
A Study on Cognitive Style among B.Ed and M.Ed Students in Mizoram

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Abstract:

This study explored and compared the cognitive styles of Bachelor of Education (B.Ed) and Master of Education (M.Ed) students in Mizoram, India. Cognitive style, which refers to an individual's preferred way of processing information, plays a significant role in learning and teaching. The research employed a census method with a total population of 332 students from different teacher education institutions in Mizoram. The results indicated majority of the students have split cognitive style. Maximum number of the students had medium level of cognitive style followed by high level of cognitive style and minimum of the students possessed low level of cognitive style. It was also found that there was a significant difference between the cognitive styles of B.Ed and M. Ed students. No difference was found in the cognitive styles of male and female B.Ed and M.Ed students. These findings revealed the diversity in cognitive styles among student teachers and understanding these differences can enhance teacher education programs and contribute to more effective and personalized educational strategies in Mizoram.

Key words: Cognitive Styles, B. Ed, M. Ed, Teacher Education Programmes

Introduction

Cognitive style refers to the preferred way an individual processes information, influencing their perception, thinking, problem-solving, learning, and memory. Messick (1984) defines cognitive styles as fixed attitudes, inclinations, or ingrained behaviours that identify an individual's regular way of seeing, recalling, reasoning, and solving problems.

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Cognitive style is conceived as one of the aspects of psychological differentiation. Psychological differentiation refers to different mode of perceiving, judging and appraising things to which people are exposed to under different conditions. The notion of cognitive style has been defined as self-evident modes of functioning which the individual shows in his perceptual and intellectual activities. It is conceptualized as stable attitude or habitual strategy which determines a person's typical modes of perceiving, remembering and problem-solving. There are several types of cognitive functioning among which field dependence and field independence are well known. A field dependent individual is found to be passive and less competent in analytical functioning having greater social orientation. He has poor impulsive control and undifferentiated self-concept. He is more socially sensitive. On the other hand, a field independent individual is found to be more active and competent in analytical functioning having less social orientation. He is less impulsive and socially sensitive. Mahlios (1981) found that teacher and student's relationship is based on the cognitive style adopted by both the teachers and students. The classroom interaction between the teachers and students is influence by the cognitive style of the students. This indicated that the cognitive style adopted by the students is greatly influence by the teaching-learning process.

Recognizing cognitive styles helps future educators in B.Ed and M.Ed programs to become reflective practitioners who can adapt their teaching strategies to diverse learners. This understanding promotes a more inclusive and effective educational environment, although it is important to avoid overgeneralization and consider the fluid and context-dependent nature of cognitive styles, as well as cultural influences.

Rationale

The study on the cognitive styles of B.Ed and M.Ed students is crucial in order to understand and address the diverse learning needs of future educators. By exploring how these students process information and learn best, educators can tailor teaching methods and develop curricula that cater to individual preferences, enhancing educational effectiveness. This understanding leads to improved teaching competence, as future teachers become equipped with strategies to manage diverse classroom behaviours and implement varied instructional methods. Additionally, insights from cognitive style research inform the design of inclusive and adaptive educational programs, fostering reflective practice and continuous professional development among M.Ed students. This study also contributes in finding out the level of cognitive style among students-teachers as well as student- teacher educators. Ultimately, by recognizing and accommodating cognitive diversity, educational institutions can better prepare teachers to create supportive and effective learning environments for all students.

Review of Related Literature

Krishna (2015) conducted a study on cognitive styles of student teachers in relation to their social and emotional intelligence. The study revealed that out of the total of 600 student teachers, 163 student teachers were having low systematic style, 297 student teachers were having moderate systematic style, 140 high systematic style. Thus it can be inferred that nearly half (49.5%) of the sample belongs to the moderate systematic style, while 27.2% were low systematic style, where as 23.3% belonged to high owing distribution of student teachers.

Nirmala (1996) conducted a study on cognitive styles and learning styles a comparative study of delinquents and non-delinquents. The study found that the delinquent girls and non - delinquent girls did not differ significantly in their cognitive styles of functioning. Delinquents show field dependent style of cognitive functioning.

Methodology

For the present study, census methods involving survey on various Teacher Education Institutions in Mizoram was used to find the cognitive style of B.Ed and M.Ed students.

Population

All the students from teacher education Institutions from Mizoram constituted the population for this study. As there are four institutions viz. Institute of Advanced Studies in Education (IASE), Department of Education, MZU, DIET Aizawl and DIET Lunglei, running the Bachelor of Education (B.Ed) Programme and two institutions viz. Institute of Advanced Studies in Education (IASE), Department of Education, MZU for the Master of Education (M.Ed) programme, all the students in these institutions were selected for population and hence, selection of sample is not necessary for investigation.

Tool

For the present study, Cognitive Style Inventory developed by Dr. Praveen Kumar Jha (English Version), National Psychological Corporation, Agra was used.

Statistical technique used

Data collected were analysed with the help of statistical techniques namely Mean, standard deviation, and t-test.

Objectives:

1. To examine the cognitive style of B. Ed and M. Ed students.

2. To compare the cognitive style of B. Ed and M. Ed students.
3. To compare the cognitive style of male and female B. Ed students.
4. To compare the cognitive style of male and female M. Ed students.

Data analysis and interpretation

Objective No. 1: To examine the cognitive style of B. Ed and M. Ed students.

Results of analysis of the cognitive styles of B. Ed and M. Ed students are presented in the following table:

Table No 1

Cognitive Styles of B.Ed and M.Ed Students

Sl. No	Cognitive Styles	N	Percentage
1	Systematic Style	23	6.92%
2	Intuitive Style	3	0.90%
3	Integrated Style	71	21.39%
4	Undifferentiated Style	71	21.39%
5	Split Style	164	49.40%
	Total	332	100

Table No 1 shows that the students have different styles of cognition. The maximum score is made by students with split cognitive style of 164 with a percentage of 49.40. The integrated style and undifferentiated style are exhibited by 71 students each with a percentage of 21.39. The number of students with systematic style is of 23 in number with a percentage of 6.92 and finally students with intuitive style is only 3 with a percentage of 0.9.

The cognitive style can also be classified on the basis of the score obtained. Based on the norms calculated, students who scored 73.5 and above are considered as having high level of cognitive style. The scores obtained by students from 65 to 73 are treated as having medium level of cognitive style and finally, students who scored 64.5 and below are considered as having low level of cognitive style. The number and percentage of the level of cognitive styles are presented in the following tables.

Table No 2

Level of Cognitive Styles of Students

Sl. No	Level of Cognitive Styles	N	%	MEAN	SD
1	High	86	25.9	77.21	3.32
2	Average	170	51.2	68.82	2.47
3	Low	76	22.9	59.05	5.83
	Total	332	100		

A glance at the table 2 highlighted the cognitive style of B. Ed and M. Ed students. Out of the total population of 332 students, 86 (25.90%) have a high level of cognitive style. 170 (51.20%) have medium level of cognitive style. Lastly, 76 (22.9%) of students have low level of cognitive style. The mean score of high cognitive style is 77.21 with a standard deviation of 3.32. Medium level mean score is 68.82 with a standard deviation of 2.47 and low level mean score is 59.05 with a standard deviation of 5.83.

Table No 3
Level of Cognitive Style of B. Ed and M. Ed Students

Edn	Level of Cognitive Styles	N	%	MEAN	SD
B. Ed	High	56	22.22	68.24	7.29
	Average	132	52.38		
	Low	64	25.4		
M. Ed	High	30	37.5	70.38	7.29
	Average	38	47.5		
	Low	12	15		

Table No. 3 reveals the level of cognitive styles of B.Ed and M.Ed students. There are 56 (22.22%) students in B.Ed with high level cognitive style, 132 (52.38%) have medium level of cognitive style and 64 (25.40%) have low level of cognitive style. Among the M.Ed students, 30 (37.5%) had high level cognitive style, 38 (47.5%) had medium level and 12 (15%) had low level. The mean scores of students are 68.24 in B. Ed and 70.38 in M. Ed with a similar standard deviation of 7.29.

Objective 2: To compare the level of cognitive style of B. Ed and M. Ed students.

Results of the comparison of the level of cognitive style of B. Ed and M. Ed students are shown in the following tables:

Table No. 4
Comparison of the Cognitive Style of B. Ed and M. Ed Students

Edn	N	Mean	SD	df	t-value	Level of significance
B. Ed	252	68.22	7.29	330	2.3	0.05
M. Ed	80	70.38	7.29			

Table No 4 reveals that the mean scores of B. Ed and M. Ed are 68.22 and 70.38 with a similar standard deviation of 7.29. The degrees of freedom being 330 with a t-value of 2.30 which is significant at 0.05 level. Therefore, the hypothesis being 'there is no significant difference between B. Ed and M. Ed students in their level of cognitive style' is rejected. Hence, it can be said that there is significant difference in their cognitive style.

Objective 3: To compare the cognitive style of male and female B. Ed students.

To compare cognitive style of male and female B. Ed students, the mean difference between the two groups was tested using t- test. The following table shows the comparison of male and female B. Ed students towards their cognitive style.

Table No.5**Comparison of the cognitive style of male and female B. Ed Students**

CSI	N	Mean	SD	t value	Level of Significance
B.Ed. Male	87	68.39	7.7	0.263	N.S
B.Ed. Female	165	68.13	7.09		

Table 5 indicates that B.Ed male students have a mean score of 68.39 and a standard deviation of 7.70, whereas B.Ed female students have a mean score of 68.13 and a standard deviation of 7.09. The computed t-value is 0.263, which is below the critical value needed for significance.

This suggests that male and female B.Ed students do not differ significantly in their cognitive styles. However, it is noted that the mean score of male students is slightly higher than that of female students.

This finding implies that gender is not a significant factor in differentiating cognitive style.

Objective No. 4: To compare the cognitive style of male and female M. Ed students.

To compare cognitive style of male and female M. Ed students, the mean difference between the two groups was tested using t- test. The following table shows the comparison of male and female M. Ed students towards their cognitive style.

Table No. 6**Comparison of the cognitive style of male and female M. Ed Students**

CSI	N	Mean	SD	t value	Level of Significance
M.Ed. Male	26	71.59	7	1.034	N.S
M.Ed. Female	54	69.79	7.42		

The table shows that for M.Ed male students (totalling 26), the mean score is 71.59 with a standard deviation of 7.00. For M.Ed female students (totalling 54), the mean score is 69.79 with a standard deviation of 7.42. The calculated t-value is 1.034, which is below the critical value required for significance.

This indicates that male and female M.Ed students do not significantly differ in their cognitive styles. Although the mean score of male students is slightly higher than that of

female students, the finding suggests that gender is not a significant factor in differentiating cognitive style among M.Ed students.

Findings

Out of the total population of 332 students, it was found that maximum number of students have split cognitive style followed by similar number of students having integrated and undifferentiated cognitive style. The least number of students have intuitive style followed by students with systematic cognitive style. Based on the scores obtained by students, maximum number of the students have medium level of cognitive style followed by high level of cognitive style and minimum of the students possess low level of cognitive style. It was also found that there was a difference between cognitive styles of B.Ed and M.Ed students. Male and female B.Ed students and male and female M.Ed students do not differ in their cognitive style which concluded that there is no significant difference between them.

Conclusion

It can be concluded that cognitive styles are distinct from individual intelligence, but they may affect personality development and how individuals learn and apply information. So, it is very important to know and study about cognitive styles of students for quality education especially in teacher education institutes.

References

- Krishna, M. P. (2015). *A study on cognitive styles of student teachers in relation to their social and emotional intelligence*. [Doctoral dissertation, Osmania University]. <http://hdl.handle.net/10603/179339>
- Mahlis, M. C. (1981). Relationships of cognitive style to teacher-student interaction and student learning. *The Journal of Classroom Interaction*, 17(1), 26–30. <http://www.jstor.org/stable/43997774>
- Messick, S. (1984). The nature of cognitive styles: Problems and promises in educational research. *Educational Psychologist*, 19, 59-74.
- Simuth Jr, J., & Sarmany-Schuller, I. (2015). The preferences of cognitive style among university students from various study fields. *Procedia-Social and Behavioral Sciences*, 191, 2537-2540. <https://doi.org/10.1016/j.sbspro.2015.04.464>