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Relation Of Pedagogical Content Knowledge (Pck) With Physical Education Lesson Plans And Physical Education Classes

Mr. Nawang Namgail Master of Physical Education, Chandrashekhar Agashe College of Physical Education, Pune, Maharashtra.

Dr. Shrikant S Mahadik Assistant Professor, Chandrashekhar Agashe College of Physical Education, Pune, Maharashtra.

Abstract:

Through this study, the researchers have checked the relation of PCK with physical education lesson planning and physical education classes on BPEd students. The purpose is to assess the PCK of pre-service teacher and check the relation in their lesson planning and teaching. The study was conducted on pre service physical education teacher who were enrolled in B.P.Ed program for academic year 2021-2022 at Chandrashekhar Agashe College of Physical Education, Pune. The sample was selected using convenience sampling method. The data was collected through knowledge test, observation (checklist and point 5 scales). 19 B.P.Ed students participated in this study. To assess PCK the researchers was focus on factors of task extension only, where 8 factors selected were practice of parts, modification of equipment, spatial in performance, and establishment of sequences of experience. To check relation researchers used Spearman's correlation amongst Pedagogical Content Knowledge, Physical Education Lesson Plans, and Physical Education Classes. From this study seen that the per service physical education teacher have good pedagogical content knowledge and good in planning and teaching physical education. But there is no significant correlation amongst Pedagogical Content Knowledge, Physical Education Lesson Plans and Physical Education Classes.

Keywords: Pedagogical Content Knowledge, PCK, Physical Education lesson Plans, Physical education Classes.

Introduction:

Teaching is a complex activity. Its goal is student learning. The teacher has primary responsibility for directing the teaching-learning process. When student does not learn, it is often the teacher who is responsible. Teaching is not an exact science. Teachers design and redesign experiences for their students based on their pedagogic goals and their knowledge of the learner, the lesson content, and the teaching-learning process itself.

Teaching Physical Education for Learning is primarily a text on instructional pro- cesses and the teaching skills required to execute those processes effectively. Instruction is seen as a goal-oriented activity. This means that the process is meaningless unless it is designed with a clear goal regarding what the student will learn. Instructional processes are specific to intent. This

means that the particular instructional processes used are selected because they can best accomplish in a particular circumstance the teacher's goals regarding what the student will learn.

Earlier, we saw that relatively little attention had been given to defining the essential nature of teaching in recent years in the UK and North America. This has contributed to confusion around the term and a major undervaluing of other forms of facilitating learning. The same cannot be said in a number of continental European countries where there is a much stronger appreciation of the different forms education takes. Reflecting on these traditions helps us to better understand teaching as a particular process – and to recognize that it is fundamentally concerned with didactics rather than pedagogy. Perhaps the most helpful starting point for this discussion is the strong distinction made in ancient Greek society between the activities of pedagogues and subject teachers. The first pedagogues were slaves – often foreigners and the 'spoils of war' **(Young 1987)**. They were trusted and sometimes learned members of rich households who accompanied the sons of their 'masters' in the street, oversaw their meals etc., and sat beside them when being schooled. These pedagogues were generally seen as representatives of their wards' fathers and literally 'tenders' of children. Children were often put in their charge at around 7 years and remained with them until late adolescence. As such pedagogues played a major part in their lives – helping them to recognize what was wrong and right, learn how to behave in different situations, and to appreciate how they and those around them might flourish.

Pedagogy is the skillful arrangement of an environment in such a way that students acquire specifically intended learning. Pedagogy links teachers' actions with students' outcomes**. (Siedentop, 1991).**

In a review of the conceptual analysis of teachers‟ interdisciplinary knowledge, **Shulman (1986)** developed and formulated a new conceptual framework by introducing the concept of pedagogical content knowledge (PCK). Later in 1987, Shulman defined seven categories to provide a framework for teacher knowledge by adding to PCK: content knowledge, general pedagogical knowledge, curriculum knowledge, knowledge of learners and their characteristics, knowledge of educational contexts, and the knowledge of educational ends purposes and values. PCK is a concept that intensively governed later research in the field of teacher education **(Segall, 2004)**. **Shulman (1986)** defines PCK as the "subject matter knowledge for teaching" and includes: "…for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, the ways of representing and formulating the subject that make it comprehensible to others….Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons

As shown in figure 1, the Pedagogical Content Knowledge (PCK) is the overlap of the Pedagogy Knowledge (PK) and the Content Knowledge (CK) based on the idea that pedagogy and content are interwoven.

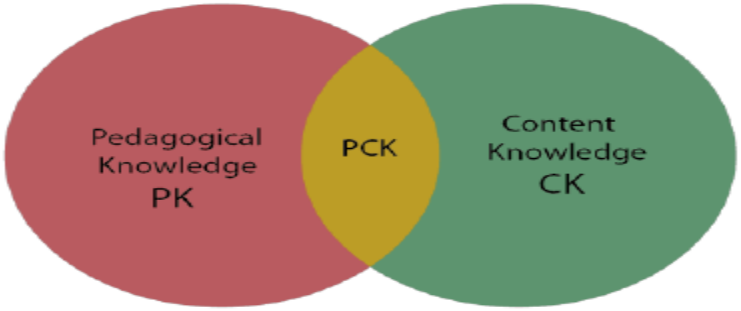

Figure 1: Pedagogical Content Knowledge (PCK)

(Shulman, 1986) Within the category of Pedagogical Content Knowledge (PCK) I include, for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustration, examples, explanations, and demonstrations – in a word, the way of representing and formulating the subject that make it comprehensible for others. Since there was no single most powerful forms of representation, the teacher must have at hand a veritable armamentarium of alternative forms of representation, some of which derive from research whereas others originate in the wisdom of practice. PCK also includes an understanding of what makes the learning specific topics easy or difficult; the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons. If those preconceptions are misconceptions, which they so often are, teachers need knowledge of the strategies most likely to be fruitful in reorganizing the understanding of learners, because those learners are unlikely to appear before them as blank slates.

(Rink, 1985). A developmental analysis of content begins with the extension. At this point the teacher decides:

1. How to reduce the complexity and difficulty of content for leaners and
2. How to order the parts that will be added to create a sequence in a progressive order.

There are many factors that can be manipulated to change the complexity or difficulty of motor performance. The following factors have been selected for analysis in lesson planning:

- Practice of parts
- Modification of equipment
- Spatial arrangement for practice
- Focus of intent of performance
- Number of people involved in performance
- Expansion of number of different responses
- Establishment of sequences of experience.

(Siedentop, 1991) Lesson planning is the activity which the teacher performs before the actual lesson takes place. A lesson plan is detailed description of the instructional strategies and learning activities to be performed during the teaching/learning process.

The most important instructional design goal for unite planners is to identify relevant content through task analyses and identify the refining and extending task that will be necessary for a particular set of students to achieve success in the major tasks.

There are four main reasons teachers devote time and attention for lesson planning:

- To assure that a progression is followed both within and between lessons.
- To help the teacher to stay on-task and to use time as planned.
- To reduce teacher anxiety and maintain confidence as they teach.
- To fulfil a building or district policy
- Not all teacher plan for all four reasons, nor do all these reasons influence teachers in the same way.

(Taskin, 2017). Many researchers indicate that lesson plans are of great importance in providing an effective learning environment. The teachers are required to set up a learning environment in which students can learn effectively, and this involves planning materials, strategies and timing. A lesson plan is a document that shows what will happen in a particular timeframe. Farell (2002:30) also defined the lesson plan as 'a written description of how students will move toward attaining specific objectives'. Similarly, Vdovina and Gaibisso (2013) indicated that a lesson plan helps teachers to have a framework for carrying their students to certain "learning destinations". It involves goals, knowledge, and sequencing, as well as activity procedure, implementation, and assessment (Jacobs, Martin, Otieno, 2008). Lesson planning connects requirements of the curriculum and textbooks with what are presented in the classroom (Lee, Chen & Khum, 2009). Thus, preparing a lesson plan helps pre-service teachers to organize their activities, construct their goals, and get feedback from their supervisors (Kagan & Tippins, 1992). Accordingly, planning is one of the crucial skills that pre-service teachers should gain during their training.

We know lesson plan is important throughout the service of a teacher, every class or generation of students offer different experience to the teacher. Lesson plan is more important for a newly trained teacher and pre service teacher who could be faced with varied unpredictable situation. Lesson plan make a confidence, reliance, and creative teacher. In Physical Education also lesson plan is very important to make successful and effective teaching **(Rink, 1985)**. But teacher don't giving or ignore the important of making lesson plan in physical education.
Pedagogical Content Knowledge (PCK) is important to design a good lesson plan but according to researcher review of related literature in Physical Education not giving important for PCK to design lesson plan in Physical Education and also not found such kind of study done before in India.
PCK is very important for lesson plan in Physical Education to analysis and identify extending task that will be necessary for a particular set of students to achieve success in the major tasks. **(Siedentop, 1991)**.
So researcher has been studied about the relation of PCK with Physical Education Lesson Plans and Physical Education classes.

Purpose

The purpose of this study was to assess pedagogical content knowledge of pre service physical education teacher and to check relation of PCK with physical education lesson plans and physical education classes.

Methodology

In this study, the population 98 pre service physical education teacher who enrolled in B.P.Ed programs academic year of 2021-2022, where 19 pre service physical education teachers selected for this study. The convenience sampling method is used. The pedagogical content knowledge was assessed through teacher made knowledge test. To observe the pre service physical education teacher's lesson plans the researcher used checklist tool. And also to observe the physical education classes of pre service teachers researcher used the point 5 rating scale.

Results and discussions

Table 1 Summary of Pedagogical Content Knowledge of Pre Service Physical Education Teacher

	Score
N	19
means	6.58
Minimum	1
Maximum	11
Percentile 25%	5
50%	7
75%	8

From Table 1 it is seen that the 6.58 (7) average score in Pedagogical Content Knowledge by 19 BPEd 2nd year students, Median (center of score) of the score in Pedagogical Content Knowledge test is 7, and mode (repetitive score) of the score in Pedagogical Content Knowledge test is 5.The standard deviation is 2.48, the 25% of the student scored less than 5, 50% of the student scored 5 to 8, and 25% of the student scored more than 8 in Pedagogical Content Knowledge test

Table 2: Summary of Physical Education Lesson plan check of BPEd 2nd year students.

Score	
N	19
Mean	4.74
Median	5.00
Mode	5.00
Standard Deviation	0.65
Minimum	4.00
Maximum	6.00

From Table 2 it is seen that the 4.57 (5) average score in Physical Education lesson plans check by 19 BPEd 2nd year students, Median (center of score) of the score in Physical Education lesson plans check is 5, and mode (repetitive score) of the score in Physical Education lesson plans check is 5

Table 3 Summary of Pedagogical Physical Education classes observation of BPEd 2nd year students.

observation	
N	19
Mean	5.93
Median	5.75
Mode	6.50
Standard Deviation	1.16
Minimum	4.25
Maximum	7.75

From Table 4.3 it is seen that the 5.93 (6) average score in Physical Education lesson classes by 19 BPEd 2nd year students, Median (centre of score) of the score in Physical Education lesson classes observation is 5.75 (6), and mode (repetitive score) of the score in Physical Education lesson classes observation is 6.

Table 4: Spearman's correlation among Pedagogical Physical Education, Pedagogical Physical Education Lesson plan, and Pedagogical Physical Education classes observation of BPEd 2nd year students.

Correlations					
			PCK	lesson	observation
Spearman's rho	PCK	Correlation Coefficient	1.000	-.178	.066
		Sig. (2-tailed)	.	.466	.788
		N	19	19	19
	lesson	Correlation Coefficient	-.178	1.000	.195
		Sig. (2-tailed)	.466	.	.423
		N	19	19	19
	observation	Correlation Coefficient	.066	.195	1.000
		Sig. (2-tailed)	.788	.423	.
		N	19	19	19

From the above table 4 shows that pedagogical content knowledge has no significant correlation with Physical Education classes, and also pedagogical content knowledge has no significant correlation with Physical Education lesson plan. Also shows that a Physical Education lesson plan has average correlation with Physical Education Classes.
This means the BPEd's students have pedagogical content knowledge but it's not in used in lesson planning and taking physical education classes.

Summary
CACPE College Pune, have taken different initiatives to improve the PCK of pre service teachers (BPEd students) by teaching pedagogy subject theoretically and giving teaching lesson practice, so that they take effective lesson. The present study comes to know the relation of PCK with planning lesson and teaching physical education classes. The purpose of the study was to check relation of Pedagogical Content Knowledge initiative taken by CACPE on BPEd students with their Physical Education Lesson and Physical Education Classes.
For that the researcher had gone through different researches/studies which are done before on Pedagogical Content Knowledge related to extension of task, and list out various factors of task extension i.e. Breakdown of skill, modification of space, modification of equipment, establishment of sequences of experience, progression of experiences, proficiency level, conditions of performance, static to dynamic, number of people involved in performance and focus on intent of performance.
The researcher checked the relation of PCK with physical education lesson and physical education classes by using spearman's correlation, by convinced sampling method subject selected for this study. Participates were selected that would best represent the research based on suggested from the faculty. Participates were briefed about the research and purpose of the research and asked to sign consent from starting that they agree to be part of this study. The tools for data collection were used teacher made knowledge test and point-5 scale.

Conclusions
(Shulman, 1986) Says that pedagogical content knowledge is one of the powerful forms of representation, the teacher must have at hand a veritable armamentarium of alternative forms of representation, some of which derive from research whereas others originate in the wisdom of practice. **(Taskin, 2017)**. Many researchers indicate that lesson plans are of great importance in providing an effective learning environment. Lesson planning connects requirements of the curriculum and textbooks with what are presented in the classroom (Lee, Chen & Khum, 2009). According to previous (expert's) studies showing that there has positive correlation among Pedagogical Content Knowledge, Physical Education lesson plans, and Physical Education classes. But in this study researcher will find there are less correlation between Pedagogical Content Knowledge, and Physical Education lesson plans in BPEd students. And find there are less correlation between Pedagogical Content Knowledge, and Physical Education classes. Which means having pedagogical content knowledge is not necessary to lesson planning and also in teaching classes.

Recommendation
The researcher can conduct this study on large sample.
The researcher can take feedback from sample and experts for more validity.

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