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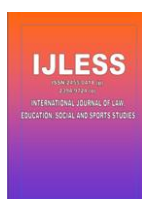
A Study on Pedagogical Knowledge of B. Ed Student Teachers

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ABSTRACT

The present day's education structure has been converting from teachers centred to pupil centered and virtual manner of teaching. A teacher plays a vital role in modifying behaviour of the learner. B. Ed Student teachers are the upcoming teachers, and their pedagogical knowledge aims at identifying learning problems, directing, guiding learners, stimulating, and sharing experiences between teacher and the pupil. The present study was undertaken to investigate the Pedagogical knowledge of B. Ed Student teachers. Sample of 100 B. Ed Student teachers from Shimoga city was selected by implementing the stratified random sampling method based on the independent variables such as stream, Locality and gender. The purpose of the study was: 1. To assess the level of Pedagogical Knowledge of B. Ed Student teachers. 2. To study whether there is any significance difference in pedagogical Knowledge of B Ed Student teachers with respect to their gender. 3. To study whether there is any significant difference in Pedagogical Knowledge of B. Ed Student Teachers with respect to their Stream of Education. 4. To study whether there is any significant difference in Pedagogical knowledge of B. Ed Student teachers with respect to their locality. This is a descriptive study adopting survey method to collect the data. The obtained data was analysed by using Percentage analysis and t-test. The findings of the study were 1. It was found that majority of B. Ed student teachers that is 50% of them possess average level of Pedagogical Knowledge. It is also seen that only 30% possess high level of Pedagogical Knowledge and 20% of B. Ed Student teachers possess low level of Pedagogical Knowledge. 2. No Significant difference was found between male and female B. Ed Student teachers with respect to their Pedagogical knowledge. 3. No Significant difference was found between Arts and Science Stream B. Ed Student teachers with respect to their Pedagogical Knowledge. 4. No significant difference was found between Urban and Rural areas B. Ed Student teachers with respect to their Pedagogical Knowledge.

Keywords: Pedagogical Knowledge, B. Ed Student Teachers, Teaching Approaches, Classroom Management.

Introduction

Teacher plays a significant role in school education by facilitate pupils for effective understanding. For that teachers must acquire the teaching competencies such as communication skills, teaching techniques, mastery over the subject matter, classroom management, and teaching strategies. B. Ed Student teachers are the future teachers. As a nation builder, they can help the development of the nation by offering education among their students. Student teachers pedagogical Knowledge aims at identifying learning problems, directing, guiding learners, stimulating, and sharing experiences between teacher and the pupil. By utilising their pedagogical knowledge, teacher can identify the needs of their students to reflect their teaching strategies and methods. Student teachers always need a greater pedagogical knowledge of their own subject areas for teaching effectively. They ought to engage with their pupils and look at their behaviour towards learning.

Competency of a teacher incorporates a wide view of the improvement of education in the society and consists of various ideas of training and mastering curricular and subject competencies associated with particular ranges of learning in common, stage wise dimensions and content wise, planning as well as organising related to school, classroom, and teaching and learning materials and community related activities. At present days, the system of education is changing from the traditional way to contemporary and digital way of teaching. Pedagogical understandings of the student teachers have the information of the content in subject specialisation to facilitate students, and they recognise about a way to prepare the lesson plan by using an exceptional new approaches of teaching, models, facilitating techniques, strategies, and classroom management. Pedagogical knowledge defined as the wide standards and approaches of classroom organisation and management that seems to go beyond subject knowledge. NEP 2020 advocates for a multidisciplinary and holistic approach to pedagogy and curriculum.

Pedagogical Knowledge:

Pedagogical Knowledge is completely a unique knowledge that wishes to be owned by an each teacher. It's profound and intensive information of the learning and teaching process. Pedagogical knowledge includes teacher's interactions, teaching behaviour, curriculum of the school, school establishments, classroom control and many others. It's one of the vital factors was raised by Shulman (1987) & Mishra and Koehler (2006) to effectively spoke to teachers knowledge and to know how in learning and teaching. This expertise needs to be owned by a 21st century teachers in education to train in tandem with age development. Many research confirmed high significance to the mastery of pedagogical expertise of the teacher. All the academic experts were agreed to produce effective teaching pedagogical knowledge is very essential. It is directly affect the students learning in the modern world.

Meaning & concept of Pedagogical Knowledge:

The word Pedagogy and pedagogue come from the Greek word paidos "means boy, or child" and ago means "lead" which means 'to lead the child'. Finally, pedagogy means the art or function of teaching. It also refers to the art or science of teaching; education; instructional methods.

Pedagogy is a technique of teaching in which teachers to teach, both theory and practical. It is shaped through teacher's teaching ideals and involves their understanding of traditions and many learning styles. It is very necessary for students to have meaningful classroom relationships rather than to construct prior learning.

Pedagogical Knowledge means an understanding of human development, motivational techniques, individual and cultural differences, learning, classroom management, evaluation strategies and professional ethics which have an impact on the learner.

Pedagogical knowledge is the understanding of classroom management and teaching practice that teachers carry to their profession. American Educational psychologist Lee Shulman was the early supporter of the study of knowledge of teacher whereby the knowledge of the pedagogy was observed as one among the educational categories. Several thinkers and theorists agreed that pedagogical knowledge is the crossroads of psychology and pedagogy, considering the social environment of the classroom.

This model of Pedagogical knowledge includes:

1. Knowledge of classroom management,
2. Methods of teaching,
3. Classroom Evaluation,
4. Learning process, and
5. Student's individual characteristics.

Pedagogical knowledge refers to knowledge of good practice in learning and teaching. Classroom management knowledge includes delivering lessons at a time that is to encouraging to learning. Methods of teaching involves to know how and when to use each pedagogical methods in teaching. Classroom evaluation includes how equally dispensing formative and summative tests to gauge comprehension throughout the time period. Knowledge of the process of learning includes how students to motivate throughout the class by encouragement and praise. Student's individual characteristic includes designing the teaching across the cognitive, emotional and social choices of students. Finally pedagogical knowledge is the guiding tool which teachers use to form the effective classroom learning experience.

Significance of pedagogical Knowledge:

The present day's pedagogy is a complete interrelation of the ideas and thoughts, together with the ways of teaching the students. It's also shows that those practices have direct involvement with the pupil's outcomes, skills and achievements developed after following the method. Consequently the pedagogical knowledge is very important.

1. **Enhancing Communication:** The teacher is familiar with the pupil in a better manner which enables them to recognize the student's weakness and guide them.
2. **Ensure collaborative Learning:** The implementation of pedagogy in training encourages the students to learn together towards finishing a challenge and examining together. This will increase their perception by means of expertise and taking views from the opposite students, thereby adapting the cooperative learning environments making them better leaders in the future.
3. **Allow students to learn effectively:** A proper idea of pedagogy can help the scholars to comprehend education in various approaches. It caters to the learning abilities of other students. Students can follow their preferred approaches of studying and persist with them. In this manner, the pupils develop a better understanding of the content, which finally improves their abilities and learning outcomes.
4. **Removes monotonous learning:** child development and pedagogy work hand in hand. It helps the pupil to assume in one of a kind method and pass beyond the traditional methods of memorization and comprehension for learning. It invokes complicated learning among the pupils such as creative thinking, analyzing and evaluation. It makes students more receptive to what the teacher teaching.

5. **Improves quality of teaching:** if a nicely-thought pedagogy is implemented in the classrooms, the quality of teaching can displays a drastic improvement. This can improves the students by means of supporting them thoroughly apprehend the study materials, thereby improving the learning outcomes.
6. **Assessment Excellence:** teachers those who have good pedagogical knowledge and skills can make assessment and evaluation that precisely reflect the outcome of their students. They encourage their students by asking thought provoking questions rather than rote learning questions and it is relevant in their everyday life.
7. **Develop Critical thinking:** its focus is to engage students in the leaning process and encourage collaboration, problem solving and critical thinking. Teachers can use teaching skills to create a classroom environment that supports problem solving and thinking.
8. **Develops instructional strategies:** teachers with teaching skills know how to adapt instruction and strategies to benefit all students. Teaching methods play an important role in education because they include principles, techniques, and methods that promote learning.
9. **Lifelong Learning:** Teaching plays an important role in education as it involves principles, techniques and methods that promote learning.
10. **Encourage Diverse learning styles:** students are free to learn in their own way by focusing on the outcomes of the course.
11. **Support learning for Students with special leaning Needs:** students with special needs are encouraged to be part of the general curriculum and interact with other students.
12. **Clear learning goals:** students study a specific subject with specific learning outcomes such as acquiring skills and knowledge related to the subject.

Teaching techniques can improve the quality of the teaching and learning methods, enhance collaborative learning, eliminate boredom, and encourage self directed learning. Pedagogical skills are the key to unlocking the secrets of creating successful and rewarding learning experiences.

Need and Importance of the Study:

Student teachers should develop pedagogical knowledge about teaching classroom knowledge in real life. Teaching is effective, efficient, thoughtful, goal oriented, and an organized activity. Pedagogical knowledge helps student teachers prepare lesson plans, know how to prepare teaching and learning materials, and know how to involve students in laboratories and online classes. Online teaching is done by using the internet and other tools. Digital education is a unique way to use technology to eliminate learning barriers and improve students' learning. Effective teaching should be an interactive learning process. Effective teaching means planning activities according to learning objectives, teaching topics, ideas and evaluating them meaningfully. Teaching techniques can improve quality of teaching methods, enhance collaborative learning, encourage self regulated learning and eliminate boredom.

Pedagogy enables teachers to understand the practices that are appropriate in the classroom environment. It helps them to understand how different students learn and learn from data so that they can adapt their lessons to meet these needs. It can increase the quality of teaching and the mode to which students receive it. Mahmood, N & Iqbal (2018) examined student's knowledge and teaching of pre-service teachers and found that students teaching is important but decreases over time due to the influence of school culture, teachers leadership and environment. Arcilla, C. G. (2020) found that the student teachers pedagogical knowledge, teacher attitude, morality, teaching ability and meta-cognitive knowledge are important factors that lead to positive outcomes of the subject. Hence this study is very necessary to conduct in this direction.

Objectives of the Study:

1. To assess the level of Pedagogical Knowledge among B. Ed Student teachers.
2. To study whether there is any significance difference in pedagogical Knowledge of B Ed Student teachers with respect to their gender.
3. To study whether there is any significant difference in Pedagogical Knowledge of B. Ed Student Teachers with respect to their Stream of Education.
4. To study whether there is any significant difference in Pedagogical knowledge of B. Ed Student teachers with respect to their locality.

Hypothesis of the Study:

1. There is no significant difference between male and female B. Ed student teachers with respect to their Pedagogical Knowledge.
2. There is no significant difference between Arts and Science Stream B. Ed Student teachers with respect to their Pedagogical Knowledge.
3. There is no significant difference in urban and rural B. Ed Student teachers with respect to their Pedagogical Knowledge.

Variables of the study:

Independent variable:

- ❖ Pedagogical Knowledge

Dependent variable:

- ❖ **Gender:** Male and female B. Ed Student teachers.
- ❖ **Stream:** Arts and Science
- ❖ **Locality:** Urban and Rural

Method of the Study:

The present study was undertaken to examine the pedagogical knowledge of B. Ed student teachers and to find whether there is any difference in pedagogical knowledge among B. Ed Student teachers with respect to gender, stream and Locality. The descriptive survey method of the study was followed.

Sample of the study:

The study was conducted on a sample of 100 B. Ed Student teachers of Shimoga city. The selection of sample was done on the basis of stratified random sampling method.

Tools used for collection of the Data:

Pedagogical Knowledge Scale constructed by Dr. Manju N. D was used. The Scale contains 30 statements represent the components of the pedagogical knowledge such as formulation of instructional objectives, content analysis, learning experiences, classroom management, and assessment method which represents the universe of the content.

Procedure for data Collection:

The investigator personally administered the Pedagogical Knowledge Scale to the B. Ed Student teachers. They were informed about the objectives of this study. They were instructed to fill in the tool and necessary clarifications were given. Sufficient time was given to the student teachers to respond

the tool. The obtained data with respect to different back ground variables were tabulated and subjected to statistical analysis employing statistical techniques.

Statistical techniques used for data collection:

The obtained data was analyzed using Percentage Analysis and ‘t’ test.

Analysis of the data and interpretation of the data:

The analysis of data interpretation and discussion of the results are presented below:

Objective 1: To assess the level of Pedagogical Knowledge among B. Ed Student teachers.

In pursuance of the objective 1 of the study the analysis is presented in table No 1.

Table 1: Table showing the percentage of the B. Ed Student teachers with respect to their different levels of Pedagogical Knowledge.

B. Ed Student Teachers	Level of Pedagogical Knowledge (in %)			Total
	High	Average	low	
Frequency	30	50	20	100
Percentage	30	50	20	100

The table No.1 reveal that majority of the B. Ed Student teachers that is 50% of them possess average level of Pedagogical Knowledge. It is also seen that only 30% possess high level of Pedagogical knowledge and 20% of B. Ed Student teachers possess low level of Pedagogical knowledge.

Ho. 1: There is no significant difference between male and female B. Ed student teachers with respect to their Pedagogical Knowledge.

Table 2: Summary table of ‘t’ test of male and female B. Ed Student teachers with respect to their Pedagogical Knowledge.

Gender	N	Mean	Standard Deviation	t- value	df	Significant level
Male	15	170.37	33.12	0.156	98	N S at 0.05 level
female	85	171.28	33.45			

The table 2 shows that obtained ‘t’ value 0.156 is less than the tabled ‘t’ value of 1.98 at 0.05 level of significance for degrees of freedom 98. Therefore null hypothesis is accepted and it is concluded that there is no significant difference between male and female B. Ed Student teachers with respect to their Pedagogical knowledge.

Ho. 2: There is no significant difference between Arts and Science Stream B. Ed Student teachers with respect to their Pedagogical knowledge.

Table 3: Summary table of ‘t’ test of Pedagogical Knowledge of B. Ed Student teachers of different Streams.

Streams	N	Mean	Standard Deviation	t- value	df	Significant level
Arts	46	178.37	29.20	0.87	98	N S
Science	54	181.56	32.84			

The table 3 shows that the obtained ‘t’ value of 0.87 is less than the table value of 1.98 at 0.05 level of significance for degree of freedom 98. Hence the null hypothesis is accepted and it is inferred that there is no significant deference between Arts and Science Stream B. Ed Student teachers with respect to their

Pedagogical knowledge.

Ho. 3: There is no significant difference between Urban and Rural areas B. Ed Student teachers with respect to their Pedagogical knowledge.

Table 4: Summary table of 't' test of Pedagogical Knowledge of B. Ed Student teachers of different Locality.

Locality	N	Mean	Standard Deviation	t- value	df	Significant level
Urban	42	187.21	30.10	0.92	98	N S
Rural	58	189.43	31.64			

The table 4 shows that the obtained 't' value of 0.92 is less than the table value of 1.98 at 0.05 level of significance for degree of freedom 98. Hence the null hypothesis is accepted and it is inferred that there is no significant difference between Urban and rural areas B. Ed Student teachers with respect to their Pedagogical knowledge.

Findings of the Study:

1. It was found that majority of B. Ed student teachers that is 50% of them possess average level of Pedagogical Knowledge. It is also seen that only 30% possess high level of Pedagogical Knowledge and 20% of B. Ed Student teachers possess low level of Pedagogical Knowledge.
2. No Significant difference was found between male and female B. Ed Student teachers with respect to their Pedagogical knowledge.
3. No Significant difference was found between Arts and Science Stream B. Ed Student teachers with respect to their Pedagogical Knowledge.
4. No significant difference was found between Urban and Rural areas B. Ed Student teachers with respect to their Pedagogical Knowledge.

Educational Implications of the Study:

1. The study results shows that student teachers have average level of pedagogical knowledge. Student teachers need to develop their pedagogical knowledge and teaching strategies in line with the changes in the digital world. In teacher training programme, training is increasingly provided for the development of new teaching methods for student teachers. The training of student teachers can be improved with various strategies and methods such as providing training on different teaching methods and content, encouraging continuous learning, including participation in meetings, discussions, webinars, encouraging learning and a comfortable research environment. Asking questions, sharing ideas and receiving feedback from their mentors and colleagues encourages student teachers to reflect on their teaching, evaluate their strengths and areas for development and set goals for continuous improvement.
2. Teacher educators play an important role in improving the quality of education, but their roles and responsibilities are not fully recognised. For example differences in the qualifications of the teachers, specialisation, areas of interest, and level of students they taught. In this regard, teachers need to have the right attitude and motivation to develop their existing pedagogical knowledge and skills to ensure that the engaging lessons to increase the interest of students to study pedagogy like Languages, Physics, Chemistry, Biology, Mathematics, Social Science and commerce.
3. DSERT, NCERT, CTE, university department, and Collegiate education department should organise workshops, seminars, and symposia to orient them towards attaining communication,

competency, socio-emotional skills such as clarity, structure, warmth and enthusiasm and classroom management to help student teachers to enhance their pedagogical knowledge.

Conclusion

Pedagogy plays a key role in helping teachers understand the best ways to teach in the classroom. Pedagogy helps them understand how students learn differently in different subjects so they can adapt their lessons to these needs. Its aim is to improve the quality of teaching methods, enhance collaborative learning, eliminate boredom and encourage self directed learning. Pedagogical Knowledge is the key to unlocking the secrets of creating successful and rewarding learning outcomes. It's emphasized the importance of teacher's knowledge, skills and practice in creating quality education.

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