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# Assessment of Professional Learning Teams: The College of Education Experience

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#### **Abstract**

In the recent professional development training, professional learning communities were recognized as a strategy for school development and student achievement. This descriptive exploratory study establishes the practices of PLT in the Education Department, College of Liberal Arts, Science, and Education (CLASE). The researchers investigated leadership and teacher collaboration, professional learning, and development attempts. All 21-full time faculty members were the participants in this study. They answered the 52-item Likert-type questionnaire adopted from Antinluoma, Ilomaki, and Toom (2021). Researchers sent Informed consent forms to the participants before the conduct of the study. Results showed that the academic supervisor is described as a visionary leader who started the positive creation, shared the leadership, and created the commitment to common departmental goals. Change in leadership is seen to have a positive effect. Decision-making processes were collaborative, cooperative, inclusive, and democratic. Relationship among faculty members is based on mutual trust and openness. Each faculty is encouraged to express their opinions. Shared responsibility for faculty members' peer mentoring, encouragement, cooperation, and peer teaching was practiced in both online and face-to-face strategies. Frequent online collaboration and communication were channels of effective professional learning engagements. The findings of this study present how other educational institutions can learn from the data in creating an environment that is proactive for teachers' professional practice, given the background of the professional learning communities' construct by which teachers can gain professional learning and development. The PLT serves as a process from which the department must continuously derive its development mechanism.

# Keywords: Professional Learning Teams, College of Education, leadership, and teacher collaboration

#### Introduction

Professional learning communities (PLCs) are approaches to improving the school community where teachers, in collaboration with one another, work together to improve student outcomes. In the learning communities, the members meet regularly and engage in collaborative professional learning to strengthen their practice to improve student performance. Research emphasizes teacher collaboration's importance (Dallat et al., 2000; Hairon & Tan, 2015; Higgins, 2016). In the exercise of the learning communities, a cycle of continuous improvement, engagement in inquiry, action research, planning, reflection, assessment, and evaluation, is done. These activities allow educators to determine student needs, identify shared goals of the academic community, select and implement evidence-based strategies, apply learning, monitor student performance, and evaluate results.

Pirtle and Tobia (2012) assert that school leaders who seek to improve student gains are often overwhelmed with well-intentioned programs and support the promise of producing rapid results. Thus, for the most part, it is imperative that determining the best structures, supports, and approaches to promote student learning outcomes while fostering an improved school culture and, at the same time, developing teachers' instructional expertise is a substantial undertaking. In many sources, it is reflected that the use of PLCs offers a more effective, learning-focused process that may foster

improvement in both teaching and learning (Cowan, Joyner, & Beckwith, 2012; Harris & Jones, 2010; Hord & Tobia, 2012; Resnick, 2010; The Wallace Foundation, 2012).

In the University of San Agustin, specifically in the Education Department, the researchers believe that creating professional learning communities has offered a meaningful infrastructure where teachers can engage in professional dialogues, do feedback, and reflect on and improve their teaching and learning encounters. Most of all, they learn how to become more effective in the classroom in aid of instruction and improved student outcomes.

Therefore, this paper looks into the experience of PLCs through the department's version, the Professional Learning Teams (PLT), aiming to collaborate, promote the professional learning community process, and improve instruction for enhanced student achievement.

## Statement of the Problem

This study assessed the experience of professional learning teams (PLT) in the Education department, University of San Agustin, Iloilo City. This investigation addresses the following questions:

- 1. What is the shared vision created?
- 2. What is shared leadership?
- 3. What is the structure enabling the development of PLT?
- 4. What is collective learning and its application?
- 5. What is shared personal practice?
- 6. What are the supportive conditions and relationships?
- 7. What are the supportive conditions and structures?

## **Materials and Methods**

This exploratory study relied on evidence of the practices of 21 full-time faculty members comprising the Professional Learning Teams (PLT). All the full-time faculty members signified their intent to join this study. The part-time faculty members, however, were omitted. This study is inspired by an earlier study by Antinluoma, Ilomaki, and Toom (2021) entitled *Practices of Professional Learning Communities*. This study aims to complete and deepen the understanding of faculty members in the Education Department about the importance of PLCs. The research instrument was based on the study of Antinluoma, Ilomaki, and Toom (2021). Thus, this study explores this area and other sources of evidence: first, the launch of the departmental group chat in Messenger to make it possible for all data and information to be shared, discussed, collaborated with, and verified. Second, evidence from some teacher interviews for this study. Interviews are an essential source of evidence as reinforcements to the survey conducted. Yin (2014; Antinluoma et al., 2021) state that key informants can provide essential insights into human affairs or actions. Third, the data was collected with a PLC survey of 52 questions on a Likert scale. All 21 faculty members answered the survey.

The following scale and interpretations are presented below to assess how PLC is done in the University of San Agustin Education Department.

Scale	Description
4.21-5.00	Practiced to an excellent extent
3.41-4.20	Practiced to a great extent
2.61-3.40	Practiced to a moderate extent
1.81-2.60	Practiced to less extent
1.00- 1.80	Not practiced
1.00 1.00	1 (or presented

# **Results and Discussion**

# **Professional Learning Communities**

Research points to the observation that no universal definition of PLCs exists. It has been defined differently based on institutions and organizational environments. However, in this study, PLC refers to a group of professionals who discuss their practice and experiences in student learning in a systematic, continuous, collaborative, and reflective manner (Dufour, 2004; Morrisey, 2000); in Dogan, Tatik, & Yurtseven, (2017). Basically, in the context of the university, PLCs

started as an effort to promote teacher learning to meet student's needs, more or less similar to the context discussed in the professional learning communities advanced by Vescio, Ross, & Adams (2008; in Dogan, Tatik, & Yurtseven, 2017).

Consistent with what experts described as PLC, the researchers utilized the same framework following the six dimensions such as (a) shared and supportive Leadership, (b) shared values and vision, (c) collective learning and application, (d) shared personal practice, (e) supportive conditions: relationships, and (f) supportive conditions: structures (Hord, 1997, 2008; Morrisey, 2000; Hipp & Huffman, 2003; Olivier et al., 2009; Olivier et al., 2010; in Dogan, Tatik, & Yurtseven, 2017). There may be a tendency that the name of the dimensions may differ from one author to another, but the core principles of PLCs anchor on professionalism, community, and learning always stay strong (Hord & Sommers, 2008; in Dogan, Tatik, & Yurtseven, 2017).

Table 1 reflects the summary of the PLCs' dimensions due to the assessment in the Education Department, University of San Agustin. Based on the results, Supportive conditions. Relationship was rated the highest with a mean of 3.54; SD=0.65 with an interpretation of practiced to a great extent. The component with the lowest rating is Shared and Supportive Leadership, with a mean of 3.34; SD=0.67 and interpreted as practiced to a moderate extent. The rest of the dimensions are practiced to a moderate extent to a great extent, with means ranging from 2.61 - 3.50; SD ranging from 0.53 to 0.76.

**Table 1 :** Summary of the PLC Categories

Components	Mean	SD
Shared and supportive leadership	3.34	0.67
Shared values and vision	3.45	0.53
Collective Learning and Application	3.44	0.76
Shared Personal Practice	3.50	0.57
Supportive Conditions-Relationship	3.54	0.65
Supportive conditions- structural	3.44	0.66

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

# **Shared and Supportive Leadership**

Shared and supportive leadership takes place in stakeholder interactions. This dimension may occur between administrators and teachers, academic supervisors and teachers, administrators and academic supervisors, and parents, among others. As the academic supervisor exercises her leadership, leadership undergoes a shared experience. Table 2 shows the different experiences under shared and supportive leadership.

Results show that the department is highest in "decision-making takes place through communities and across grade" with 3.62: SD = 0.74 and lowest in "staff members have accessibility to key information" with a mean of 3.00; SD = 0.63. Table 2 reflects the data.

Table 2: Shared and Supportive Dimension

Shared and Supportive Leadership		SD
	n	
Staff members are consistently involved in discussing and making	3.32	0.68
decisions about most school issues.		
The principal incorporates advice from staff members to make	3.29	0.56
decisions.		
Staff members have accessibility to key information.	3.00	0.63
The principal is proactive and addresses areas where support is needed.	3.52	0.60
Opportunities are provided for staff members to initiate change	3.10	0.70
The principal shares responsibility and rewards for innovative actions.	3.43	0.6
The principal participates democratically with staff sharing power and	3.33	0.73
authority.		
Leadership is promoted and nurtured among staff members.	3.43	0.68

Decision-making takes place through committees and communication		0.74
across grade		
Stakeholders assume shared responsibility and accountability for student	3.33	0.66
learning without evidence of imposed power and authority.		
Staff members use multiple sources of data to make decisions about	3.33	0.66
teaching and learning.		
Average	3.34	0.67

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

In the department, shared and supportive leadership addresses the team's voluntary cooperation and interaction based on their perceived sense of responsibility. Academic leadership positively affects the teachers' commitment to the shared goals in their engagement with their students and each other. Among those who participated in the study, they highlighted that "there was a strong collaboration between the academic leader and the faculty members," "open communication really works," and "leadership fosters openness to suggestions, requests, and other work-related issues."

#### **Shared Values and Vision**

The shared values and vision refer to a common vision, mission, purpose, belief, value, and practices among the academic community members. In a community, shared values and vision and the integration of the other essential aspects must be realized for PLC to succeed. Conflict may arise if any member of an academic community needs a complete understanding of the shared goal and vision. A more systematic flow of educational processes and practices must be a commitment in the academic environment that all must share. Table 3 shows the shared values and vision of the department in this academic institution. "decisions are made in alignment with the school's values and vision" and "school goals focus on student learning beyond test scores and grades," with means of 3.71; SD = 0.46. Furthermore, the lowest dimension is "stakeholders are actively involved in creating high expectations that serve to increase student achievement," with a mean of 3.38; SD 0.59.

**Table 3:** Shared Values and Vision

Shared Values and Vision	Mean	SD
A collaborative process exists for developing a shared sense of values among	3.57	0.60
staff.		
Shared values support norms of behavior that guide decisions about teaching	3.67	0.48
and learning.		
Staff members share visions for school improvement that have an undeviating	3.48	0.60
focus on student learning.		
Decisions are made in alignment with the school's values and vision.	3.71	0.46
A collaborative process exists for developing a shared vision among staff.	3.52	0.6
School goals focus on student learning beyond test scores and grades.	3.71	0.46
Policies and programs are aligned to the school's vision.	3.67	0.48
Stakeholders are actively involved in creating high expectations that serve to	3.38	0.59
increase student achievement.		
Data are used to prioritize actions to reach a shared vision.	3.62	0.50
Average	3.45	0.53

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

Studies have pointed out that a positive school climate and culture may affect student achievement (Wang and Degol, 2016 in Antinluoma, 2021). It is stated that a particular school's vision, mission, and values give the direction the school is heading. These are a school's direct articulations and must be shared by the school community and its stakeholders. Leaders must establish how the community members must help and collaborate to realize these statements. Participants shared that "the ability to work collaboratively with the staff and other stakeholders is essential in school reforms," "there is some kind of consultancy between the academic supervisor and the teachers regarding the department's

concerns," and "Objectives of any project must be aligned to the vision, mission, goals of the university," and "cooperation is observed for the success of any academic endeavor."

# **Collective Learning and Application**

In this dimension, all the members of the PLC have to be learners with their colleagues. Communal interaction, coffee breaks of learning, debates, informal chats, peer teaching, feedback, and sharing can be forms of collective learning and strategies. In this dimension, collaboration is the key. Engaging with one another, interacting, and interpreting results have to be accomplished on an iterative basis. Table 4 shows the collective learning and application practices. Table 4 also shows collective learning and application. The highest dimension was "Collegial relationships exist among staff members that reflect commitment to school improvement efforts," with a mean of 3.71; SD = 0.46. Moreover, the lowest dimension is "Staff members collaboratively analyze student work to improve teaching and learning," with a mean of 3.33; SD: 0.8.

**Table 4 :** Collective Learning and Application

Collective Learning and Application		SD
Staff members work together to seek knowledge, skills and strategies and	3.48	0.75
apply		
this new learning to their work.		
Collegial relationships exist among staff members that reflect commitment	3.71	0.46
to		
school improvement efforts.		
Staff members plan and work together to search for solutions to address	3.43	0.75
diverse		
student needs.		
A variety of opportunities and structures exist for collective learning through	3.38	0.8
open		
dialogue.		
Staff members engage in dialogue that reflects a respect for diverse ideas	3.38	0.92
that lead		
to continued inquiry.		
Professional development focuses on teaching and learning.	3.38	0.8
School staff members and stakeholders learn together and apply new	3.38	0.8
knowledge to solve problems.		
School staff members are committed to programs that enhance learning.	3.48	0.75
Staff members collaboratively analyze multiple sources of data to assess the	3.43	0.81
effectiveness of instructional practices.		
Staff members collaboratively analyze student work to improve teaching and	3.33	0.8
learning.		
Average	3.44	0.76

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

The teachers shared that "collective learning in a workplace is essential because individuals who share information can work together efficiently," "consultation is collective, especially if about students' concerns," and "everyone in the department helps each other in enhancing teaching and learning," Even with the challenge of the pandemic, the members still show their effort to accomplish their responsibilities in the best way they can," and "with strong collaboration, the success of any activity can be achieved."

## **Shared Personal Practice**

This dimension illustrates the PLCs' focus on students' learning, how their collaborative efforts have identified the issues, challenges, and problems, and how teachers, as a community, can advance solutions to address some of these issues, problems, and challenges. This dimension allows each member of the PLC to share their best practice/s as well as those they consider experiences for others to learn from. Table 5 shows most of their shared personal practice. The highest dimension was "Opportunities exist for coaching and mentoring," with a mean of 3.71; SD = 0.46. Furthermore,

the lowest dimension is "Staff members provide feedback to peers related to instructional practices," with a mean of 3.38; SD: 0.59.

Table 5: Shared Personal Practice

Shared Personal Practice	Mean	SD
Opportunities exist for staff members to observe peers and offer	3.48	0.6
encouragement.		
Staff members provide feedback to peers related to instructional practices.	3.38	0.59
Staff members informally share ideas and suggestions for improving student	3.43	0.51
learning.		
Staff members collaboratively review student work to share and improve	3.43	0.6
instructional practices.		
Opportunities exist for coaching and mentoring.	3.71	0.46
Individuals and teams have the opportunity to apply learning and share the	3.52	0.6
results		
of their practices.		
Staff members regularly share student work to guide overall school		0.6
improvement.		
	3.50	0.57

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

The Teacher Mentoring Program is evidence that this dimension of the PLC is very much alive in the department. "Teachers' interaction within a formalized structure for collegial coaching/mentoring is effective to professional learning communities," shared one teacher. While many teachers agreed that "mentoring exists among us," "Sharing of experiences to improve teaching-learning is encouraged," and through "coaching and monitoring, opportunities to learn new ideas are made possible."

## Supportive Conditions - Relationship

In this dimension, supportive conditions include the place, time, and activities teachers share in their PLC experiences. Hord (1997, in Dogan, Tatik, & Yurtseven, 2017) suggests the conditions to meet. These are relationships and structures. In the relationships, PLCs must thrive in an environment of openness, open-mindedness, and commitment to the PLC goals. Structures refer to the physical conditions teachers may provide to help them fulfill their commitments to PLC. These may include a standard time, a familiar place, and other communication channels for teachers to collaborate. Tables 6 and 7 reflect these practices—tables 6 & 7 show supportive conditions in the relationship and structure. The highest dimension was "Relationships among staff members support honest and respectful examination of data to enhance teaching and learning," with a mean of 3.62; SD = 0.59. Furthermore, the lowest dimension is "A culture of trust and respect exists for taking risks," with a mean of 3.48; SD= 0.60.

**Table 6:** Supportive Conditions-Relationship

Supportive Conditions-Relationship		SD
Caring relationships exist among staff and students that are built on trust and		0.60
respect.		
A culture of trust and respect exists for taking risks.	3.48	0.60
Outstanding achievement is recognized and celebrated regularly in our school.	3.52	0.75
School staff and stakeholders exhibit a sustained and unified effort to embed		0.75
change into the culture of the school.		
Relationships among staff members support honest and respectful	3.62	0.59
examination of		
data to enhance teaching and learning.		
Average	3.54	0.65

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

# **Supportive Conditions-Structural**

Table 7 shows supportive conditions in the structure. The highest dimension was "Resource people provide expertise and support for continuous learning," with a mean of 3.67; SD = 0.48. And the lowest dimension is "Appropriate technology and instructional materials are available to staff," with a mean of 3.19; SD= 0.68.

**Table 7:** Supportive Conditions-Structural

Supportive Conditions-Structural	Mean	SD
Time is provided to facilitate collaborative work.	3.52	0.75
The school schedule promotes collective learning and shared practice.	3.29	0.64
Fiscal resources are available for professional development.	3.48	0.75
Appropriate technology and instructional materials are available to staff.	3.19	0.68
Resource people provide expertise and support for continuous learning.	3.67	0.48
The school facility is clean, attractive and inviting.	3.62	0.50
The proximity of grade level and department personnel allows for ease in	3.52	0.51
collaborating with colleagues.		
Communication systems promote a flow of information among staff members.	3.43	0.75
Communication systems promote a flow of information across the entire school	3.43	0.75
community including central office personnel, parents, and community		
members.		
Data are organized and made available to provide easy access to staff members.	3.29	0.72
	3.44	0.66

Legend: 4.21- 5.00 Practiced to an excellent extent; 3.41- 4.20 Practiced to a high extent; 2.61- 3.40 Practiced to a moderate extent; 1.81- 2.60 Practiced to less extent, and 1.00- 1.80 Not practiced

The national curricula encouraged schools to operate in the framework of building learning communities to assure supportive conditions for both relationship and structure. Additionally, in this context, the emphasis is on teachers' collaboration in planning and practice. Academic responsibilities must not be the sole obligation of the academic leader. Academic supervisors and teachers need to define their roles for the success of the teaching-learning process.

The findings indicate that academic leadership's visionary management plays a crucial role in realizing the department's critical organizational goals. Experts highlight that PLCs may be vulnerable when their leaders are. In this study, teachers who are the participants observe that leadership may impact the academic community's development. However, striving for excellent learning outcomes may only become a reality with the collaboration, cooperation, and typical articulation of the members involved in the school community.

#### **Conclusions**

The research on PLT identified the dimensions that allowed the researchers to assess the practices manifested in the department. However, this study also reflects some common and contextual challenges from which academic leaders and teachers must learn. The PLT serves as a process from which the department must continuously derive its development mechanism. The department's PLT is finally assessed as follows:

- 1. A shared vision is centered on decisions that align with the school's values, and vision and school goals focus on student learning beyond test scores and grades.
- 2. Shared leadership focuses on decision-making through committees and communication across grade levels.
- 3. The structure that enabled the development of the PLT in the department was more on supportive relationship conditions.
- 4. Collective learning and application are centered on collegial relationships among staff members that reflect the commitment to school improvement efforts.
- 5. Shared personal practice characterizing the department was opportunities for coaching and mentoring.
- 6. Supportive conditions and relationships lie among staff members who support honest and respectful examination of data to enhance teachers and learning.
- 7. Supportive conditions and structures focus on resource people who provide expertise and support for continuous learning.

#### Recommendations

The following recommendations are advanced:

- 1. No such thing as too little time for successful academic leadership exists. Shared leadership can vary, but the end goal is the same. Academic leaders must be flexible with whatever shared experiences to fill in the gap between theory and practice in the context of PLCs or PLTs. The Academic Supervisor needs to provide teachers more opportunities to initiate change, critically analyze students' work as a team, observe peers in the classroom, provide feedback on instructional practices, and access key information.
- 2. Leadership grounded on communication, openness, collaboration, and sharing must be the culture to be maintained in the practice of PLTs.
- 3. Teachers in the academic community must continuously be open to constructive criticism in the face of changes and challenges. They are the secret to success in the implementation of PLTs.
- 4. The department should hasten supportive conditions on relationships and structure to foster collaboration in leadership. The academic community should encourage and nurture constant feedback, self-reflection, and shared learning practices.
- 5. Further studies on PLCs and PLTS in other settings may provide insights into how other academic institutions experience and exercise PLCs and PLTs and thus learn from them.

#### **Ethical Consideration**

This study observed the ethical procedures in its conduct. These procedures ensure that participants are protected during the conduct of the study. The researchers ensured that the rights of the participants were protected at all times. The confidentiality, safety, and well-being of each respondent were likewise taken into consideration. The researchers secured that participants signified their consent to participate in this survey. They were given a letter to invite them to participate in the study. They were requested to sign the informed consent form. The informed consent explained why the research will be conducted, its procedures, predicted and unpredicted risks, and benefits that will be derived from it. To top it all, the participants were given a choice to continue or discontinue depending on their convenience. The survey questionnaires were provided to them. They were finally requested to sign the Informed Consent Form (ICF).

## **Conflicts of Interest**

The researchers declare that there is no conflict of interest regarding the publication of this paper.

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# **Authors' contributions**

The researchers collaboratively prepared this manuscript. Both researchers read and approved the final manuscript.

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#### References

- 1. M. Antinluoma, L. Ilomaki, and A. Toom, "Practices of Professional Learning Communities." *Front. Educ.* https://doi.org/10.3389/feduc.2021.617613, 2021.
- 2. D. Cowan, S. Joyner and S. Beckwith, "Getting serious about the system: A field book for district and school leaders." Thousand Oaks, CA: Corwin Press. 2012.
- 3. J. Dallat, A. Moran, and L. Abbott, "A collegial approach to learning and teaching as the essence of school improvement." *Teacher Development*, 4(2), 177–198. DOI 10.1080/13664530000200111, August, 2017.
- 4. Dogan, S., Tatik, R.S., & Yurseven, N. (August 2017). Professional learning communities assessment: Adaptation, internal validity, and multidimensional model testing in Turkish context. *Educational Sciences: Theory and Practice*. 17(4), 1203-1229. DOI 10.12738/estp.2017.4.0479
- 5. P. Graham, and W.M. Ferriter, "Building a professional community at work: A guide to the first year." Bloomington, IN: Solution Tree Press, 2010.
- 6. S. Hairon, and C. Tan, "Developing teachers through Professional Learning Communities in Singapore and Shanghai." *Science Education in East Asia*, 407, 2015.

- 7. Harris and M. Jones, "Professional learning communities and system improvement." *Improving Schools*, vol. 13, No. 2, pp. 172–181, 2010.
- 8. K. Higgins, "An investigation of professional learning communities in North Carolina School Systems. *Journal of Research Initiatives*, vol 2. No.1, Accessed from <a href="https://digitalcommons.uncfsu.edu/jri/vol2/iss1/9">https://digitalcommons.uncfsu.edu/jri/vol2/iss1/9</a>
- 9. D. F. Olivier and K.K. Hipp, "Assessing and analyzing schools as professional learning communities." In K. K. Hipp & J. B. Huffman (Eds.), Demystifying professional learning communities: School leadership at its best. Lanham, MD: Rowman & Littlefield, 2010.
- 10. S.S. Pirtle and E. Tobia, "Implementing effective professional learning communities." *SEDL Insights*, 2(3). Accessed from <a href="https://sedl.org/insights/2-3/implementing\_effective\_professional\_learning\_communities.pdf">https://sedl.org/insights/2-3/implementing\_effective\_professional\_learning\_communities.pdf</a> on June 27, 2022.
- 11. L. B. Resnick, "Nested learning systems for the thinking curriculum." *Educational Researcher*, vol. 39, No. 3, pp. 183–197, 2010.
- 12. R. K. Yin, "Case Study Research Design and Methods," 5th Ed. Thousand Oaks, CA: Sage, 2014.