, Special Education Law (specifically, how they can advocate for students with special needs), and Classroom Management (specifically, when teaching students with emotional and behavioral disturbances). These four topics were based on democratic consensus upon the principles of reflective practice (Shön, 1983, 1987, 1991).

During pre-service teachers' internship semester, teacher candidates across the content areas (math, science, language arts, and social studies) were invited to attend the four professional development sessions. The pre-service teachers' attendance was voluntary. After each session, candidates who attended the sessions were given a survey measuring the value, relevancy, and usefulness of the strategies given during the sessions. Then the candidates were encouraged to apply the concepts of each session into their instruction in the following two weeks. The language arts and social studies candidates completed discussion-board posts that asked how they implemented the given strategies and the impact on instruction because they self-identified their learning gaps and selected the sessions. Direct quotes from the discussion board posts were used because the candidates were teaching various content within their disciplines, so the direct quotes helped provide context for the candidates' responses.

This study focused on the prospect that self-identified professional development may influence pre-service teachers' instructional practice and university programming. Because the pre-service teachers self-selected the sessions, the work of Timperley, Wilson, Barrar, & Fung (2007) suggested that pre-service teachers would put more value on the professional development and have more motivation to implement the strategies in their classrooms. The present study examined the following research questions: 1) How did pre-service teachers value the professional development delivered to meet needs identified through a reflective inquiry process? and 2) How did the sessions they requested inform their instructional practice?

The sessions were all interactive and had the pre-service candidates working on case studies, when appropriate, and in small groups to discuss the scenarios and topics that were provided. Within these groups, the facilitators allowed the candidates to draw conclusions collaboratively with their peers and provide real life examples from their field experiences. The session *English for Speakers of Other Languages* was conducted over WebEx. It, too, was interactive and included case studies and small group work.

4.1 Participants

The participants in this study who self-identified learning gaps were senior pre-service teacher candidates in the Adolescence to Young Adult program (qualifying to teach grades 7-12). 27 were language arts majors, and 13 were social studies majors. The candidates' ages ranged from 21-27, and there were 22 females and 18 males who responded to the pre-survey. Those who attended the sessions included language arts, social studies, and several pre-service teachers from science and mathematics education programs, and attendance varied from one session to the next. All pre-service candidates who attended the professional development voluntarily responded to the content evaluation surveys. Approximately two weeks after each session, the language arts pre-service teachers responded to reflective, discussion board questions in the learning-management system for their seminar course. Pre-service teachers in the other content areas did not participate in these discussion boards and were not included in the qualitative analyses reported here. Because attendance at the workshops was voluntary, the number of participants varied from the first workshop until the fourth (see Tables 1-4), depending on interest and scheduling issues. Pseudonyms are used for all pre-service teachers.

4.2 Data Collection

Surveys and discussion board posts acted as data sources for the present study. Each survey had a total of 9 questions. The first seven questions were five-point Likert-scale items where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. To analyze the results, researchers calculated the percent of respondents who agreed with each item (defined as a response of either 4 or 5), and calculated the mean and standard deviation for each item. The last two questions were divergent, open-ended questions. The response for the last two questions were coded for emergent themes. The surveys were completed directly after each session, and the discussion boards were written two weeks after implementing the professional development content strategies into instruction by the integrated language arts pre-service teachers.

Researchers used Erickson's (1986) coding process to analyze responses. Emergent codes (Denzin & Lincoln, 2008) and themes were negotiated from the open-ended items and

discussions posts after the initial analyses. During the second examination of the data sources, recurring themes were verified among the researchers. This open coding method (Strauss & Corbin, 1990) was utilized for the descriptive themes and patterns. Researchers then categorized the responses as they connected to the research questions. The discussion board posts revealed five main themes: self-examination, peer encouragement, strategy sharing, innovation, and strategy borrowing.

5. Results

The findings are organized in the sections which follow according to our two-part research questions: How did pre-service teachers report and describe value the professional development delivered, and how did the content inform instructional practice? First, the researchers analyzed the Likert scale responses and compared them to the initial survey and the desires of students. Second, the researchers examined the open-ended responses and discussion board posts related to instructional practice. Quotations provided in the findings were selected to represent the codes and themes identified and are copied and pasted directly from the online source without editing for spelling, grammar, or punctuation.

5.1 Universal Design for Learning

Our largest attendance was in session one, Universal Design for Learning, with 35 students (Table 1). Those attending represented 25 language arts, 7 social studies, 1 math, and 2 science pre-service teachers. Based on the initial survey reflecting on learning gaps, 50% of participants felt Universal Design for Learning was a learning gap and candidates wanted to know more about it. Based on the post-survey, 74% of those in attendance found the presentation relevant to themselves as a professional, and 81% of respondents felt it met their needs. 94% of candidates believed they could use the strategies learned in the session in their classroom.

Table 1. Feedback Survey Quantitative Results for Universal Design for Learning Workshop

Survey Item	Agreement				
	<i>n</i>	<i>n</i>	(%)	<i>M</i>	(<i>SD</i>)
I was well informed about the objectives of this workshop.	35	34	(97%)	4.9	(0.4)
This workshop lived up to my expectations.	35	30	(86%)	4.4	(1.0)
The content of this workshop is relevant to my development as a professional.	34	32	(94%)	4.8	(0.6)
I found this workshop engaging.	34	27	(79%)	4.1	(1.1)
This workshop met my needs.	34	29	(85%)	4.4	(0.8)
I will be able to use what I have learned in this workshop.	34	33	(97%)	4.6	(0.6)
The instructor was well prepared.	34	34	(100%)	4.9	(0.3)

Note: Survey items were presented as five-point Likert-scale items where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. *n* = the number of responses received for each item shown. The number (*n*) and percent (%) of respondents who answered either *Agree* or *Strongly Agree* are displayed under “Agreement”. The mean (*M*) and standards deviation (*SD*) shown is calculated across all responses received for each item.

A running theme in the Universal Design for Learning open-ended responses were strategies candidates could use to motivate students on less favored topics to be more engaged through interactive learning. Candidates cited many examples of this pertaining to literature and other dense subject matter in the social sciences. For example, Claire wrote in her discussion post:

I provided my [sophomores] with a handout with all of our discussion questions, and I also projected them on the board in a PowerPoint. For each question I tried to have an image that could be associated with the question or answer. The images helped guide students to an answer, and students could see the discussion questions in front of them (where they could take notes) and on the board at the front.

For my freshmen, I tried to alter my auditory information...I gave them some background info on the author and story and then asked them to read the story on their own in 10-12 minutes. After they finished, I asked for volunteers, and we read it aloud together. Some students groaned, asking why we had to read it when they just did; but after the second reading, they admitted that they had a better understanding.

Other students, including Mark, used their responses in their discussion post to showcase unique strategies that drew upon multiple sources of media or pop culture to make the curriculum more accessible and relevant to their students:

Representation: I incorporated music videos of the currently popular rap song Black Beatles by Rae Sremmurd. Through using the Black Beatles original song alongside two very different cover versions...I was able to demonstrate for the class how changes in pitch and rate of the song’s voices completely changes the style of the original song.

Then to solidify this understanding I had students give examples of how changing their own vocal choice could change the mood of a performance. Thus, tying my music-based example into dramatic performance and relating it back to their real lives.

Other students used a small group setting stating, “This helped provide multiple means of engagement by giving them individual choice and fostering collaboration and a community of learners.”

Jenna stated, “I have tried to incorporate movement when feasible,” and Kelly reflected, “I have found that having them write their answers first gives them an opportune time to think and process before verbalizing their response. Also, if students choose not to verbalize, I then have written documentation.”

Cara said,

My Senior class is learning about the Restoration time period and they were reading about The Great Plague...The students were allowed to feel and write, as if they were experiencing what they were reading about. This made the lessons more personal to them, since the plague had happened many, many years ago. The students had fun with the assignment and were able to interpret the author's texts.

Brandon commented that he used “engage with the page,” and had juniors color, illustrate, or comment to “engage with the page in a way that made sense to them. Coloring utensils were brought out and students went to work.”

5.2 Special Education Law

In session two, Special Education Law, 24 students participated (Table 2). Those attending represented 16 Integrated Language Arts (ILA), seven Integrated Social Studies (ISS), one math, and one science teacher candidate. Based on the initial survey reflecting on learning gaps, 43.3% of participants felt Special Education Law was a learning gap. Based on the post-survey, 63% of those in attendance found the presentation relevant to themselves as a professional, and 79% of respondents felt it met their needs. 96% of candidates believed they could use the strategies learned in the session in their classroom.

Table 2. Feedback Survey Quantitative Results for Special Education Law Workshop

Survey Item	Agreement				
	<i>n</i>	<i>n</i>	(%)	<i>M</i>	(<i>SD</i>)
I was well informed about the objectives of this workshop.	24	21	(88%)	4.6	(0.7)
This workshop lived up to my expectations.	24	21	(88%)	4.4	(0.9)
The content of this workshop is relevant to my development as a professional.	24	24	(100%)	4.8	(0.4)
I found this workshop engaging.	24	18	(75%)	4.0	(1.2)
This workshop met my needs.	24	21	(88%)	4.4	(0.8)
I will be able to use what I have learned in this workshop.	24	23	(96%)	4.8	(0.5)
The instructor was well prepared.	24	24	(100%)	4.9	(0.3)

Note: Survey items were presented as five-point Likert-scale items where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. *n* = the number of responses received for each item shown. The number (*n*) and percent (%) of respondents who answered either *Agree* or *Strongly Agree* are displayed under “Agreement”. The mean (*M*) and standards deviation (*SD*) shown is calculated across all responses received for each item.

Pre-service teachers indicated in multiple instances the feelings of uncertainty and gratitude related to the training and information about Special Education Law during the second semester of their senior year. During their teaching experiences, many students had encountered students’ individualized education plans or working with intervention specialists, but not all. Those who had not were often grateful to hear fellow pre-service teachers’ experiences.

Teacher candidates questioned the effectiveness of particular aspects of the individualized education plans and how to circumvent barriers caused by ineffective wording of individualized education plans. Brittany writes in her discussion board post:

Although there are only a few students on individual education plans within my classes, the students should always be treated equally and be motivated to learn. I have a few students who need extra time on tests...I’ve tried my best to accommodate these students. When completing in-class work, I believe that the students should also be able to take their work home.

Pre-service teachers also discussed their relationships with parents of students who have individualized education plans and how this impacted their teaching strategies. Allan said in his post:

While I always provide accommodations for my students and do my best to meet their needs, many of them are still failing. However, I do not have strong relationships with any of the students’ parents...I think we could better serve the students if we communicated more frequently with parents to address the students’ needs and make sure they are receiving the needed accommodations at school and at home.

After the professional development, 18 pre-service teachers indicated lower anxiety about not having as much experience with Special Education Law. For example, Kaylee states in her discussion-board post:

The main take-away (sic) from the Special Ed Law seminar is that I need to constantly be aware of what I know and what I don't know...I need to ask the right questions and be sure to keep up on the legal aspects that come with my profession. It is all right not to know everything so long as a person is willing to learn.

Megan stated:

Now that I'm aware of special ed law, I realize how hard it is to get a student on an IEP and there can be lots of issues that come with a legal document for accommodations. I didn't know it was so difficult to get a student diagnosed for something that would qualify him or her for an individualized education plan...When I attend my next meeting, I will definitely go in with a different mindset and with a better understanding of how it works.

Eighteen respondents echoed the feeling of less anxiety about their knowledge of Special Education Law, and they felt more confident they were aware of which resources were available.

5.3 English for Speakers of Other Languages

Sixteen students attended the English Speakers of Other Languages workshop (Table 3). Those attending represented all language arts pre-service teachers. Based on the initial survey reflecting on learning gaps, 46.7% of participants felt English for Speakers of Other Languages was a learning gap. Based on the post-survey, 56% of those in attendance found the presentation relevant to themselves as a professional and 94% of respondents felt it met their needs. 88% of candidates believed they could use the strategies learned in the session in their classroom.

Table 3. *Feedback Survey Quantitative Results for English for Speakers of Other Languages (ESOL) Workshop*

Survey Item	Agreement				
	<i>n</i>	<i>n</i>	(%)	<i>M</i>	(<i>SD</i>)
I was well informed about the objectives of this workshop.	16	15	(94%)	4.5	(0.6)
This workshop lived up to my expectations.	16	12	(75%)	4.1	(1.2)
The content of this workshop is relevant to my development as a professional.	16	14	(88%)	4.4	(0.9)
I found this workshop engaging.	16	9	(56%)	3.6	(1.5)
This workshop met my needs.	16	11	(69%)	4.1	(1.0)
I will be able to use what I have learned in this workshop.	16	14	(88%)	4.4	(0.7)
The instructor was well prepared.	16	16	(100%)	4.8	(0.4)

Note: Survey items were presented as five-point Likert-scale items where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. *n* = the number of responses received for each item shown. The number (*n*) and percent (%) of respondents who answered either *Agree* or *Strongly Agree* are displayed under “Agreement”. The mean (*M*) and standards deviation (*SD*) shown is calculated across all responses received for each item.

In the data from this professional development, students seemed to struggle the most relating the content to their classroom settings. Seven students indicated that they did not have non-native English speakers in their classrooms. However, nine of the responders alluded to students with lower reading levels or to classes reluctant to disclose when they had not understood a teacher candidate’s instructions or lesson. For example, in Kelly’s discussion board post that is similar to Claire’s Universal Design for Learning response, Kelly said:

One way I have tried to accommodate all of my learners in a special way is through reading in class...I asked them to read the passage silently on their own. I gave them ample time to do so because I know I have some struggling readers in my class...Once a few students shared the main points of the essay, I asked for volunteers to read it aloud...I wanted my students to see that it is always beneficial to read something twice, but I also wanted to give extra support to my struggling readers.

Four pre-service teachers who had second-language learners in their classrooms indicated that the presentation was helpful in better assessing students’ needs and creating opportunities for self-examination and modifying unsuccessful teaching strategies. In Sarah’s discussion post, her comment covered the content of the other six candidates’ posts:

I have begun checking my pace and portion when teaching to my students to ensure comprehension. I have slowed down my verbal instruction and increased the amount of comprehension checks I do while verbally instructing. I have also begun to expand and elaborate on subjects...I have found that many times my language learners will not speak up and say he does not understand...I also began to give more wait time and

interact with all the students one on one...I began going around to every student and talking to them individually during every individual or group task to check their comprehension.

Lexie also stated the impact of working with the English language learners individually:

This week I tried discussing the content with them individually so that the student can ask questions if they need to. One of my language learners now talks more than my other students in class and has enjoyed Gatsby. The other students seem to be more engaged in the content, but success is a process!

Andrew said, “The strategies to help English language learners should start with getting to know the student, first. When the student sees that the teacher is trying, then they will be more open to learn(ing) (sic) what you want to teach them.”

5.4 Classroom/Behavior Management

In our final professional development session, Classroom/Behavior Management, 13 pre-service teachers were in attendance (Table 4). Those attending represented solely Integrated Language Arts candidates. Based on the initial survey reflecting on learning gaps, 83.3% of participants felt Classroom/Behavior Management was a learning gap. Based on the post-survey, 76% of those in attendance found the presentation relevant to themselves as a professional and 92% of respondents felt it met their needs. 92% of candidates believed they could use the strategies learned in the session in their classroom.

Table 4. Feedback Survey Quantitative Results for Classroom/Behavior Management Workshop

Survey Item	Agreement				
	<i>n</i>	<i>n</i>	(%)	<i>M</i>	(<i>SD</i>)
I was well informed about the objectives of this workshop.	13	13	(100%)	4.7	(0.5)
This workshop lived up to my expectations.	13	12	(92%)	4.6	(0.7)
The content of this workshop is relevant to my development as a professional.	13	12	(92%)	4.7	(0.9)
I found this workshop engaging.	13	10	(77%)	4.3	(0.9)
This workshop met my needs.	13	12	(92%)	4.6	(0.7)
I will be able to use what I have learned in this workshop.	13	12	(92%)	4.8	(0.6)
The instructor was well prepared.	13	13	(100%)	4.8	(0.4)

Note: Survey items were presented as five-point Likert-scale items where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. *n* = the number of responses received for each item shown. The number (*n*) and percent (%) of respondents who answered either *Agree* or *Strongly Agree* are displayed under “Agreement”. The mean (*M*) and standards deviation (*SD*) shown is calculated across all responses received for each item.

An immediate recurring theme that emerged among ten candidates’ discussion board posts was how to deal with the presence of cellphones in the classroom and general frustration with

the lack of adherence to existing policies about phones. Pre-service teachers sought to link common discipline issues to strategies presented at the conference. A good example is from Helen's detailed discussion board post that covered her several takeaways:

When it comes to group contingencies, I think it would be a great idea to offer a class reward when all students put their phones inside their assigned phone pockets...I would also use group contingencies to motivate my students to turn their assignments in on time...In terms of the executive functioning steps, one idea...is using a self-monitoring system...By challenging my students to focus on what they've learned from the assignment and addressing questions or issues that they had, this could potentially encourage them to complete their assignments.

This quote illustrates how the pre-service teachers sought to re-contextualize management issues as learning opportunities and integrate new strategies to achieve desired outcomes. Twelve pre-service teachers indicated they wished to implement more positive reinforcement. For example, Allison stated in her discussion post: "Encouraging positive behavior is something I have done informally, but many of the strategies mentioned in the lecture really struck me, particularly allowing my students to anonymously complement one another."

John continued the idea of positive reinforcement when he reflected: Because of [positive sticky note] idea, I want to implement positive, inspirational cards for my students when they take the state test during school...My students currently struggle with bullying...I would like to implement a class compliment book where students can write compliments about their peers and I can read them to the students.

5.5 Co-occurrence

As the researchers discussed the professional development sessions and the pre-service teachers' experiences based on their self-selection, it was important to look at patterns across all of the workshops. The surveys and dialogue of the candidates exhibited professional thinking and inquiry as well as critical reflection. The data revealed other overarching patterns and trends occurring as pre-service teachers shared their experiences with one another. Candidates supported each other in their experiences but also challenged one another by asking for further clarification. The peer-encouragement and self-examination co-occurred, demonstrating the behavior of professional educators and demonstrated the development of collaborative dialogue through reflection.

6. Discussion

This study examined how pre-service teachers' reflective practice informed the development of professional development based on their inquiry and self-identified needs. The sessions requested by pre-service teachers focused on integrating teacher knowledge and skills to change instructional practice. Based on the data collected, pre-service teachers perceived professional development as valuable, relevant, and the specific strategies suggested in the workshops have great potential for classroom implementation. For example, although only 50% of students felt they needed the Universal Design for Learning professional development (Table 1), after the workshop, 74% found it relevant, and 94% believed what they learned could be used in the classroom. The discrepancy between the pre-survey and post-survey could have resulted from pre-service teachers not understanding what Universal Design for Learning entailed. Once they understood the concept, they saw the relevancy and were able to utilize the strategies in the classroom, making their classrooms more interactive in order to teach every child.

Like UDL, candidates saw the relevancy of Special Education Law (Table 2) after the workshop and believed they could use the strategies in the classroom. One of the issues for some students who attended the Special Education workshop was that they did not currently have students with Individualized Education Plans in the classroom, so the immediate relevancy was not obvious to them, yet they did see the usefulness in a classroom.

The same argument could be made for the English Speakers of Other Language workshop (Table 3). Only 56% of students saw the relevancy, with 88% believing the strategies could be used in their classrooms. Candidates stated during discussion that they did not have students with English language learners currently in their classroom. The majority of students in attendance at the classroom/behavior management workshop, however, could directly relate to the content. 76% of students saw the relevance in professional development, and 92% thought they could use the strategies in the classroom. Candidates were able to re-contextualize their classroom management and provide more positive reinforcement. In all other workshops except the classroom management workshop, the pre-survey percentage was lower than the post-survey percentage regarding relevancy. The pre-service teachers' perception of usefulness in the classroom of all workshops increased across all professional development offerings. Those who attended the classroom management session were language arts students who specifically selected the topic as a learning gap. This revealed that candidates had the preconception that the topic would be relevant, valuable, and useful in the classroom.

7. Limitations

As the data was examined, the researchers determined a couple of limitations to the study. The n decreased as the professional development sessions continued throughout the semester. These sessions took place starting the second month of the second semester when teacher candidates were just entering their field site for full-time teaching. As the semester progressed, their responsibilities increased with completing the mandatory state assessments, job searches, grading, and planning. As their obligations increased, professional development might not have been at the top of their priority list. This phenomenon warrants further examination. Another limitation seemed to fall within the post-survey results. The lower percentages in the post-surveys might be a result of those surveyed may not have found the same value or relevancy as those who took the pre-survey. By looking at the results, one would guess that the language arts and social studies candidates were more satisfied with the professional development because they self-identified the learning gaps, whereas math and science candidates did not. In the future, researchers should provide pre- and post-surveys to teacher candidates across all content areas to self-identify learning gaps and measure the value, relevancy, and application of strategies presented. This continues to be an area of research.

8. Implications and Conclusions

Across the responses, the language arts pre-service teachers seemed to be actively using the concrete examples provided in discussion responses as sounding-board opportunities or sources of inspiration for teaching strategies. Replies often consisted of praise, cautionary tales, or further questions about successful teaching strategies they wished to adopt/employ. Of the designated codes from these posts, some interesting trends emerged. Of the total codes assigned, the most frequent codes assigned were Self-Examination and Peer Encouragement (with 56 and 52 instances, respectively). There were also seven co-occurrences of Strategy Sharing and Innovation, and Strategy Borrowing and Peer Encouragement.

The issue of democratic consensus is valuable in professional development. During and after the sessions, pre-service teachers shared respectfully and constructively with peers, while still being candid about the challenging aspects and learning struggles of their teaching knowledge and instruction. They were honest about their shortcomings, displayed confidence in their abilities, and seemed to want to foster preparedness and support in their cohorts. Teacher-candidates' request and input on the professional development topics may have helped engender more reciprocity in the relationship between professor and student. Allowing pre-service teachers to communicate their learning gaps and what they deem as critical knowledge can help transform teacher education programming.

Educational models need to be continuously revisited in order to meet the changing world of education. In order to unpack and analyze the existing educational models and transform traditional practices to provide authentic experiences for our pre-service teachers, we need to use reflective practice to examine the pre-service teachers' experiences and discover what learning gaps they self-identify. This examination creates opportunities for future research to continue measuring the efficiency of programming based on student needs and choices. Students' learning needs may shift and their self-identified learning gaps may ebb and flow. This variation could be an intriguing area of research: How do the topics shift over time, and what influences those changes to occur?

What we have discovered as a result of this study is that the role of choice by pre-service teachers promotes meaningful, purposeful, and valued interaction with the content of the sessions. By aligning the content with the candidates' self-identified learning gaps, candidates can transition more seamlessly from teacher candidate to teaching professionals, taking responsibility for their own professional learning.

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