



PEDAGOGICAL KNOWLEDGE OF PROSPECTIVE TEACHERS

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Abstract : Nowadays the education system is changing from teacher centered way of teaching to child centered and digital way of teaching. Teacher plays a crucial role in shaping behaviour of the learner. Prospective teachers are the future teachers, and their pedagogical knowledge aims at stimulating, directing, and guiding students, identifying learning problems, sharing experiences between the teacher and the student. The purpose of the study was to assess the level of pedagogical knowledge of prospective teachers and to study whether there was any significant difference in the pedagogical knowledge of prospective teachers with respect to age, locale, type of management, qualification, subject specialization, and knowledge of computer usage. The normative survey method was used for the study to collect relevant data. The sample of the study consisted 150 B.Ed. Prospective teachers from various Colleges of Education in Kanniyakumari District. Percentage, t-Test and ANOVA were the statistical techniques used for the study. The findings of the study revealed that pedagogical knowledge of prospective teachers is at moderate level.

Index Terms – Pedagogical knowledge, prospective teachers, teaching strategies, classroom management.

I. INTRODUCTION

Teacher plays a crucial role in school education by facilitates learners for effective learning. For that teachers should possess the teaching competencies such as classroom management, mastery of the subject matter, communication skills, teaching strategies, teaching techniques and classroom management. Prospective teachers are the future teachers. As a future teacher, prospective teachers can support the development of the nation through imparting education among their students. Prospective teacher's pedagogical knowledge aims at stimulating, directing and guiding students, identifying learning problems, sharing experiences between the teacher and the student. By utilizing their pedagogical skills, teachers can observe the precise needs of every student to reflect their teaching methods and strategies accordingly (Shah, Deepali, 2023). Prospective teachers need sound pedagogical knowledge of their subjects for effective teaching. They must interact with students, and observe their learning behavior. Teacher competence comprises a wider view of the development of education in society and includes various concepts of education and learning curricular and content competencies related to specific stages of education in general, subject-wise, and stage-wise dimensions, as well as planning and organizing related to teaching-learning materials, classroom, school and community activities. Nowadays, the education system is changing from the old way of teaching with chalk and board to a more modern and digital way of teaching. Pedagogical knowledge of prospective teachers have the understanding of content in subject specialization to deliver or transmit to students, and they know about how to prepare the lesson plan in different ways of teaching competence, teaching strategies and classroom management. Pedagogical Knowledge described as those broad principles and strategies of classroom management and organisation that appear to transcend subject matter (Shulman, 1987). NEP 2020 advocates for a holistic and multidisciplinary approach to curriculum and pedagogy.

II. Rationale of the study

Prospective teachers have to develop pedagogical knowledge that is relevant to real-life classroom experience. Pedagogical knowledge is a deliberate and planned activity that is goal oriented, meaningful, and functional. Pedagogical knowledge facilitates prospective teachers to prepare lesson plans, knowledge about preparing teaching and learning material, and how to engage learners in online labs and online classrooms. Online pedagogy is practiced using the internet and associated tools. Digital pedagogy focuses specifically on the use of technology to break down learning barriers and enhance students' learning experiences. Good pedagogical knowledge should be an interactive learning process. A good pedagogical knowledge is the planning of the activity in terms of learning objectives, instructional strategies, subject matter, and evaluating it in a systematic way. Pedagogical skills can elevate the quality of the teaching-learning process, strengthen collaborative learning, break up boredom, and facilitate a personalized learning experience (Voss et al., 2011). Pedagogy enables teachers to understand the best suitable practices for a classroom setting. It helps them to know how different students learn and grasp information so that they can tailor their lessons to satisfy those needs. It is likely to improve the quality of teaching and the way it is received by the students (Shirke, A., 2021). Mahmood, N. & Iqbal, Z. (2018) studied student-centred pedagogical knowledge of prospective teachers and their teaching practice, and found that student-centred teaching minutely but with the passage of time, it declined due to the influence of school culture, environment and traditional practices of teachers. Athira, C.G. (2020) revealed that personal pedagogical knowledge- metacognitive awareness, teaching competency, teacher personality and professional ethics among prospective teacher educators are the important factors which contribute for the effective delivery of the content.

III. Objectives of the study

1. To study the level of attainment of pedagogical knowledge of prospective teachers.
2. To study whether there is any significant difference in the pedagogical knowledge of prospective teachers with respect to age, locale, type of management, qualification, subject specialization, knowledge of computer usage.

IV. Hypotheses

1. There is no significant difference in the mean scores of pedagogical knowledge of prospective teachers based on age, locale, type of management.
2. There is no significant difference in the mean scores of pedagogical knowledge of prospective teachers based on qualification, computer knowledge.
3. There is no significant difference among the mean scores of pedagogical knowledge of prospective teachers based on subject specialization.

V. Methodology

The researcher used normative survey method. The sample of the study conducted 150 B.Ed. Prospective teachers from aided and self-finance colleges of Education of Tamil Nadu in Kanniyakumari District. Simple random sampling technique was adopted. The investigator used the tool to collected data for the study by using personal data sheet and Pedagogical Knowledge test. Percentage, t-Test and ANOVA are the statistical techniques used for the study.

Analysis and Interpretation of Data:

Table 1: Percentage distribution of different levels of Pedagogical Knowledge.

Pedagogical Knowledge	Count	Percent
Low	26	17.33
Medium	85	56.67
High	39	26
Total	150	100

From table 1, the level of Pedagogical Knowledge is 17.33% of them possess low level of pedagogical knowledge, 56.67% of them have medium level of pedagogical knowledge, and 26 % of them have high level of pedagogical knowledge.

Table 2: Comparison of Pedagogical Knowledge based on Age

Age	Mean	SD	Source	Sum of Squares	Df	Mean Square	'F' Value	'p' Value	Remark
21-24	9.44	3.15	Between Groups	22.33	2	11.17	1.176	0.311	NS
25-29	10.30	3	Within Groups	1395.91	147	9.50			
30 and above	9.9	2.69	Total	1418.24	149				

From the table 2, it is clear that $p > 0.05$ level of significance. There is no significant difference in the mean scores of pedagogical knowledge of prospective teachers with respect to different age group. Therefore, it is not significant. Hence the null hypothesis is rejected.

Table 3: Comparison of Pedagogical Knowledge based on Locale, Type of management, Qualification, and Computer Knowledge.

Background Variable		Mean	S.D	N	't' value	'p' value	Remark
Locale	Rural	9.86	3.24	91	0.697	0.487	NS
	Urban	9.51	2.84	59			
Type of Management	Aided	9.85	3.02	33	0.284	0.777	NS
	Self-finance	9.68	3.11	117			
Qualification	UG	9.69	3.16	51	0.093	0.926	NS
	PG	9.74	3.06	99			
Computer Knowledge	Yes	9.88	3.13	125	1.556	0.122	NS
	No	8.92	2.75	25			

From the table 3, it is clear that $p > 0.05$ level of significance. There is no significant difference of the mean scores based on locale, type of management, qualification, and computer knowledge. Therefore, it is not significant. Hence the null hypotheses are rejected.

Table 4:

Comparison of Pedagogical Knowledge based on Subject Specialization

Subject Specialization	Mean	SD	Source	Sum of Squares	Df	Mean Square	F	p	Remark
Physics	9.68	2.94	Between Group	58.87	3	19.62	2.107	0.102	NS
Chemistry	9.18	3.02	Within Group	1359.37	146	9.31			
Mathematics	9.55	3.69	Total	1418.24	149				
Computer Science	11.57	2.62							

From table 4, it shows that $p > 0.05$ level of significance. There is no significant difference among mean score of pedagogical knowledge of prospective teachers with respect to subject specialization. Therefore, it is not significant. Hence the null hypothesis is rejected.

Findings

The findings of the study indicate that there is no difference in the mean scores of pedagogical knowledge of prospective teachers with respect to age, locale, type of management, qualification, computer knowledge, and subject specialization. The findings indicate 17.33% of prospective teachers have low level of pedagogical knowledge, 56.67% of prospective teachers have medium level of pedagogical knowledge, and 26% of prospective teachers have high level of pedagogical knowledge.

Conclusion

The purpose of the study was to assess the pedagogical knowledge of prospective teachers. The results revealed that prospective teachers have moderate pedagogical knowledge. Prospective teachers have to improve their pedagogical knowledge and teaching strategies according to transformative trends in the digital world. In teacher education program give more importance to improve innovative method of teaching for prospective teachers. Empowering prospective teachers pedagogical knowledge can be achieved through various strategies and approaches such as provide comprehensive training like different teaching methods and pedagogical concepts, encourage continuous learning include attending workshops, conferences and webinars, foster a supportive learning environment like comfortable asking questions, sharing ideas and seeking feedback from mentors and peers, encourage prospective teachers to reflect on their teaching practices, assess their strength and areas for growth and set goals for continuous improvement.

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