LEARNING STYLE IN RELATION TO COGNITIVE STYLE OF PROSPECTIVE TEACHERS

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Abstarct : This study was conducted to understand the relationship between learning style and cognitive style of prospective teachers. Normative survey method was used for the study. Samples of 200 students were collected for the study. Learning Style Inventory and Cognitive style Inventory was the tools used for the study. Result indicates gender difference is not affected by cognitive style and learning style among prospective teachers. Cognitive style and learning style of prospective teachers are affected by the subject they study. Learning Style and cognitive style of prospective teachers are correlated.

Key words: Learning style, cognitive style

INTRODUCTION

All individuals are unique. No two individuals are alike. Every person is different from others. Individual difference is seen among every one. Learning style also varies among individuals. The term learning style was first used by Gordon Pask while reporting the distinction between students based on their learning strategies. When something now has to be learned, the learner probably approaches the task in a similar fashion each time and over a period of time the learner has developed a pattern of behaviour that he may use for new learning. This pattern is known as learning style. Learning style is a general tendency to adopt a particular learning strategy. A learning style is a method by which a individual attain learning goals. It is a type of habit formation. A style is a habitual or preferred way of doing something and it should be consistent for a long period. Cognitive style means the way of approaching or handling cognitive tasks. Cognitive style is referred to as style rather than ability because it describes how people process information and solve problem, and not well they do so.

Individual use cognition in all of his activity he does. It is a process by which a individual gain information about something and understand the reason behind everything. It is a process by which a living being understand obtains some information from nature. We call sensation, problem solving, retention, perception, imagery, recall and thinking as aspect of cognition. It is a complex process. Cognitive style actually refers to the recovery of what we thought or see in the environment. Difference in cognitive style is seen in children when they approach variety of task they do. It is way an individual acquire and gain knowledge. It is a mental behaviour a individual show in most of his activity. Cognitive style is a stable and personal dimension of an individual which influences values and social interactions. It is a particular type of processing information to certain individual or certain class of individuals. The way of processing information in the context of learning can be referred to as cognitive style. It differ from individual to individual and group.

SIGNIFICANCE OF THE STUDY

Classroom is places where teaching and learning takes place and go hand in hand. For effective classroom learning to take place teachers should have a better cognitive style and learning style. All individuals differ in their style of learning, thinking, responding, reacting etc. students are not alike and teachers too. Individual differences are seen in each and every corner. In this regard cognitive style is important. Learning is an individualized process. Learning is modification of behaviour response through experiences. Teaching is a profession with quantum of knowledge and teachers are considered as learning specialist. Teaching profession in highly dynamic and changing one as new methods and topics emerge into the field of education day by day. A teacher cannot complete her whole teaching years with same learning material or teaching strategy. Quality of teacher is important in determining student's achievement. Teacher should understand students and their style of learning. So learning style is an important term in education. Teacher is an important part of teaching learning process. So the researcher decided to find the relationship between two variables in prospective teachers.

REVIEW OF RELATED LITERATURE

Bhatnagar. T (2017) studied a comparison between learning style of Indian and German business students. Result showed that learning styles of Indian and German students are different. Bosman. A (2016) conducted a study between learning style preferences and mathematics achievement of secondary students. A positive correlation is found between learning style and mathematics achievement. Elban. M (2017) conducted a study between learning styles and academic success of the preservice history teachers. Result shows that learning style and academic success are correlated. Sener. S (2017) conducted a survey study between multiple intelligence and learning style. A positive correlation exists between the multiple intelligence and learning style. Dehganhi. M (2015) conducted a study on the learning style preferences on language of Iranian EFL high school students. Some of the learning style had a high preference in the study. Bolaji.H.O (2017) conducted a experimental study to find out the effects of ubiquitous collaborative mobile learning environment on collaborative learning styles performance of students. Result indicates

collaborative learning styles are suitable for mobile learning. Aydin.B (2016) conducted a survey study to find the relationship between learning styles and attitudes towards mathematics of 8th grade students . A positive relation exists between two variables. Handan.M (2017) conducted a survey study on learning style of the students of biology department and prospective biology teachers and their relationship with some demographic variables. A relationship is seen between the two variables among biology prospective teachers. Ginting.S.A (2017) studied facilitating effective teaching through learning based on learning styles and ways of thinking. A significant relationship exists between these two variables. Kaptan.F (2017) conducted a survey study on analyzing the learning styles of pre-service primary school teachers. Converging learning style is most preferred learning style. Baltaci.S (2016) conducted a survey study to find the relationship between metacognitive awareness levels, learning styles, and gender and mathematics grades of fifth graders. No difference in learning style and gender is reported in the study. Bindak. R (2012) studied examining students opinions on computer use based on the learning styles in mathematics education. Yusop.F.D (2015) studied preservice teachers learning style and preferences towards instructional technology activities and collaborative works. Andrew.D (2014) studied student learning style and performance in an introductory finance class

Peklaj.C (2003) conducted a experimental study on gender, abilities, cognitive style and students achievement in co-operative learning. Field dependent students got high beneficiaries through co-operative learning. Ademola.B.K (2015) conducted a study on predicting academic success o in mathematics through cognitive style and problem solving technique among junior secondary school students. No significant relationship is found between the two variables. Perveen.S (2015) conducted a survey study on relationship between cognitive style and depression among university students. A positive relationship is found between the variables. Kumar (2013) conducted a experimental study on interaction effect of intelligence, cognitive style and approaches to studying on achievement in biology of secondary school students. No significant relationship is found between the variables. Ali (2009) conducted a survey study on Art Appreciation, creativity and cognitive style among secondary students of Rajasthan. Angel (2008) conducted a experimental study on Cognitive style and selected Non cognitive variables in relation to Achievement in mathematics of the pupils of standard X. Significant relationship between variables were found in the study. Janaki .A (2004) conducted a study on Cognitive style of Primary school children. Field independence among children had a great influence on age and type of school. Williams (1989) studied the effect of cognitive style classroom climate on achievement and attitude of 9th grade English students. No relationship was found between the variables. Yagcioglu.O (2016) conducted a study on the positive effects of cognitive Learning style in ELT classes.ELT classes students are taught using different kinds of method and approach. It had a positive effect. Ganihar (1993) conducted a study on relationship between cognitive style and school achievement. Sajitha (2002) investigated the relationship between cognitive style and process skills in biology among 500 students of standard IX.

OBJECTIVES

1. To study the gender differences in Learning Style of prospective teachers.
2. To study the gender differences of prospective teachers in relation to cognitive style
3. To study the difference in Learning Style of prospective teacher with respect to subject of specification.
4. To study the difference in cognitive style of prospective teacher with respect subject of specification
5. To study the extent of relationship between Cognitive Style and Learning style of prospective teachers.

HYPOTHESES

1. There exists a significant difference in gender and Learning Style of prospective teachers.
2. There exists a significant difference in gender and cognitive style of prospective teachers.
3. There exists a significant difference in Learning Style of prospective teachers with respect to subject of specification
4. There exists a significant difference in cognitive style of prospective teachers with respect to subject of specification
5. There exist a significant relationship between Learning Style and cognitive style of prospective teachers

RESEARCH METHODOLOGY

Population and sample

Population covers over the prospective teachers. 200 sample of prospective teachers were taken for the study

Tools for data collection

Learning style inventory: it was developed and standardized by the investigator. A total of 30 items were there for the inventory in the final draft. There are three options namely agree, disagree and undecided. 10 items were negative statements. The reliability and validity scores were found to be 0.84 and 0.75 respectively.

Cognitive style inventory: it was an adopted tool by Lorna P Martin.

Statistical techniques used

Mean , meadian, SD and t value are used

Sampling technique

Stratified random technique was used for the study

ANALYSIS BASED ON HYPOTHESIS

HYPOTHESIS 1

There is a significant difference in gender and Learning Style of prospective teachers.

Table 1

Mean score of learning style of male and female prospective teachers

Variable	Group	N	mean	SD	t value	Significance
Learning Style	Male	100	146.31	22.41	0.151	Not significant
	Female	100	145.81	24.46		

Significance at 0.05 level of confidence

From table 1 shown above the mean score of learning style of female and male prospective teachers along with SD and t-value is given. The mean score of learning style of male prospective teachers are 146.31 with SD 22.41 and of female prospective teachers are 145.81 with 24.44.The t value obtained is 0.151 which is less than the table values at 0.05 and 0.01 levels of confidence. It shows that the mean score of learning style of male and female prospective teachers do not differ significantly. "There exists a significant gender difference in learning style of prospective teachers" hypothesis is rejected. The results obtained are in good agreement with the study conducted by Pushpalatha (2012) where they found that there is no relation between male and female prospective teachers with respect to learning style.

HYPOTHESIS 2

There exists a significant gender differences in cognitive style of prospective teachers.

Table 2

Mean score of cognitive of male and female prospective teachers

Variable	Group	N	Mean	SD	t value	Significance
Cognitive style	Male	100	75.03	19.46	1.76	NS
	Female	100	80.3	22.48		

Significance at 0.05 level of confidence

From table 2 shown above the mean score of Cognitive style of male and female prospective teachers along with Standard deviation and t-value are given. The mean score of male and female prospective teachers are 75.03 with SD 19.46 and of female students are 80.30 with 24.48.The t value obtained is 1.76 which is less than the table values at 0.05 and 0.01 levels of confidence. It shows that the mean score of cognitive style of male and female prospective teachers do not differ significantly "There exists a significant gender difference in Cognitive style of prospective teachers" hypothesis is rejected. The results obtained are in good agreement with the study conducted by Varma (2011) where they found that there is no relation between male and female prospective teachers with respect to cognitive style

HYPOTHESIS 3

There exists a significant difference in Learning Style of prospective teachers with respect to subject.

Table 3

Mean score of learning style of prospective teachers with respect to subject

Variable	Group	N	mean	SD	t value	significance
Learning Style	Commerce	100	22.63	6.84	4.74	Significant
	Science	100	20.97	5.77		

Significance at 0.05 level of confidence

From table 3 shown above the mean score of learning style of prospective teachers with respect to subject along with Standard deviation and t-value. The mean score of learning style of commerce prospective teachers are 22.63 with SD 6.84 and of Science prospective teachers are 20.97 with 5.77.The t value obtained is 4.74 which is significant. It shows that the mean score of learning style among commerce and science prospective teachers differ significantly "There exists a significant difference in Learning Style of prospective teachers with respect to subject of specification" hypothesis is accepted. The results obtained are in good agreement with the study conducted by Vinuraj (2010) where they found that there learning style differ with respect to academic streams. In this study it was found that science prospective teachers have better learning style.

HYPOTHESIS 4

There exists a significant difference in cognitive style of prospective teachers with respect to subject of specification

Table 4

Mean score of Cognitive style of prospective teachers with respect to subject

Variable	Group	N	mean	SD	t value	significance
Cognitive style	Science	100	129.09	21.46	5.9	Significant
	Commerce	100	145.27	17.60		

Significance at 0.05 level of confidence

From table 4 shown above the mean score of Cognitive style of Science and commerce prospective teachers along with Standard deviation and t-value. The mean score of learning style of science prospective teachers are 129.09 with SD 21.46 and of commerce prospective teachers are 145.27 with 17.60.The t value obtained is 5.9 which is significant. It shows that the mean score of cognitive style among commerce and science prospective teachers differ significantly "There exists a significant difference in cognitive style of prospective teachers with respect to subject of specification" hypothesis is accepted. The results obtained are in good agreement with the study conducted by Sreeraj (2010) where they found that there cognitive style differ with respect to academic streams. In this study it was found that science higher secondary students have better cognitive style.

HYPOTHESIS 5

There exists a significant relationship between Learning Style and cognitive style of prospective teachers

Table 5

Coefficient of correlation between Learning Style and Cognitive style of prospective teachers

Variables	N	R	Significance

Learning Style Cognitive style	200	0.240	Significant

Significance at 0.05 level of confidence

Table 5 shows the coefficient of correlation between Learning Style and Cognitive style of prospective teachers. The coefficient of correlation is 0.240 which is significant at 0.05 and 0.01 levels of confidence. This indicates that there is a relationship between cognitive style and learning style of prospective teachers. It shows that a positive correlation exist between learning style and cognitive style of prospective teachers. The results obtained are in good agreement with the study conducted by Varsha (2009) where they found that there learning style and cognitive style are correlated.

CONCLUSION

1. Gender difference is not affected to the cognitive style of prospective teachers
2. Gender difference is not affected to the learning style of prospective teachers
3. Cognitive style of prospective teachers depend on the subject of specification
4. Learning Style of prospective teachers depend on the subject of specification
5. Learning Style and cognitive style of prospective teachers are correlated.

TENABILITY OF THE HYPOTHESIS

The t value obtained is 0.151 which is less than the table values at 0.05 and 0.01 levels of confidence. "There exists a significant gender difference in learning style of prospective teachers" hypothesis is rejected. The t value obtained is 1.76 which is less than the table values at 0.05 and 0.01 levels of confidence. "There exists a significant gender difference in Cognitive style of prospective teachers" hypothesis is rejected. The t value obtained is 4.74 which is significant. "There exists a significant difference in Learning Style of prospective teachers with respect to subject of specification" hypothesis is accepted. The t value obtained is 5.9 which is significant. "There exists a difference in cognitive style of prospective teachers with respect to subject of specification" hypothesis is accepted. The coefficient of correlation is 0.240 which is significant at 0.05 and 0.01 levels of confidence. This indicates that there is a significant relationship between cognitive style and learning style of prospective teachers

EDUCATIONAL IMPLICATION

For learning to be effective what is taught in class should be understand by the learner. Individual difference is seen in each and every corner. Similarly learning style is also different. Teacher should cater to these learning styles. Understanding the learning style helps teachers to plan their activities in class room. Charts, PowerPoint presentation, models etc should be shown in classroom to supplement teaching. Videos should be played and explain by the teacher. Learning is a sweet task and student should enjoy each and every classes. Teacher should keep in mind difference in learning style and plan the activities to students according to it. Cognitive style refers to way individual process information. Difference in cognitive style should also be to account.

1. Teachers should learn to recognize the difference in cognitive style orientation to build on student's strengths and avoid telling stylistic differences lead to discriminating practices or personality clashes.
2. Suitable service teaching courses should be given in teachers which will enable them to teach science according to cognitive style of their pupils.
3. It is possible by helping student to identify their own style of learning it may be possible to train them to capabilities on their strength and to develop the weaker parts of their learning style

SUGGESTION FOR FURTHER RESEARCH

- A study can also be conducted in different levels of education like secondary, higher secondary and collegiate levels.
- Similar study can be done with other variable related to teaching like teacher effectiveness, teaching experience, teaching strategy etc
- Similar study can be conducted among prospective teachers with regard to area of residence, type of management etc
- Similar study can be conducted among secondary and higher secondary teachers in schools

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