The Impact of Participation in Professional Learning Communities on Physical Education Instructional Leaders

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ABSTRACT: This study investigates the assessment of the physical education teachers and department chairpersons in five institutions in Hunan Province, China, about professional learning communities for physical education and their levels of participation. Stratified sampling was used to generate 187 P.E. teacher-respondents and 52 P.E. chairperson-respondents. Under the Quantitative Research Method, this study utilized weighted mean score and multiple regression to predict the variables in professional learning communities. Based on the findings, as for the profile of the respondents with the combined results from the P.E. teachers and P.E. chairpersons, the following emerged from the data: the age bracket of 41–45 has the highest number of respondents with a master's degree, constituting 29.7%, the male respondents dominated the data with 64.9%, a total of 79.9% of the respondents are Master's Degree holders, and the length of service revealed 29.7% for 16 years and above. Five variables were tested in the study: professional commitment, strategic approaches, pedagogical and technological knowledge, supportive organizational teaching and learning environments, and professional ethics and standards. The combined mean scores of the two groups of respondents resulted in no significant difference in most of the variables and no significant relationship between the respondents' assessment of professional learning communities and their level of participation. However, some indicators are not rated highly, and the study calls for a teacher development program. The five variables are considered predictors of the participation of the respondents in PLCs. Furthermore, all the variables are predictors in the professional development of physical education teachers. The strongest predictor is professional ethics and standards, followed by professional commitment. Physical education teachers can be motivated by their chairpersons to join seriously in PLCs to further enhance their capabilities in teaching physical education.

KEYWORDS: professional learning communities, professional commitment, strategic approaches, pedagogical and Technological knowledge, supportive, professional ethics and standards

INTRODUCTION

Educational institutions aim to enhance teaching and learning through continuous professional development opportunities. UNESCO advocates for high-quality education and released the Teacher Policy Development Guide for Education 2030 to ensure teachers are well-prepared and capable of achieving effective teaching goals. School leaders can create detailed plans for professional development using student achievement data to make informed decisions.

Learning organizations promote continuous learning among members, with principals possessing the necessary skills to manage specific workplaces. Professional Learning Communities (PLCs) involve groups of teachers working together at the school level to enhance student outcomes. PLCs foster a culture of continuous improvement, connecting student learning needs with teacher professional development, and promoting collaborative expertise.

Assessing the effectiveness of a PLC involves evaluating shared leadership, values, vision, collective learning, personal practice, and supportive conditions for structure and relationships. Teachers gather to support students in achieving academic success, allowing administrators and teachers to demonstrate leadership and decision-making skills. Strategies develop as staff and teachers enhance their skills and collaborate, increasing the number of teachers involved and their willingness to implement new ideas.

PLCs have been neglected in China due to their origin in Western contexts. They provide a supportive environment for teachers to perform effectively, and coaches facilitate moral learning by questioning values, beliefs, and biases rather than solely focusing on acquiring new knowledge or skills.

Professional Learning Communities (PLCs) are essential for achieving success in educational organizations, as they foster mutual respect and understanding among members. Teachers are responsible for defining the primary objectives of PLCs, where they

collaborate with other members to share experiences and identify strengths and weaknesses in instruction and curriculum. This collaborative learning environment enhances the quality of education.

In China, PLCs were introduced in the early 1950s, with teachers categorized into Teaching Research Groups (TRGs), Lesson Preparation Groups (LPGs), and Grade Groups (GGs). These groups engage in collaborative activities such as learning new theories, planning lessons, and conducting action research projects. District support for PLCs is strong, and partnerships with universities can enhance interaction and development between practice and theory.

Decuyper (2010) identified three fundamental team learning processes: construction, sharing, and construction. Construction involves expressing personal experiences and viewpoints, while sharing involves attentive listening and understanding of group members.

Individual competencies and school-level factors influence physical education teacher leadership. Enhancing professional identity, cognitive abilities, classroom organization, management skills, communication, and interaction skills can lead to overall improvement and positive school development. A teacher-learning community is crucial for assisting inexperienced physical education teachers in enhancing their teaching skills and fostering self-improvement.

Collaborative learning fosters learning and is considered an effective form of professional development. PLCs promote knowledge sharing among educators and professionals, offering an organized and cooperative environment for continuous learning.

Statement of the Problem

This study aimed to determine the assessment of physical education teachers and physical education department chairpersons about professional learning communities and their respective levels of participation. Specifically, this study sought answers to the following questions:

1. What is the profile of the respondents in terms of the following?
    1.1 Sex
    1.2 Age
    1.3 Years of Teaching/Service as P.E. Department Chair
    1.4 Position

2. What is the assessment of the respondents regarding their professional learning communities for physical education in terms of the following when grouped according to profile?
    2.1 Professional Commitment
    2.2 Strategic Approaches
    2.3 Pedagogical and Technological Knowledge
    2.4 Supportive Organizational Teaching and Learning Atmosphere
    2.5 Professional Ethics and Standards

3. Is there a significant difference in the assessment between the Physical education teachers and physical education chairpersons?

4. What is the level of participation of the respondents in terms of the aforementioned variables when grouped according to profile?

5. Is there a significant difference in the respondents' assessment and their level of participation in professional learning communities in physical education?

6. Is there a significant relationship between the PLC's assessment of the respondents and the level of participation among the physical education teachers and physical education chairpersons?

7. Do the variables for professional learning communities for physical education predict the professional development of P.E. teachers?

8. Based on the results of the findings, what teacher development program for physical education can be proposed?

Hypotheses

Ho1: There is no significant difference in the assessment between the Physical education teachers and physical education chairpersons.

Ho2: There is no significant difference in the assessment of the respondents when grouped according to their profile.

Ho3: There is no significant difference in the respondents' assessment of their level of participation in professional learning communities in physical education when grouped according to profile.

Ho4: There is no significant relationship between the PLC's assessment of the respondents and the level of participation among the physical education teachers and physical education chairpersons.

Ho5: Variables for professional learning communities for physical education do not predict professional development for P.E. teachers.

Theoretical Framework

This study explores the concept of Professional Learning Communities (PLCs) and their theories. Dewey (1916) argued that education is a continuous process, and PLCs are based on these theories to enhance student achievement and teacher performance. Progressivism Theory, which promotes collaborative problem-solving, is the foundation of PLCs. Social Constructivism, which

emphasizes the collaborative aspect of learning, is also a key component of PLCs. This theory suggests that professional teachers collaborate to achieve their goals of professional development and academic assistance for students. PLCs create an engaging learning environment, transforming educators into valuable sources of knowledge. Bourdieu's theory of practice, introduced in the late 20th century, focuses on the interplay between individuals, activities, and communities. Learning in PLCs involves active discussions with the broader societal context, incorporating personal experiences and everyday practices.

Research Paradigm

The objective of this research is to create an intensive physical education teacher development program. Based on the given framework, this study examined the responses of the selected participants who are actively teaching physical education courses and those who are chairpersons of the physical education department of their respective institutions in China. This paper specifically checked the assessment of the two groups of respondents on the depth of their knowledge about professional learning communities in general. How they assess the components of a PLC (Professional Learning Community) and the level of participation of each group in their actual dealings with their professional learning community that may be found in their institution or affiliations with local and international learning networks. The end goal of the study is to design an intensive development program for physical education teachers in which the chairperson has an essential role in its implementation based on the advantages of professional learning communities.

METHODOLOGY

This study utilized the Quantitative Research Method. specifically, the use of descriptive-comparative-correlational research design. This study aims to determine the assessment of the physical education teachers and department heads of the concept of professional learning communities, the level of participation of the two groups of respondents, and the impact of professional learning communities in selected institutions in Hunan Province, China.

This study was conducted at five institutions in Hunan Province, China. This involved respondents from the universities all located in Hunan Province, China where the researchers have access for the retrieval of data.

The chosen sampling method for this study is stratified sampling. The range of universities in China is well-suited to the study goals because of the potentially varied populations present. Stratified sampling is a methodical technique for choosing participants in order to form a sample that precisely reflects the various subgroups or strata present in a population. The initial step in implementing stratified sampling involves identifying the pertinent strata. These layers could have encompassed various institutions in China, academic fields, or different degrees of involvement in professional learning communities, such as local or international organizations.

To mitigate the potential bias in participant selection, respondents were chosen using random sampling methods within each stratum. The sample size determination was performed through statistical analysis, taking into account the desired level of confidence and precision in the study results. The study sought to employ stratified sampling to ensure the inclusion of a wide array of professional experiences and perspectives, while also upholding strong statistical validity. This technique aims to improve the study's capacity to obtain significant and relevant data.

Target Institution	Actual P.E Teacher Population	Sample Size	Actual P.E. Chairperson Population	Samples Size
A	46	25	8	7
B	62	33	9	8
C	55	29	10	9
D	66	35	16	14
E	122	65	17	15
TOTAL	**351**	**187**	**60**	**52**

Instrumentation

The primary research instrument utilized in the study to collect the required data was a researcher-made survey questionnaire. This survey's questions are developed following the research's title and supported by the studies and literature that were obtained. The problem statement for the study serves as the basis for designing this survey questionnaire, which was verified and checked by the research adviser and validators. The first part determined the profile of the respondents; the second part dealt with the assessment of the respondent's assessment of the professional learning community; and the third part was all about the assessment of the respondents on their participation in professional learning communities.

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RESULTS AND DISCUSSION

As for the profile of the respondents with the combined results from the P.E. teachers and P.E. chairpersons, the following emerged from the data.

The age bracket of 41-45 has the highest number of respondents that constitutes 29.7%. It signifies the maturity of the respondents when it comes to teaching service and experience. The age group belongs to Generation X for 44-45 and Generation Y for 41-43 (Pew Research Center (2019). This is followed by the age of 31-35 years old with 19.7% showing a promising age for teaching physical education in their prime period. The age of 26-30 garnered 14.2% followed by 21-25 years old and 46 and above tied at 13.0% and the last is the age of 36-40 years old with a percentage of 10.5. Each generation contributes a distinct viewpoint, along with varying values and work practices to the professional environment.

The male respondents dominated the data with 64.9%. Obtaining over 50% signifies the vast majority of the male respondents. Hegemonic masculinities in physical education are characterized by attributes such as strength, speed, muscularity, athleticism, aggression, and competitiveness. These characteristics are often influenced by social factors, as noted by Tischler and McCaughtry in 2014. The study findings of Matus-Castillo et al (2022) indicate a decline in the enrollment of women in PE Teacher-Training programs, highlighting a notable gender disparity that is not consistent with teacher-training programs in other fields or overall university enrollment. This reflects the enduring dominance of male power in physical education teacher training programs in Chile. This study by Matus-Castillo, et al (2022) may also be an inspiration for this paper regarding the dominance of male respondents.

A total of 79.9% of the respondents are master's degree holders. The length of service revealed 29.7% for 16 years and above. This implies a strong lineup of physical education teachers and department heads since they are affiliated with reputable universities in Hunan Province, China. Professional identification among teachers and chairpersons of physical education is significant to authentically and successfully provide instruction for physical education. On the part of the P.E. chairpersons, it validates the position that school leaders should be of higher educational attainment, achieving the doctorate which none of the P.E. teachers have attained.

Summary Table on the Assessment of the Respondents Regarding their Professional Learning Communities for Physical Education

INDICATORS	RESP	MEAN	SD	INTERPRETATION	RANK
1. Professional Commitment	Teacher	3.17	0.40	Evident	
	Chairpersons	3.28	0.39	Evident	
	Combined	**3.19**	**0.40**	**Evident**	5
2. Strategic Approaches	Teacher	3.21	0.36	**Evident**	
	Chairpersons	3.40	0.39	**Evident**	3
	Combined	**3.25**	**0.38**	**Evident**	
3. Pedagogical and Technological Knowledge	Teacher	3.25	0.36	**Evident**	
	Chairpersons	3.34	0.41	**Evident**	1
	Combined	**3.27**	**0.37**	**Evident**	
4. Supportive Organizational Teaching and Learning Atmosphere	Teacher	3.20	0.41	**Evident**	
	Chairpersons	3.36	0.38	**Evident**	4
	Combined	**3.24**	**0.41**	Evident	
5. Professional Ethics and Standards	Teacher	3.23	0.40	**Evident**	
	Chairpersons	3.37	0.42	**Evident**	2
	Combined	**3.26**	**0.41**	Evident	
Overall Mean	**Teacher**	**3.21**	**0.33**	**Evident**	
	Chairpersons	**3.35**	**0.36**	**Evident**	
	Combined	**3.24**	**0.34**	**Evident**	

LEGEND: VERY EVIDENT (4) =3.51-4.0); EVIDENT (3) =2.51-3.50); SOMEHOW EVIDENT (2) =1.51-2.50); NOT EVIDENT (1) =1.0-1.50

To summarize the results of the assessments of the physical education teachers and physical education departments of the components of a professional learning community, The given table exemplifies the order of importance and strength of the variables.

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As revealed in the illustration, the combined overall mean score of 3.24, or "evident" displays the agreement of both physical education teachers and physical education department chairs when they perceive the characteristics of a professional learning community for their professional advancement. It is noticeable that there was a consistent result comparing the P.E. teacher-respondents and P.E. department heads obtaining a higher rating from the chairpersons. All variables were rated by the P.E. heads higher than P.E. teachers. It can be deduced that department heads are anticipated to create an environment that encourages and supports the efforts of faculty and staff (Parwani & Choube, 2018).

According to the combined assessments, Indicator 3 "Pedagogical and Technological Knowledge" got an overall combined mean score of 3.27 or "evident." Based on the study of Noelva et. al (2023), there is a need for Common Content Knowledge and Specialized Content Knowledge to be better taught in teacher education programs as they are a fundamental basis for Pedagogical Content Knowledge. Likewise, since this construct is dynamic and changing, it should also be considered in the professional development phase, since field experience and the relationships established in the field provide new knowledge and formative experiences. The second strong indicator is "Professional Ethics and Standards" with an overall combined mean score of 3.26 or "evident." "Professional ethics" refers to the relatively stable moral concepts formed by teachers during their engagement in educational teaching. Regardless of the period, the foundation of education always lies in the teacher's moral qualities and moral teaching, with knowledge being of secondary importance. As university physical education teachers find themselves amidst rapid economic development and social transformation, intangible temptations arise, making it imperative to enhance the professional ethics of physical education teachers" (Li & Hu, 2023). Indicator 2 "Strategic Approaches" obtained an overall combined mean score of 3.25 or "evident." A strategic teacher has numerous teaching tools (methods, techniques, practices), knows how to use them, is aware of their advantages and limitations, and can apply them consciously (Moë, Pazzaglia & Friso, 2010 as cited by Nicolosi, Pitrolo, & Alba, 2023). Along with the knowledge of many strategies, their conscious, flexible, and effective use is also needed (Nicolosi, Pitrolo, & Alba, 2023). Indicator 4 "Supportive Organizational Teaching and Learning Atmosphere" attained an overall mean score of 3.24 or "evident" and the least is Indicator 1 "Professional commitment" which got an overall mean score of 3.19 or "evident." Studies have indicated that professional commitment is a key motivation for teacher trainees to choose a teaching career, as their dedication and responsibility toward the field inspire their desire to contribute to education (F. Yao & Chen, 2009 as cited by Hao & Qian, 2024).

There is no significant difference in the assessment of physical education teachers and physical education department heads to the professional learning communities for physical education. The data revealed an overall mean score for P.E. teacher-respondents of 3.21 while P.E. department heads got an overall mean score of 3.35. The computation led to the acceptance of the hypothesis.

There is a significant difference in the assessment of the P.E. teachers and P.E. department heads in their professional learning communities for physical education as to years of service. The overall mean score of 3.24 with an F value of 3.35 and a significant value of 0.02 led to rejecting the hypothesis.

The level of participation in professional learning communities of the P.E. chairpersons is higher than the results of the P.E. teachers. The mean score of 2.86 with 2 indicators that were interpreted as "less participated" made the result less than the 3.19 mean score of the P.E. heads.

There is no significant difference in the assessment of the P.E. chairpersons in professional learning communities and their level of participation in terms of age, sex, educational attainment, years of service, and school affiliation; however, there is no significant difference of the P.E. teachers in professional learning communities and their level of participation in terms of sex, educational attainment, and years of service except for their age and school affiliation.

There is a significant relationship between the PLC's assessment of the respondents and the level of participation among the Physical Education Teachers and Physical Education Chairpersons obtaining both strong correlation results.

Using the multiple regression statistical treatment, all the variables are predictors in the professional development of physical education teachers. The strongest predictor is professional ethics and standards followed by professional commitment.

CONCLUSIONS

After a thorough examination of the study, it is therefore concluded that

1. The feedback of the physical education chairpersons in all the variables in professional learning communities indicates strong leadership characteristics manifesting the drive of P.E. heads to model the advantages of being affiliated with PLCs. Physical education teachers can be motivated by their chairpersons that joining seriously in PLCs can further enhance their capabilities in teaching physical education.

2. Professional ethics and standards and professional commitment are predictors of teacher's development; therefore, more emphasis should be bestowed on other variables such as strategic approaches, pedagogical and technological knowledge, and supportive organizational teaching and learning environment.

3. The level of participation among physical education teachers is mostly participated, but not highly participated except for two indicators about the teachers who actively discuss and make decisions regarding most school matters and accept advice from the principal in my decision-making. These are less participated by the P.E. teachers, which can be strengthened by the

administrators. Decision-making is a significant part of the success of the organization since it encompasses the implementation of a certain rule. The strong participation of teachers means so much in the execution of a program. If teachers do not accept advice from their bosses in their decision-making, it reveals the kind of relationship and attitude of the teachers towards work ethics.

4. Educational attainment has a potent role in the assessment of the respondents in their view of professional learning communities. How the physical education teachers and chairpersons reacted and assessed themselves in PLCs manifests their educational background and profound knowledge of it.

5. The pre-determined institutions in Hunan Province, China have differences in the survey. It can be deduced that the context of every institution varies from one another. It is expected that for every school, the practice may vary from how each institution caters to the needs of the students, faculty, and other sectors. The PLCs may also possess a unique or diverse composition if the principal purpose is achieved by the set goals.

6. Age matters in the assessment of physical education teachers. The maturity of the respondents reflects their readiness for a professional learning community. However, age did not play a major role in the assessment of the physical education chairpersons.

RECOMMENDATIONS
Based on the conclusions derived from this study, the following are the recommendations:

1. Assess current teaching methods and curriculum design to address the identified shortcomings in pedagogical effectiveness in physical education courses. Employ state-of-the-art teaching methods, immersive educational experiences, and hands-on instruction to enhance student engagement and maximize learning outcomes.

2. Dedicate resources to enhance instructor training and development to prioritize the delivery of exceptional teaching and mentorship. Provide ongoing professional development, mentorship, and peer collaboration opportunities to empower physical education teachers in creating engaging and meaningful learning experiences for their students.

3. Regularly assess physical education teacher contributions, program effectiveness, and student retention rates to identify areas that need improvement and modification. Employ data-driven analysis to enhance teaching methods, curriculum development, and support services, ensuring ongoing improvement and alignment with students' needs and preferences.

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