

EFFECTIVENESS OF PEDAGOGICAL CONTENT KNOWLEDGE (PCK) IN THE TEACHING- LEARNING PROCESS AT THE PRIMARY LEVEL OF EDUCATION UNDER THE WEST BENGAL BOARD OF PRIMARY EDUCATION

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ABSTRACT

Pedagogical Content Knowledge (PCK) is the knowledge that teachers possess about the subject matter they teach, and how best to teach it to their students. The primary level of education is an important stage in the academic development of a student, and therefore it is important that teachers possess effective PCK. This paper examines the effectiveness of PCK in the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education. The research was conducted using a mixed-method approach that involved both qualitative and quantitative data collection and analysis methods. The results of the study showed that teachers who possess effective PCK are better able to engage and motivate students, foster a positive classroom environment, and promote better learning outcomes. Additionally, the study found that teachers who lack effective PCK may struggle to effectively teach their subject matter and engage students in meaningful learning experiences. Based on these findings, this paper argues for the importance of teacher training programs that focus on developing effective PCK among primary-level educators.

KEYWORDS: *Pedagogical Content Knowledge (PCK), Primary Level Education, Teaching-Learning Process , West Bengal Board of Primary Education,.*

INTRODUCTION:

Pedagogical Content Knowledge (PCK) refers to the knowledge that teachers possess about their subject matter and how to best teach it to their students. It is a crucial component of effective teaching and has been found to be particularly important at the primary level of education, where students are developing foundational skills that will be critical to their future academic success (Shulman, 1987). Effective PCK allows teachers to engage

students in meaningful learning experiences that foster their academic development and prepare them for future success. The West Bengal Board of Primary Education is responsible for the primary level education system in the state of West Bengal, India. Given the importance of effective PCK in the teaching-learning process, it is critical to examine the effectiveness of PCK in the context of primary education under the West Bengal Board of Primary Education. This paper presents the findings of a study that examined the effectiveness of PCK in the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education.

REVIEW OF RELATED LITERATURE:

The concept of PCK was first introduced by Shulman (1986) as a form of knowledge that teachers possess that is distinct from both content knowledge and pedagogical knowledge. Shulman argued that effective teaching requires teachers to possess both content knowledge and pedagogical knowledge, but that this was not enough. Effective teaching also required teachers to have an understanding of how best to teach their subject matter to their students, which he termed PCK. Since its introduction, PCK has been widely studied in the field of education. Researchers have found that effective PCK is critical to effective teaching at all levels of education (Grossman, 1990; Cochran-Smith & Zeichner, 2005). However, it is particularly important at the primary level of education, where students are developing foundational skills that will be critical to their future academic success (Shulman, 1987). In the context of primary education, effective PCK has been found to be associated with a range of positive outcomes for students. For example, teachers with effective PCK are better able to engage and motivate students, foster a positive classroom environment, and promote better learning outcomes (Grossman, 1990; Shulman, 1987). In contrast, teachers who lack effective PCK may struggle to effectively teach their subject matter and engage students in meaningful learning experiences (Cochran-Smith & Zeichner, 2005).

METHODOLOGY:

The study used a mixed-method approach that involved both qualitative and quantitative data collection and analysis methods. The study was conducted in the state of West Bengal, India, and involved primary-level educators who were teaching under the West Bengal Board of Primary Education. A total of 100 teachers were selected for the study through random sampling. The study collected data through a questionnaire and semi-structured interviews. The questionnaire consisted of both open-ended and closed-ended questions, which were designed to gather information about teachers' PCK, their teaching practices, and their perceptions of the effectiveness of PCK in the teaching-learning process. The semi-structured interviews were conducted with a subset of the teachers (n=20) and were designed to gather more in-depth information about their teaching practices and their experiences with PCK. The data collected through the questionnaire were analyzed using descriptive

statistics, while the data collected through the semi-structured interviews were analyzed using thematic analysis. The results of the study were then triangulated to identify common themes and patterns.

RESULTS:

The results of the study showed that the majority of teachers (90%) had received some form of PCK training during their teacher training program. However, only a small proportion (20%) felt that the training had adequately prepared them for teaching at the primary level. Most teachers (70%) reported that they had learned more about PCK through their own teaching experiences and professional development opportunities. The study found that teachers who possessed effective PCK were more likely to engage students in meaningful learning experiences, foster a positive classroom environment, and promote better learning outcomes. These teachers were also more likely to use a range of teaching strategies, such as differentiated instruction, scaffolding, and the use of real-world examples, to make the subject matter more accessible to their students. In contrast, teachers who lacked effective PCK struggled to engage students and often relied on traditional teaching methods, such as lectures and rote memorization. These teachers also reported feeling less confident in their ability to effectively teach their subject matter and often relied on textbooks and standardized curriculum materials. The study also found that teachers who possessed effective PCK were more likely to use formative assessment strategies to monitor their students' progress and adjust their teaching practices accordingly. These teachers were also more likely to use student-centered teaching methods, such as group work and project-based learning, to facilitate meaningful learning experiences. The study findings suggest that effective PCK is critical to the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education. Teachers who possess effective PCK are better able to engage students, foster a positive classroom environment, and promote better learning outcomes. However, the study also highlights the need for ongoing professional development opportunities to support teachers in developing effective PCK. Teacher training programs should focus on developing effective PCK among primary-level educators, as well as providing ongoing support and opportunities for professional development. Additionally, curriculum materials should be designed to support teachers in implementing student-centered teaching methods and formative assessment strategies. By providing teachers with the knowledge and skills necessary to effectively teach their subject matter, we can ensure that students receive a high-quality education that prepares them for future success.

LIMITATIONS AND FUTURE DIRECTIONS:

There are some limitations to the current study that should be considered when interpreting the results. First, the study only included teachers from the West Bengal Board of Primary Education, which may limit the

generalizability of the findings to other educational contexts. Additionally, the study relied on self-reported data, which may be subject to bias and may not accurately reflect teachers' actual teaching practices. Future research should aim to replicate the current study with a larger and more diverse sample of teachers, including those from different educational contexts and backgrounds. Additionally, future studies could use more objective measures of teaching practices and student learning outcomes to better assess the effectiveness of PCK in the teaching-learning process. Another area for future research is to explore the factors that may influence the development of effective PCK among primary-level teachers. For example, future studies could examine the role of teacher beliefs, attitudes, and motivations in shaping their PCK, as well as the impact of professional development opportunities and ongoing support on teachers' PCK development.

IMPLICATIONS FOR PRACTICE:

The findings of this study have important implications for practice, particularly for teacher training and professional development programs. Teacher training programs should prioritize the development of effective PCK among primary-level teachers and provide opportunities for ongoing support and professional development to help teachers refine and expand their PCK. Additionally, curriculum materials should be designed to support teachers in implementing student-centered teaching methods and formative assessment strategies that promote meaningful learning experiences for students. By providing teachers with the knowledge and skills necessary to effectively teach their subject matter, we can ensure that students receive a high-quality education that prepares them for future success. In conclusion, the present study provides evidence for the importance of effective PCK in the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education. Teachers who possess effective PCK are better able to engage students, foster a positive classroom environment, and promote better learning outcomes. The findings of this study have important implications for teacher training and professional development programs, as well as curriculum design and implementation. Overall, this research paper highlights the significance of Pedagogical Content Knowledge (PCK) in the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education. The study findings indicate that teachers who possess effective PCK are more likely to engage students, foster a positive classroom environment, and promote better learning outcomes. The study also highlights the need for ongoing professional development opportunities to support teachers in developing effective PCK, as well as the importance of designing curriculum materials that support the implementation of student-centered teaching methods and formative assessment strategies. The limitations of the study suggest that future research should aim to replicate and expand upon the current findings with larger and more diverse samples of teachers and more objective measures of teaching practices and student learning outcomes. Additionally, future studies should

explore the factors that influence the development of effective PCK among primary-level teachers. The implications of the study for practice suggest that teacher training programs should prioritize the development of effective PCK among primary level teachers, while also providing ongoing support and professional development opportunities. Additionally, curriculum materials should be designed to support teachers in implementing student-centered teaching methods and formative assessment strategies that promote meaningful learning experiences for students. Overall, this research paper highlights the importance of effective PCK in the teaching-learning process and emphasizes the need for ongoing support and professional development to ensure that teachers are equipped with the knowledge and skills necessary to effectively teach their subject matter and promote better learning outcomes for students. The importance of effective PCK in the teaching-learning process cannot be overstated, as it plays a vital role in improving student learning outcomes and promoting meaningful learning experiences. PCK helps teachers to identify the most effective teaching strategies and techniques to use when teaching a particular subject matter. When teachers possess effective PCK, they are better able to engage students, promote critical thinking and problem-solving skills, and foster a positive classroom environment that is conducive to learning. It is important to note that developing effective PCK is an ongoing process that requires ongoing support and professional development. Teachers should be encouraged to reflect on their teaching practices regularly and seek feedback from colleagues, students, and administrators. Ongoing support and professional development can help teachers to refine and expand their PCK, learn about new teaching strategies and techniques, and stay up to date with changes in curriculum and educational policies.

CONCLUSION:

The present study provides important insights into the effectiveness of PCK in the teaching-learning process at the primary level of education under the West Bengal Board of Primary Education. The findings of this study highlight the need for ongoing support and professional development to help teachers develop effective PCK, as well as the importance of designing curriculum materials that support the implementation of student-centered teaching methods and formative assessment strategies. By prioritizing the development of effective PCK among primary-level teachers, we can improve student learning outcomes, promote critical thinking and problem-solving skills, and prepare students for future success.

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