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A Study On Locality - Based Variation In Cognitive Style Among Secondary Student Teachers

[1]S. Deviga, [2]Dr. K. Dhanalakshmi
[1]PhD Research Scholar, [2]Professor,
[1]Department of Education,
[1]Periyar University, Salem, Tamil Nadu, India

ABSTRACT: In the field of education, Cognitive Style plays a pivotal role in shaping the teaching and learning process of future educators. The present study, titled " A study on Locality-based Variation in Cognitive Style among Secondary Student Teachers," was undertaken to investigate the cognitive patterns of those preparing for the secondary teaching profession. To achieve this, the researcher adopted the Survey Method. A total sample of 150 secondary student teachers (64 Rural and 86 Urban) was selected using the Simple Random Sampling Technique. Data were collected using a validated Self-made Cognitive Style Inventory which measures Cognitive Style in five dimensions namely Knowing, Planning, Creative, understanding and Thinking style. The statistical analysis revealed that there is no significant difference in the overall cognitive style of secondary student teachers based on their locality.

KEY WORDS **-** Cognitive Style, Secondary Student Teachers, Locality Variation, Cognitive Style Dimensions.

1.INTRODUCTION

Cognitive style is a consistent and individual-specific manner of acquiring, processing, and evaluating information (Witkin,1962). In the field of teacher education, understanding how a student teacher perceives pedagogical challenges is fundamental to their professional development. The present study focuses on exploring the locality-based variation in five cognitive dimensions, namely Knowing, Planning, Creative, Understanding and Thinking style. As the environmental ecosystem ranging from resource-rich urban centers to culturally grounded rural areas significantly shape a person's mental framework, it is imperative to analyze how these settings influence the cognitive profiles of secondary student teachers. This investigation aims to analyze the difference in the Cognitive Style of secondary student teachers based on their locality.

2.NEED AND SIGNIFICANCE OF THE STUDY

The pedagogical success of secondary student teachers is intrinsically linked to their cognitive processing styles (Witkin, 1962) which dictate how they perceive, organize, and deliver information in a classroom. This study is of paramount importance as it explores the locality-based variation specifically between Rural and Urban backgrounds in five Cognitive Styles dimensions, namely Knowing, Planning, Creative, Understanding and Thinking styles (Messick,1984). Investigating these styles among secondary student teachers is significant because it allows teacher-education institutions to move beyond a standardized approach and develop customized training modules that cater to the specific cognitive strengths of student teachers from diverse geographical origins. By identifying how environmental factors shape a teacher's ability to plan lessons or think creatively (Witkin,1962), this research provides a scientific basis for enhancing instructional quality and classroom decision-making.

Ultimately, understanding these five distinct styles empowers student teachers to become more self-aware and adaptive, ensuring they are equally equipped to meet the heterogeneous learning needs of modern classrooms, regardless of their locality. Hence, the investigator recognized the need to conduct a study on the locality-based variation in cognitive style among secondary student teachers.

3.STATEMENT OF THE PROBLEM

The present study is designed to investigate the Cognitive Style of student teachers with a specific focus on their locality. In the modern educational landscape, the way future educators process, organize, and apply information is crucial for effective teaching. However, there is a need to understand whether the geographical locality (rural or urban) of these student teachers influences their Cognitive Style dimensions such as Knowing, Planning, Creative, Understanding and Thinking style. Therefore, this research aims to identify the prevailing Cognitive Style among student teachers and determine if their locality creates any significant variations in their cognitive preferences. Hence, the present study is titled as, "**A STUDY ON LOCALITY - BASED VARIATION IN COGNITIVE STYLE AMONG SECONDARY STUDENT TEACHERS"**

4.REVIEW OF RELATED LITERATURE

Miller, J., & Harrison, L. (2022) conducted a study titled "Cognitive Style Preferences among Pre-service Teachers: A Study on Rural and Urban Educational Backgrounds". In this research, they used a Descriptive Survey Method with a sample of 240 student teachers in the UK, selected using the Simple Random Sampling Technique. The researchers employed the Cognitive Style Analysis (CSA) tool developed by Riding to measure the participants' preferences. The findings showed that rural student teachers scored higher in Planning and Thinking dimensions, while urban student teachers were more skilled in Creating and Knowing dimensions. This study confirms that the locality where a student teacher is raised significantly shapes their cognitive development.

Kumar, A., & Selvaraj, P. (2021) carried out a research project titled "Cognitive Style of B.Ed. Student Teachers in Relation to their Locality and Academic Stream". They adopted a Descriptive Survey Method to collect data from a sample of 300 student teachers in South India, selected through the Stratified Random Sampling Technique. For data collection, they utilized a standardized Cognitive Style Inventory (CSI) developed by Jha. The results revealed that rural student teachers performed better in Planning and Understanding dimensions, whereas urban student teachers showed higher proficiency in Knowing and Creating dimensions. This research highlights that locality remains a key factor in determining the cognitive patterns of future teachers in India.

5.OBJECTIVES OF THE STUDY

- To find out Whether there is any significant difference in the five dimensions of Cognitive style, namely Knowing style, Planning style, Creative style, Understanding style and Thinking style of secondary Student teachers with respect to their locality.
- To compare the Overall Cognitive style of secondary student teachers with respect to their locality.

6.HYPOTHESES OF THE STUDY

H01: There is no significant difference in Knowing style of secondary student teachers with respect to their locality.

H02: There is no significant difference in Planning style of secondary student teachers with respect to their locality.

H03: There is no significant difference in Creative style of secondary student teachers with respect to their locality.

H04: There is no significant difference in Understanding style of secondary student teachers with respect to their locality.

H05: There is no significant difference in Thinking style of secondary student teachers with respect to their locality.

H06: There is no significant difference in the Overall Cognitive Style of secondary student teachers with respect to their locality.

7.RESEARCH METHODOLGY

7.1 Method of the study

The investigator adopted the Survey Method for the present study. Data were collected from the secondary student teachers studying in various Colleges of Education. The investigator used a Self-developed tool to measure the Cognitive Style of the participants.

7.2 Sampling Technique

The investigator used the Simple Random Sampling technique to select the participants for the present study. A total sample of 150 secondary student teachers was selected from various Self-financing Colleges of Education in Salem district. To ensure a proper comparison, the sample was selected in such a way that it includes student teachers from both Rural and Urban localities.

7.3 Sample Size

The investigator selected a total sample of 150 secondary student teachers for the present study. Among the total sample, 64 student teachers were from Rural localities and 86 student teachers were from Urban localities.

7.4 Tool Used of the Study

The investigator used a self-constructed and validated questionnaire titled 'Cognitive Style Inventory' for the present study. It consists of items based on a Five-point Likert Scale. The tool measures five dimensions, namely Knowing style, Planning style, Creative style, Understanding style and Thinking style.

7.5 Scoring Procedure

The questionnaire consists of 38 items based on a Five-point Likert scale. Participants mark their responses ranging from Strongly Agree to Strongly Disagree. The scoring is assigned as 5, 4, 3, 2, and 1 for the responses Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree respectively.

7.6 Pilot Study and Reliability

The Pilot study was conducted among 50 student teachers from a College of Education in Salem district to establish the reliability of the tool. The co-efficient of reliability was found as 0.895.

7.7 Statistical Techniques Used

Mean, standard deviation and ‘t’ test were worked out to find the difference in the Cognitive Style due to the Locality difference.

8.TESTING OF NULL HYPOTHESES

There is no significant difference in Cognitive Style and its Dimensions among student teachers with respect to their locality.

DIFFERENCE IN COGNITIVE STYLE AND ITS DIMENSIONS OF STUDENT TEACHERS WITH RESPECT TO THEIR LOCALITY.

DIMENSIONS	LOCALITY	N	MEAN	SD	t-value	P	Remarks
Knowing Style	Rural	64	31.6719	2.2612	10.584*	0.000	S
	Urban	86	27.6512	2.3302			
Planning Style	Rural	64	24.5313	2.1004	0.973	0.332	NS
	Urban	86	24.2093	1.9288			
Creative Style	Rural	64	28.2813	2.1783	1.201	0.232	NS
	Urban	86	27.8139	2.4806			

Understanding Style	Rural	64	24.7343	2.1767	0.740	0.460	NS
	Urban	86	24.4651	2.2213			
Thinking Style	Rural	64	26.9531	2.2708	11.940*	0.000	S
	Urban	86	31.4070	2.2512			
Overall Cognitive Style	Rural	64	136.172	5.2902	0.781	0.436	NS
	Urban	86	135.547	4.4922			

9.DATA ANALYSIS AND INTERPRETATION

The table presents the Mean, SD and t-value of Rural and Urban Secondary student teachers with respect to various dimensions of Cognitive style.

It is observed from the table that the calculated 't'-value for Knowing style (10.584), Thinking Style (11.940) are greater than the table value (1.96) at 0.05 level of significance. Therefore, there is significant difference between Rural and Urban Secondary student teachers in the dimensions of Knowing Style and Thinking Style**.** Hence the Null hypotheses are Rejected.

Further, the calculated t'-values for Planning Style (0.973), Creative Style (1.201) and Understanding Style (0.740) are less than the table value (1.96) at 0.05 level of significance. Therefore, there is no significant difference between Rural and Urban Secondary student teachers in their dimensions of Planning Style, Creative Style and Understanding Style.Hence the Null hypotheses are Accepted.

9.1 Overall Cognitive Style

The table shows that the calculated 't'-value (0.781) is less than the table value (1.96) at 0.05 level of significance. Therefore, is no significant difference between Rural and Urban Secondary student teachers in their overall Cognitive Style. Hence the Null hypothesis is Accepted.

From the above table, it is observed that the mean scores of Cognitive Style for Rural and Urban Secondary student teachers are 136.172 and 135.547 respectively.

From this, it is concluded that both the Rural and Urban Secondary student teachers possess a similar level of overall Cognitive Style.

10.FINDINGS OF THE STUDY

Based on the statistical analysis of the data, the following findings were drawn:

- There is a significant difference between Rural and Urban student teachers in their Knowing Style. Rural student teachers are found to have a better knowing style than their urban counterparts.
- There is a significant difference between Rural and Urban student teachers in their Thinking Style. Urban student teachers exhibit a superior thinking style compared to rural student teachers.
- There is no significant difference between Rural and Urban student teachers in the dimensions of Planning Style, Creative Style, and Understanding Style.
- Overall, there is no significant difference in the Total Cognitive Style between Rural and Urban student teachers.
- It is concluded that locality does not have a significant impact on the overall Cognitive Style of student teachers, as both rural and urban groups possess a similar level of total Cognitive Style.

11.DELIMITATIONS OF THE STUDY

- The study is strictly confined to the geographical area of Salem district only.
- The investigation is restricted to Secondary student teachers pursuing their B.Ed. degree.
- The study only considers the variables of Cognitive Style and its specific dimensions.
- The sample size is limited to 150 student teachers selected from Self-financing Colleges of Education.

12.SUGGESTIONS FOR FURTHER RESEARCH

- Future studies can be conducted in other districts of Tamil Nadu to see if the results are similar to the Salem district.
- Researchers can study Cognitive Style along with other factors like Teaching Skills or Academic Achievement.
- A study can be done to compare the Cognitive Style of students in Government colleges versus Private colleges.
- Future research can investigate how using smartphones and the internet changes the way rural and urban students think and learn.
- A specific study can be carried out to find if there is any difference between male and female student teachers regarding their cognitive style.

13.CONCLUSION

The study concludes that rural student teachers exhibit a significantly better Knowing Style due to their culturally grounded upbringing and direct engagement with their environment, fostering strong observational and data collection skills. Conversely, urban student teachers show a superior Thinking Style, likely driven by their exposure to digital platforms and competitive academic environments that encourage logical reasoning. However, urban students are found to be relatively lower in Knowing Style due to the high speed of information acquisition. To bridge these gaps, it is recommended that rural students be provided with training in Critical Thinking and Logical Reasoning, while urban students be encouraged to engage in systematic Data Collection and Library Research. Ultimately, the study reveals that locality does not significantly impact the Overall Cognitive Style, showing no major difference in the total cognitive approach between the two groups.

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