# Setting the Stage for Teacher Engagement in a Professional Learning Community

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## ABSTRACT

**Using a phenomenological methodology, we investigated how teachers' professional needs, practices, and motivations align with the goals of a professional learning community designed to enhance teacher efficacy, promote reflective practice, and foster collaboration. We gathered data using semi-structured interviews. The teaching experience of our eight participating secondary teachers ranged from the first year to thirty-nine years in service. The teachers were in the beginning stage of a long-term grant-supported professional learning community initiative. We found a diversity of perspectives and practices ranging from traditional approaches to evolving perceptions of the teacher's role in supporting learning. Our results also suggest that the brief engagement in the professional learning community initiative influenced the teachers' perceptions of teaching and learning. However, we were unable to find evidence of the teachers embracing educational innovations that led to transformations in their perceptions and practices. We conclude our report with a discussion of the findings, implications for the results, and recommendations for future research.**

**Keywords:** Professional Learning Communities, reflective practice, teacher efficacy, collaboration.

## INTRODUCTION

For organizations to remain competitive and relevant, there is a growing understanding of the need for the members of organizations to continually engage in learning [1,2] The term "learning organization" has been widely adapted to represent organizations in which the members have created a climate and expectation that members of the organization continue to learn [1,3] One premise of learning organizations is that as the members continue to learn, they become better prepared to make changes and be more successful than their competitors. Another premise motivating learning organizations is to be more effective at meeting the needs of the individuals served by the organization's members.

Members of educational institutions have adopted the philosophy of being a learning organization to meet the needs of students by understanding their learning needs and

providing them with the learning support that enhances their success. Many educational organizations have adopted the term "professional learning community" to identify the groups of learners [4].

Initiatives to bring specific structure and function to teacher professional learning communities provide a warrant for determining the form and function of these communities. Professional learning communities in K-12 education have been explored primarily focused on the structure, content, and context (e.g., magnet schools, charter schools, virtual schools), leaving a gap in understanding the effect of the learning communities on practice and perceptions of teaching and learning [5] Thus, a gap exists in understanding how implementing school-wide highly structured professional learning communities impacts teaching. Furthermore, there is a lack of research on teachers' perspectives on the impact of learning communities on shifts in practice, particularly in their adoption of innovative practices. Our research addresses this gap in the literature and aims to gain a deeper understanding of the potential transformation of teachers' perceptions and practices within highly structured learning communities.

## REVIEW OF LITERATURE
### Structure and Function of Professional Learning Communities
Professional learning communities can take many forms [6,7, 8]. The communities' form reflects the members' goals and the model they base their community structure [9]. Learning communities can be structured around shared interests, such as reading and discussing a book or learning to teach [10,1,12]. Learning communities in K-12 education can be formed to develop and refine curricula, explore variations in content scope and sequence [13], innovate in teaching [14], and improve student learning [15].

A structure for professional learning communities that are being commercially promoted involves teams of teachers examining common assessment data and determining student learning progress [16]. These communities are not grassroots-founded and, therefore, are more challenging to implement due to the need for members to buy into the idea, learn and understand someone else's structure, and then implement it so it is valuable and meaningful [17]. Another issue associated with adopting a professional learning community structure is the potential for a lack of implementation fidelity or a misalignment between the structure and the needs of both teachers and students. Thus, these professional learning communities may focus on implementing what is known and attending to the status quo rather than emphasizing innovation and systemic change.

### Motivation for Adopting and Implementing PLCs
The structures and processes of mainstream educational schools have changed little over the last century due to resistance to change [18, 19, 20, 21]. When walking through schools, it is prevalent to see students at rows of desks, teachers in front of the classroom as conveyors of knowledge, a curriculum that looks nearly the same as it did a century ago, and highly structured learning time [22]. Thus, as institutions deeply seeded in tradition, schools are unlikely environments to inspire teachers to adopt new ideas for facilitating and supporting student learning [21]. The significant disconnect between the learning and structures in schools and the activities and needs for success outside of schools suggests that the structure of schools needs to be rethought and restructured [23]. Thus, for changes to modernize curriculum and

instruction, it is beneficial for teachers to seek new structures for instruction and motivation. [24].

Professional learning communities, if appropriately structured and focused accordingly, can catalyze teacher-led change [25, 26]. Professional learning communities may effectively operate outside the traditional schooling structures, leading to immersion in an environment that fosters rethinking the teaching and learning processes [27]. Thus, the potential for professional learning communities fostering the consideration and adoption of the change in schooling justifies researching the perceptions and practices of those engaged in PLCs exploring options to traditional learning structures.

The motivation for forming and implementing professional learning communities may also be linked to refining current practices to meet the needs of students who are underperforming [28]. Professional learning communities designed to increase teacher awareness of the needs of underperforming students are usually structured to work within extant institutional practices [28]. Thus, the motivation is to attempt to change existing structures to enhance student learning. There are potential benefits to this approach. Still, it also holds some potential criticism as the shifts in practices may need to be more disruptive to change the system to align with the learners' needs.

**Teacher Practice**
There are many ways to consider teacher practice. The teacher is contextual, culturally bound, and individually determined [29]. Commonalities can be regarded when defining teacher practice within the same culture and similar contexts. We approached defining teacher practice based on our research context and the culture from which we recruited participants.

Since our participants came from a school where teaching is most commonly teacher-centered, we recognize their practice as reflective of traditional approaches. Thus, their goals for teachers tended to be focused on student performance on conventional assessments. This practice is well-documented and expected in K-12 education [30]. In alignment with Schmoker [31], we aim to facilitate their progression to a practice of reflective planning based on student needs and logical thematic connections in the curriculum.

Similar to the findings of Fitriati, Rosli, Iksan [32], the planning practices of the teachers are defined by focusing on the fundamental basics of learning standards in a traditional sequence. Lesson planning is the initial step in creating content. The focus of lesson planning is left to the individual teacher to interpret and make preferences regarding the actual course curriculum for students [33]. For decades, textbooks and state-adopted standards have been the instruments to determine and map course curricula [34]. There are different methods of instruction; as students age, lecture remains the primary method of content delivery in later grades [35,36]. Active engagement includes interactions between students and the environment where the instruction is taking place. Active engagement can be achieved through a lab investigation in science courses or through Socratic circles in social science or literature courses [37, 36]. Diversification of instructional delivery ranges from teacher-centered lectures to active student engagement or inquiry [38].

Formative assessments provide embedded action research of teacher instructional practices. Formative assessments enable a check for understanding, pinpointing misconceptions, and addressing learners' needs [39]. Scholars indicate that formative assessment is least practiced by teachers at all levels of education. [39, 40, 41, 42]. Formative assessments provide not only an indication of the student's understanding of the material but also an opportunity to build confidence in the student's learning. Formative assessments are designed to determine whether students have mastered specific skills or content, enabling the improvement of their understanding [43].

There are various ways to define a reflective practice. As Russell [44] compared critical reflection and reflective practice, a range of reflective practices involves simply being aware of data, conditions, or actions. In contrast, critical reflection involves purposefully and strategically gathering and responding to student data through aligned instruction to optimize student learning. We are interested in the implementations and outcomes of the reflection to maximize student learning.

The teacher's decision-making is based on prioritizing their goals in accordance with their own beliefs about the nature of their work [29].

**Influence of PLCs on Teacher Practice**
The Professional Learning Community at Work model offers guidelines for ongoing action research processes, grounded in data analysis from student assessments [45]. Within the PLC team, teachers collaborate to determine the skills required for mastery in the course and develop assessments, plans of intervention, and extensions. The action research embedded in the process allows for reflective practices based on the assessment data. The data analysis shifts the school culture from a focus on teaching to one on student learning [46].

Bandura [47] defines "self-efficacy as the belief in one's capabilities to organize and execute the course of action required to manage prospective situations". Building self-efficacy and collective efficacy among teacher teams ultimately means that, regardless of the circumstances a student comes to the classroom, the collaborative team will organize and execute the necessary actions to overcome the obstacles that may impede all students' ability to learn at high levels [48]. Tschannen-Moran and Hoy [49] developed a research instrument to determine the level of teacher efficacy. The instrument has been widely used to compare variables that increase teacher efficacy. As Voelkel and Chrispeels [50] found, higher-functioning Professional Learning Community (PLC) teams reported a higher level of teacher efficacy, which in turn improved student achievement. Hattie [51], via meta-analysis, reports that collective teacher efficacy is one of the most effective processes positively influencing student success. PLCs can be structured to foster teachers' intentional conversations that focus on student outcomes and develop the best strategies to address students' needs [45].

Thus, if we can determine how engagement in the PLCs impacts teacher perceptions of effectiveness, we can surmise that the PLCs are also influencing teacher efficacy. Given the early stages of teacher engagement in the Professional Learning Community (PLC) we studied, we intended to do something other than research the impact of their engagement on their teacher efficacy. However, we argue that examining teachers' perceptions of their potential to influence

student learning before or early in their Professional Learning Community (PLC) engagement is valuable.

**PLCS and Creativity in Teaching Engaging in Risk Taking and New Practices**
A general expectation is that teacher engagement in PLCs may transform their practices and increase their comfort with alternative instructional approaches [26]. Thus, the motivation for creating PLCs is to foster shifts in their practice, leading to increased student engagement in learning [27]. However, Liu et al. [52] report that for PLCs to foster teacher creativity effectively, initial teachers' factors, such as their propensity for change and discontent with their current practices, must be considered. If the propensity for change and discontent with practice is absent, teachers are much more likely to regress to prior practices once they disengage from the PLC.

For PLCs to foster teacher adoption and sustained engagement in creative instructional practices, the school climate and culture must align with expectations for innovative teaching approaches [53]. Interestingly, Owen [54] reports that while PLCs can impact innovation, they are more likely to influence the well-being of students and teachers [54]. Thus, one of the most impactful outcomes of PLCs may be cultural shifts in which students and teachers experience more positive emotional and psychological positions in the school. The impact on well-being also suggests that PLCS can convey elements of positive psychology, which foster the exploration, experimentation with, and adoption of innovation [55].

However, PLCs that are not adequately structured can foster tensions and negative feelings among members [56], highlighting the need for PLC leaders to prioritize and attend to elements of positive psychology. PLCs that need to be structured appropriately will lead to improvements in fostering teacher consideration and the manifestation of innovation and change [57]. Thus, transformation-driven PLCs foster teachers to transition to autonomy, leading to lasting impact and sustainability [58]. Such transformation is more likely to occur when teachers engage in authentic professional learning [59].

The influence of the structure and content of PLCs on teachers embracing risk-taking to adopt innovative and progressive instructional strategies provides a warrant for examining what teachers perceive they are gaining from participating in PLCs.

## METHODS
**Research Goal**
Our phenomenological study aimed to understand better how teachers' professional needs, practices, and motivations align with a professional learning community's goal to influence teaching efficacy, reflective practice, and collaboration. The research questions we used to guide our research were:
1. What are teachers' practices before engaging in the PLC process?
2. How are teachers' practices aligned with the expectations of a reflective practitioner?
3. How do teachers assess and respond to their student's learning?
4. What are teachers' motivations for assessing their students' learning?
5. How are the needs of teachers aligned with the goals of professional learning communities?

## Participants

Our participants were teachers we recruited from a secondary public school in the south-central area of the United States that had recently opted to engage in a highly structured, professionally facilitated, and focused professional learning community. The school was considered high-achieving, and the participants worked in a community where the schools were academically successful. The participants who volunteered to participate in our research taught in various disciplines, and their years of experience and the number of locations they had taught in varied widely (see Table 1). Five participants who identified as females and three who identified as males agreed to be interviewed.

### Table 1: Study Participants' Professional Demographic Data

| Participant | Years of Educational Service | Level of Education | Subject Area | Number of Districts Employed | Participant Age |
|---|---|---|---|---|---|
| Ashley (female) | 1 | Masters Art of Teaching | Social Studies | 1 | 42 |
| Barbara (female) | 10 | Bachelors Interdisciplinary Studies | Professional Communications | 2 | 51 |
| Barry (male) | 2 | Bachelor of Science | Science | 1 | 37 |
| Jane (female) | 39 | Masters of Science for Gifted and Talented | Professional Communications | 4 | 60 |
| Jason (male) | 12 | Bachelor in Earth and Life Science | Science | 3 | 35 |
| Rachael (female) | 4 | Masters of Science for Education | Forensics/ Debate | 1 | 24 |
| Scott (male) | 22 | Bachelor's | Math | 2 | 45 |
| Shirley (female) | 12 | Masters +12 | Math | 2 | 34 |

## Professional Learning Community Intervention

Our intervention was motivated by a larger region-wide initiative aimed at creating and implementing professional learning communities to enhance student learning. The adopted PLC model for the initiative was a Professional Learning Community at Work [60]. The model involves teachers collaborating to improve student learning through reflection and data-driven decision-making. The teachers were introduced to the PLC model in a week-long professional development meeting. Then, they began implementing the practices with weekly team meetings and periodic facilitation by contractors working for the publisher of the PLC model. When we collected our data, the participants engaged in the PLC process for approximately ten weeks. The duration of the entire intervention is planned for 36 months.

## Design

To document the lived experience of high-school-level teachers as they engaged in highly structured and facilitated learning communities, we selected a phenomenological methodology [61]. Our goal was to gather the data necessary to document the participating teachers' beliefs, thoughts, and ideas related to their engagement in and reflection on teaching and being part of

a learning community. We aimed to document how their experiences in the learning community may influence their practice, perceptions of teaching and learning, and professional goals. Thus, we selected to do semi-structured interviews with the teachers.

**Interview Protocol**
To gather the data needed to answer the research questions, we developed an interview protocol with prompts aligned with our research questions. We developed at least two prompts for each of our guiding research questions to ensure we would solicit responses that would allow us to answer the questions. Our goal was to prompt the participants to share their experiences in the context of reflective practice. We vetted our questions with a panel of experts in teacher professional practice and professional development. Based on their feedback, we adjusted the wording of the prompts to increase the potential for gathering relevant responses from our participants.

**Data Collection**
We conducted our interviews via videoconferencing software, recording the audio for transcription. The interviews ranged in length from 15 minutes to 35 minutes. We used our interview protocol as a guide when approaching data collection, employing a semi-structured approach. Once completed, we transcribed the audio file into a text file. We reviewed the transcription for accuracy as we prepared the document for analysis.

**Analysis**
To analyze the data, we used a combination of deductive and inductive coding. For our deductive coding, we generated a set of a priori codes based on the literature, our experience working with teachers, and our knowledge of the associated professional community's goals (see Table 2). We also remained open to inductive coding, allowing emergent codes to emerge as we proceeded with our analysis. As we added the codes, we re-reviewed our coded data to determine if our emergent codes were present in the previous codes' data. Note that the coding frequency was based on the presence of the coded related statements in the transcripts and, therefore, could be present multiple times in a single participant interview.

**Table 2: Research Question Themes and the Aligned A Priori and Emergent Code**

| Theme | A Priori Codes | Emergent Codes |
|---|---|---|
| Needs of Teachers | Consistency, Purpose, Holistic Perspective, Knowledge Awareness, Frequency, Interpretation, High Impact Teaching | Responding to Student Assessment Outcomes |
| Practices of Teachers | Content Delivery (Instruction), Active Engagement of Students, Scaffolding, Content Knowledge, Formative Assessment | Responding to Student Assessment Outcomes, Collaboration with Colleagues, Professional Development/Growth, Reflecting on Teaching Effectiveness, Not Responding to Student Needs |
| Historic Practices | Test and Continue, Use of Script, No Analysis of Data, No Collaboration with Other Teachers, | N/A |
| Assess Students' | Frequency, Formative, Summative, Alternative, Testing, Projects, Homework | Performance, Student Choice, |

| Motivation for Assessment | Intervention, Extension, Establishing a Baseline of Understanding (pre-test), Determining Student Learning/Understanding, Tradition, the Expectation of Teachers, the Transition Between Units, Vertical Alignment, Horizontal Alignment | Student Knowledge Acquisition, Relationship/Communication, Level of Experience, |
|---|---|---|
| Influence of a PLC (*Emergent theme*) | N/A | Leadership, Knowledge of PLC, Why Teacher Involvement, Student Goals/ Outcomes, Implementation (i.e., Collaboration, Leadership), Assessment of PLC Effectiveness, Administration Involvement, Effective Adoption |
| Teacher Leadership (*Emergent theme*) | N/A | Who, Motivation/ Goals, Why are Teachers Recognized as Leaders, Challenges, Leadership Organization |

## Trustworthiness

We satisfied the trustworthiness of our research in multiple ways. First, we created an interview protocol that would allow others to replicate our data collection process. Similarly, we developed a coding scheme allowing others to replicate our analysis using similar data. Third, we established a Cohen's Kappa above .80, which can be interpreted as nearly perfect consistency in coding, thus establishing intercoder reliability. Fourth, we reviewed the transcribed data alongside the original codings using the transcription web-based service output, which enabled us to ensure that the transcripts accurately represented the participants' responses.

## RESULTS

### Needs of Teachers and PLCs

Our first research question was, how are the needs of teachers aligned with the goals of Professional Learning Communities? To answer this question, we examined our coded data aligned with the theme needs of teachers (see Table 3). We found a higher level of teacher focus on responding to student assessment outcomes (N = 63), awareness of student knowledge (N = 62), and a need to interpret student assessment data (N = 51), all of which are fundamental needs for reflective practice. To a lesser extent, the teachers reflected on their needs for structure or process for gathering student assessment data, such as frequency of assessment (N = 14), having a purpose for assessment (N = 12), and providing consistency for students (N = 11). Thus, the teachers' need to shift or refocus their assessment processes is aligned with the goals of the PLC they are.

### Table 3: Code, Frequency, and Representative Statements for the Professional Needs of Teachers

| Code | N | Representative Statements' |
|---|---|---|
| Responding to Student Assessment Outcomes | 63 | "...someone said something a little off, just call them to my desk just for a little sidebar and to get things clarified (Jane) |

| Awareness of Student Knowledge | 62 | "… we look for around 70% that we mastered or understood that we were competent… And then also to identify those who did not get it" (Ashley). |
|---|---|---|
| Interpretation of Student Assessment Outcomes | 51 | "I do not move on to the next thing because if they do not get the communication part in the beginning, it is just going to make it worse for them" (Barbie) |
| Holistic Understanding of Student Capacity | 25 | "… instead of just giving them an exit slip, every day we try to do different things, whether it be whiteboards or a scavenger hunt around the room or a cut and paste matching activity" (Shirley) |
| Frequency of Assessment | 14 | "Every day, every day. Formal assessments, probably every two weeks. I teach professional communication, so sometimes early on in the semester, those assessments are written, but there are also verbal assessments" (Jane). |
| Purpose | 12 | "…But my ultimate goal is assessing them so they can get to the next step" (Barry). |
| Consistency for Students | 11 | "And so we do not like just to teach something and then have a test on it and move on the next day. We normally will have a practice on it and then see if they got it and then build upon it the next day" (Shirley). |
| High Impact Teaching | 4 | "…if I see that we are missing out on an element, I will sit down with them and find out where they misunderstood or if I just did not teach it effectively enough. And then we will go back over that…" (Ashley) |

## Practices of Teachers

Our second research question was, how are teachers' practices aligned with the expectations of a reflective practitioner? To answer this question, we examined our coded data aligned with the theme practices of teachers (see Table 4). We found a higher level of teacher focus adjusting teaching to support student learning (N=70), content knowledge (N = 44) and formative assessments (N = 43), collaboration with colleagues (N = 39), and active engagement of students (N= 34) which indicates teachers practice as focusing on student learning from assessment reflection. Practices of teachers with fewer responses include professional development and growth (N = 16), reflecting on teaching effectiveness (N = 14), and content delivery and instruction (N = 14). This suggests that while teachers consider their instruction to some extent, it is less frequently considered in comparison to indicators of student learning and needs.

**Table 4: Code, Frequency, and Representative Statements for the Practices of Teachers**

| Code | N | Representative Response |
|---|---|---|
| Adjust Teaching to support student learning | 70 | "I'd like to know if they are getting it. Do we need to spend more time on it, or if they have got it, then we can move on? Um. So yeah, to help inform my instruction" (Jason) |
| Content Knowledge | 44 | "…..and I teach pretty quickly like we do not use a textbook. So a lot of what I do is just out of my head, and I give them briefs that they complete and fill out with some keywords" (Jane) |
| Formative Assessment | 43 | "….so that way some students will see the connection, but some students won't realize that those are the parts of the ballots that we use at competitions…" (Rachael) |
| Collaboration with colleagues | 39 | "We collectively decide what we think is most essential for all kids to know and then really focus… "(Jason) |

| | | |
|---|---|---|
| Active Engagement of Students | 34 | "...So, I mean, every day, once they've learned this skill, I expect them to come to class and not only give me a salutation but greet each other" (Jane) |
| Professional Development/Growth | 16 | "... I have no idea what our standards were, what was essential, and what was not.... through our process this year that we're doing with common formative assessments and all meeting together frequently each week" (Shirley). |
| Reflecting on Teaching Effectiveness | 14 | "This year, we are trying to intervene with students. I cannot say I've done that my whole career. There have been times where maybe I'll go back and reteach, say, the last week or the last 2 or 3 days, depending on what was covered and what I have realized the students did not learn the content. I was teaching the whole class in the past, and now we are focusing specifically on the students we know did not get it" (Scott). |
| Content Delivery (Instruction) | 14 | "then the fourth thing is persuasion, which we want to be able to. We want them to be able to persuade others to agree with their stance." (Jane). |
| Scaffolding | 12 | "...my ultimate goal is to assess them so they can get to the next step..." (Barry) |
| Not responding to student needs | 6 | "I have been throwing some curves on students that I thought just did not pay attention. It was not what I did. They didn't pay attention..." (Barbie) |

## Historic Practices

Our third research question was, what are teachers' practices before engaging in the PLC process? We examined our coded data aligned with historical practices to answer this question. (See Table 2.5). We examined our coded data to ensure it aligned with the theme of historical practices. We found a higher level of teacher explanation when responding with no analysis of data (N = 11), a methodology of test/teach and continue (N = 10), and a mention of no collaboration with other teachers (5). In those surveyed, (N=3) had used a script or published teaching plan.

**Table 5: Code, Frequency, and Representative Statements for the Historic Practices of Teachers**

| Code | N | Representative Response |
|---|---|---|
| No Analysis of Data | 11 | "... I mean it's just basically just my record for me and for parents" (Ashley) |
| Test/Teach and Continue | 10 | "Used to be a lot of direct instruction. 100%. Powerpoint. Teach, teach, teach, test. Move on. Because we got standards to cover..." (Jason) |
| No Collaboration with Other Teachers, | 5 | "I cannot collaborate with anyone else in the ninth through 12th grade. There are maybe five coaches in the whole state that do ninth through 12th-grade forensics and debate combined" (Rachael). |
| Use of Script/Published Plan of Teaching | 3 | "Previously, we were given a curriculum, and so that curriculum, we were told to follow it., I will never forget we had our calendar, and we had a lesson per day, and this was seventh-grade math. And if we missed a day or if the kids totally didn't get it, we had to move on to the next day." (Shirley). |

**Assess Students**

Our fourth research question was, how do teachers assess and respond to their students' learning? To answer this question, we examined our coded data, aligning it with the theme of evaluating students (see Table 2.6). We found that teachers used formative assessment more frequently than other assessment forms (N = 56). Projects/performances (N = 37) and alternative assessments (N = 32) were frequently used as assessment methodologies. Lesser uses of student assessment include student choice (N = 17), summative assessment (N = 16), the frequency of assessment utilization (N = 14), and the use of homework for assessment (N = 5). Using formative assessments as the higher assessment form provides insight into the surveyed teachers' preferred form. Using a formative assessment demonstrates the teacher's reflective practice of using data to meet students' instructional needs.

**Table 6. Code, Frequency, and Representative Responses for the Practices of Teachers Assessing Student Learning**

| Code | N | Representative Response |
|---|---|---|
| Formative | 56 | "...we normally will kind of refocus and look and see how we can address it differently, whether it needs to be broken into smaller chunks or just hit it at a whole different angle to approach it differently the next day" (Shirley) |
| Projects/Performance | 37 | "they're assessed based on their tournament performance, which is both like how other judges reviewed them, how they reviewed by me prior to the tournament" (Rachael) |
| Alternative | 32 | "...all it takes is a lab and I try to put in the practice that we're doing in class and make sure that they're in the lab that we actually do so they can get a real-world sense..." (Barry) |
| Testing | 20 | "...a program that we use, edulastic. It tells me what problem was missed the most. So that always kind of gives me some, some reflection..." (Ashley) |
| Student Choice | 17 | "...I want you to get online, and I want you. Because he was really good with editing... Would you want to edit a small, maybe one, one-and-a-half-minute the NASCAR race this year? And he was like, Can I show it after I do my speech?" (Jane) |
| Summative | 16 | "...summative assessments I am seeing if I was effective or not..." (Scott) |
| Frequency | 14 | "...every day, once they have learned this skill, I expect them to come to class and not only give me a salutation but greet each other." (Jane) |
| Homework | 5 | "...I'm just checking for some comprehension, asking for a question, looking for a response. It may even be just checking the homework they're turning in, ..." (Ashley). |

**Motivation for Assessment**

Our fifth research question was, what are teachers' motivations for assessing their students' learning? To answer this question, we examined our coded data that was aligned with the theme of motivation for assessment (see Table 7). We found that student knowledge acquisition (N = 84) and determining student learning and understanding (N = 80) were the most frequent responses for motivating assessment. Intervention (N = 47) and relationship/communication (N = 38) were the most frequent responses in the assessment of motivation. Again, this provides insight into teachers' student focus on assessment and instruction. The lesser responses included level of experience (N = 15), extension (N = 13), tradition (N = 4), expectations of

teachers (N = 4), establishing a baseline (N = 3), vertical alignment (N = 2), and horizontal alignment (N = 1).

**Table 7: Code, Frequency, and Representative Statements for the Teachers' Motivation for Assessment**

| Code | N | Representative Response |
|---|---|---|
| Student Knowledge Acquisition | 84 | "...I think that if you don't have some form of assessment, you have no way to know, like any form of growth..." (Rachael) |
| Determining Student Learning/ Understanding | 80 | "the decision-making part is what order to go in, what is the best way to present the information that we have seen works for us, and then what works for the kids after we present it now..." (Barbie) |
| Intervention | 47 | "...something is essential, and we get data that says the kid doesn't have it, then we're going to do something about that. We can pull them in outside of class to ensure they have those essential skills" (Jason). |
| Relationship/Communication | 38 | "...a big part of my job is teaching them how to be confident or making them feel confident. And that is sometimes difficult. That is why you have to build relationships. That is why you have to have those conversations..." (Rachael) |
| Level of Experience | 15 | "...My first year in the classroom was in 1984. And so, 36 years. One year I was off for my son's birth. And but for the rest of the time, every August, I was in a classroom" (Jane) |
| Extension | 13 | "...then it'll lead to deeper learning like it'll lead to an extension past that..". (Ashley) |
| Tradition | 4 | "...unfortunately, because we have to give a grade..." (Scott) |
| Establishing a Baseline of Understanding (pre-test) | 3 | "Now, at the very beginning, it's written assessment and verbal talking to them ..". (Jane) |
| Expectation of teachers | 3 | "...unfortunately, because we have to give a grade." (Scott) |
| Vertical alignment | 2 | "...even though the next step is biology and not chemistry and physics, they will be prepared..." (Barry) |
| Horizontal alignment | 1 | "...horizontal alignment across the department. That helps because you know what the other professionals in your field or area are doing. And so that kind of helps give you some feedback on where you need to be..." (Jason) |

**Influence of a Professional Learning Community on Teaching**

As we planned our study, we did not anticipate that the relatively brief intervention of the PLC process would have a substantial influence on the participants. Therefore, we did not include a question about the influence of PLC. Yet, through our coding, the theme emerged as significantly recognizable and needs to be shared in the results (see Table 8). Thus, we found the Implementation of the PLC process (N = 30), Knowledge of the PLC process (N = 16), reasons for teacher involvement (N = 14), Effective Adoption of the PLC process (N = 13), and Leadership and Student Goals/Outcomes (N = 12). There were fewer respondents in Administration Involvement (N = 4) and Assessment of PLC Effectiveness (N = 2).

**Table 8: Code, Frequency, and Representative Statements for the Influence of a Professional Learning Community on Teaching**

| Code | N | Representative Response |
|---|---|---|
| Implementation (i.e., Collaboration, Leadership) | 30 | "…different people speak up when they feel like they have an opinion on what we're talking about so that one person does not lead it, it's more led by the whole group. I feel like that is how it should be" (Shirley). |
| Knowledge of PLC | 16 | "…I think our plc does well helping each other and discussing what has worked for them and what has worked for this department…" (Barbie) |
| Why Teacher Involvement | 14 | "It helps with that mutual accountability. I need to do that and do it to the same level or standard that they are doing because all kids should have the same learning opportunities." (Jason) |
| Effective Adoption | 13 | "…it has to be placed into the hands of the teachers because you have got to have buy-in. If people are not 100% buying in, it will flop. So, hands of the teachers." (Jane) |
| Leadership | 12 | "It should ultimately be the department head or the person on the job and coalition…" (Shirley) |
| Student Goals/ Outcomes | 12 | "My goal in assessing student learning is to ensure that I reach at least a vast majority…" (Ashley) |
| Administration Involvement | 4 | "I think it starts with the principal. Maybe not making the decisions but the decisions, but definitely, Leading the teachers to come up with those things…" (Scott) |
| Assessment of PLC Effectiveness | 2 | "…the depth of knowledge thing was questioned that I had or I had questions about the depth of knowledge for this first CFA of the semester. And I was learning from another teacher what that looks like..". (Barbie) |

**Teacher Leadership**

A second emergent theme we identified was teacher leadership. As the teachers shared their responses to the interview prompts, several shared ideas of teachers as leaders, which we did not anticipate would be a critical aspect of their practice, and they would share based on our research focus (see Table 9). We found that the participants identified who they considered the leader in the building (N = 10), explained why they were recognized as leaders (N = 7), and described the leadership organization (N = 6). The participants respond less to Teacher Leader Challenges (N = 3) and Motivation/Goals (N = 1).

**Table 9: Code, Frequency, and Representative Statements for the Teacher's Leadership**

| Code | N | Representative Response |
|---|---|---|
| Who | 10 | "…But it is got to come from us. It has to come from our peers. Mean, that is just my opinion. …our guiding coalition, the ones that are our leaders in our PLC meetings, I think it's those are the ones." (Ashley) |
| Why are they recognized as leaders | 7 | "think I think it is true that everybody brings skills that maybe other people don't have. And I think it is important not to look at leadership top-down but to view it as a wheel with spokes. And there are many different ways to turn if you need help with certain things. So in my building, I think they are everywhere…" (Jane) |

| Leadership Organization | 6 | "I think it should ultimately be the department head or the person on the job and coalition..." (Shirley) |
|---|---|---|
| Challenges | 3 | "...what I see is the kind of mid-range that are the true leaders and not overbearing." (Barbie) |
| Motivation/ Goals | 1 | "...teacher leaders in my building are defined to me based on how students view teachers." (Rachael) |

## DISCUSSION AND IMPLICATIONS

Our research aimed to document teachers' perceptions of teaching and learning prior to engaging in a long-term professional learning community initiative. The initiative was not motivated by the teachers but rather by the state government and implemented by the school district administration. Thus, documentation of teachers' perceptions and mindsets of teaching is fundamentally needed to determine how the PLC process may substantially shift their mindsets about teaching and learning. There are multiple implications for our findings.

### Needs of Teachers and PLCs

Our focus on teachers' engagement in PLCs and their instructional practice needs revealed that the participants focused substantially on assessments and assessment data and had a minor focus on other instructional and student engagement elements. We speculate that the focus on assessments and the corresponding data is likely explained by the PLC structure they were introduced to, which centered around responding to student learning based on their performance on traditional assessments. The minor focus on instruction and student engagement reflects the potential for low levels of system disruption and, therefore, surface-level changes in practices that will not lead to fundamental changes in school structures. The potential ramifications of a lack of disruption in the system are the perpetuation of structures that hinder the performance of certain groups of learners. Examining the teachers' perceptions of their needs and the fulfillment of those needs in PLCs is an excellent direction for future research.

### Practices of Teacher Alignment with Reflective Practitioners

The results of our coding under the theme of teacher practices revealed that teachers consider their instruction at a much lower level and less frequently when compared to indicators of student learning and student learning needs based on the extant curriculum. The teachers tend to seek ways to increase indicators of student achievement within the extant system rather than changing their approaches to provide a more engaging and student-centered learning environment. The PLC structure is likely to emphasize enhancing indicators of student learning performance within the extant system rather than facilitating teacher exploration of other instructional approaches. An important direction for future research is exploring how teachers may consider alternative approaches to instruction when reflecting on indicators of student learning within traditional instructional approaches.

### Historic Practices

In our coding of the historical practices, the theme revealed a high level of teacher explanation, with no deeper or longitudinal data analysis, indicating that the historical practices reflect the teachers' teaching as they were taught. We also found that new teachers seemed more task-oriented, while more experienced teachers shared a more complex understanding of their role as learning leaders. We speculate that the teachers' reflections on their historic practices may

be similar to their present practices due to systemic structures that do not support teacher change and innovation. We maintain that professional learning communities can provide the structure for teachers to be more reflective, critically consider their historical practices, and determine what changes are needed to adopt a progressive, student-centered approach. A needed direction for future research is to determine how engaging in a professional learning community may influence perceptions of historic teaching practices.

## Assess Students

In our analysis of data associated with the teachers' assessment of student learning, we found they tended to focus on formative assessment indicators of students' understanding or deficit of knowledge. We found that liberal arts teachers were more likely to incorporate projects and performances as assessments and used rubrics to help students improve their skills and achieve mastery. We speculate that liberal arts teachers perceived they had more flexibility in assessing student learning due to the curriculum's more conceptual and less procedural nature of the curriculum. We also speculate that using the formative assessments indicates being a reflective practitioner who desires to meet their students' broad learning needs. We need to understand why some teachers are more likely to use projects to assess student learning than traditional assessment processes (i.e., exams). Another important direction for research is gaining a deeper understanding of how professional learning communities influence teachers' perceptions of and approaches to assessing student learning.

## Motivation for Assessment

In our assessment of the teachers' motivations for assessment, we found that the teachers tended to focus on student knowledge acquisition and determining student learning. Our findings suggest that teachers may focus more on how much students are learning than on testing, due to the "end of the unit" or assessment as a traditional requirement. While teachers are focused on assessing student learning, they often overlook assessing their own effectiveness as teachers. The finding implies the potential for teachers to hold students responsible for learning rather than themselves as learning leaders. The implication is further reinforced by the finding that teachers focus on assessment to determine student needs and skill acquisition rather than the teacher's need to provide alternative instruction and consider differential approaches to teaching. A potentially fruitful direction for research is to determine whether engagement in professional learning communities shifts teachers' mindsets from assessing student learning to evaluating teaching effectiveness.

## Influence of Engagement in a Professional Learning Community

When we began our research, the participating teachers had just entered a long-term professional learning community project focused on examining student data as a determinant of curricular choices. The PLC was not focused on innovation and systemic change. Yet, the rather brief time of PLC engagement appeared to influence the teachers' perceptions and thoughts about teaching, particularly the focus on teams for decision-making. The implication is that our research provides additional evidence that regularly scheduled and effectively structured PLCs are likely to influence teachers' professional practices. However, for a shift in mindsets and practices, the PLCs may need to be structured to explicitly focus on student-centered learning, integrated curriculum, teacher efficacy, and educational innovations. An interesting direction for future research is exploring how PLCs with different goals and desired outcomes influence teachers' mindsets and perceptions of teaching and learning.

**Teacher Leadership**

Our second emergent theme surprised us, as we did not expect teachers as leaders in the classroom to be the participants' focus. Our findings that teachers suggested they had used their leadership to guide the PLC process were unexpected, as the initiative was being implemented due to governmental and administrative decisions. Yet, the participants shared perspectives consistent with a teacher-as-a-learning-leader mindset [62]. This finding implies the potential for teachers to feel more empowered and take greater ownership of their students' learning. A key direction for future research is to determine the extent of reinforcement that teachers, as classroom leaders, experience in their engagement with professional learning communities.

## LIMITATIONS AND DELIMITATIONS

Our first limitation is the need for more triangulation of practices shared by the participants through observation of their teaching. We intended to document the teachers' lived experiences, but could not verify their practices through observation. Future research should likely adopt a more case study methodology to triangulate the teachers' shared experiences with their actual practice, as gained through observation.

Our second limitation was the timing of our data collection. We intended to start the data collection before the PLC activities. However, the PLC activities were accelerated; thus, we began collecting data about two months into the initiative. Additional research is needed to determine the extent to which short-term engagement influenced teachers compared to those with no engagement.

Our first delimitation was that our sample consisted of teachers who volunteered to participate. Thus, the perceptions of those who chose not to participate may have differed notably. Furthermore, the volunteers only represented a subset of subject areas. Assuring a broader range of representation by subject area is a critical consideration for future research.

Our second delimitation was the participants' variation in exposure to the PLC. Our data collection occurred over four weeks, during which the PLCs met weekly. Again, in future research, considering equal exposure to a PLC should be critical.

## CONCLUSION

For our research, we sought to document teachers' perceptions of teaching and learning before engaging in a professional learning community. We found various traditional and evolving views of teachers' roles in supporting student learning. Our data indicate that the teachers tended to hold a conventional education mindset. However, their brief involvement in a professional learning community initiative had a lasting impact on their perceptions of teaching and learning. Our research provides a rare foundation for documenting teacher practices and mindsets before and in early engagement in a professional learning community. The foundation is critical as we continue to explore the impact of PLC on teacher mindset and practice. We hope the pre-analysis of teachers' mindsets and practices will provide a new standard in exploring the impact of PLCs on teacher practice.

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