
A Study of Cognitive Style among Teacher Educators

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ABSTRACT

Teacher educator carries multilayer effect. The cognitive style influences their teaching-Learning process and classroom behavior which determines the classroom culture and student teacher learning. In the context of Globalisation and Information age the speed of social change and knowledge construction has taken enormous change in the field of Education. The concept of constructivist class room will only work when it will initiate from the teacher education programme. In the present study researcher had made an attempt to identify the cognitive styles of teacher educators based on Gender and Discipline. A survey was conducted by providing Alert cognitive style scale and findings state that left brain is dominant for both the variables i.e. Gender and Discipline.

INTRODUCTION

Teacher education is going through the transition phase in India. Effort are been taken by the educationist to change the teacher education as per the need and requirement changing tremendously in the society. Teachers are builders of the nation. The main aim Education is to facilitate round development of the students. The three domains of the development i.e. Affective domain, Cognitive domain and Psychomotor domain. However the teacher education institutes also emphasis the all round development of the teacher. Mainly in academics main emphasis is given on Cognition because cognition is the base of human development. If teacher is will developed then teacher can facilitate the development of the student. Hence to empowering the teacher there is need of identifying their own cognitive styles.

WHAT IS COGNITIVE STYLE

To understand cognitive style, a definition of cognition must first be understood. Cognition is a collection of mental processes that includes awareness, perception, reasoning, and judgment. The study of cognitive processes has its roots in the Gestalt psychology of Max Wertheimer, Wolfgang Köhler, and Kurt Koffka and in the studies of cognitive development in children by Jean Piaget during the 19th century. At the beginning of the 20th century, Carl Jung published *Psychological Types* (1923) where he postulated that personality comprised of three facets each with a continuum descriptor. The first facet, attitude, can range from extraversion, those personalities that are outgoing, to introversion, those personalities that are focused inward. The second facet, perception, deals with a person's method of understanding stimuli; an intuitive person is meaning-oriented while a sensory person is detail-oriented. Cognitive Styles, Judgment is the final facet of personality and deals with a person's approach to making decisions; a thinking person tends to be analytical and logical while a feeling person tends to judge based on

values. Jung's theory is evident in the *Myers-Briggs Type Indicator* (MBTI) a standard personality test administered today in many cognitive style experiments.

There is some debate in defining cognitive style. Goldstein and Blackman define it as “a hypothetical construct that has been developed to explain the process of mediation between stimuli and responses. The term cognitive style refers to characteristic ways in which individuals conceptually organize the environment (1978, 4).” They go on to say that cognitive style is an information transformation process whereby an objective stimulus is interpreted into meaningful schema. Cognitive style is an aspect of overall personality and cognitive processes. Some postulate that cognitive style is a bridge between cognition/intelligence measures and personality measures (Sternberg & Grigorenko, 1997; Ridding & Cheema, 1991). Cognitive style is unique in its polar nature, having an “either or” measure, where the absence of one characteristic implies the presence of its extreme. This is in opposition to personality measures that are more multifaceted (Ridding & Cheema, 1991). Learning style is also sometimes synonymous with cognitive style (Pask, 1976; Entwistle, 1981) while others disagree stating that learning style is a preferred *strategy*, thereby implying that a person's learning style can change, while cognitive style is an immutable characteristic of personality (Ridding & Cheema, 1991; Roberts & Newton, 2000).

There are a variety of cognitive style measures and Ridding and Cheema (1991), as well as Roberts and Newton (2000), point out that many may be different names for the same personality dimension.

According to wikipedia.org (2014) Cognitive Style or Thinking Style is a term used in cognitive psychology to describe the way individuals think, perceive and remember information. In the context of teacher educator, we can define it as the way teachers think, perceive and remember information regarding the teaching and learning. Cognitive- styles is a hypothetical construct that has been developed to explain the process of mediation between stimulus and response. The term cognitive style refers to the peculiar ways in which an individual conceptually organizes the environment. It views that cognitive style refers to the way an individual filters and processes stimuli so that the environment take on psychological meaning. It is representative of this use of term. As such cognitive representations modify the one – to – one relationship between stimulus and response if it were not for these cognitive representations stimuli would have been irrelevant for the individual as the individual would respond to the stimulation in a robot like dash ion. Cognitive style is also understood in terms of consistent pattern of organizing and processing information. Coop and Sigel (1971) equated cognitive style with modes of behavior rather than a mediating process they used the term cognitive style to denote consistencies in individual modes of functioning in a variety of behavioral situations.

Cognitive styles refer to the preferred way individual processes information. Unlike individual differences in abilities which describe peak performance styles describe a person's typical mode of thinking remembering and problem solving. Cognitive style simply denotes a tendency of an individual to behave in a certain manner. Cognitive style usually describes way of constructing knowledge of an individual and personality dimension which influences attitudes, values and social interaction too.

NEED OF THE STUDY

The researcher felt essential to study the cognitive style of teacher educators as teacher educator carries multilayer effect. The cognitive style influence their teaching-Learning process and classroom behavior which determines on classroom culture and student pupil teacher learning. In the context of Globalisation and Information age the speed of social change and knowledge construction has taken enormous change in the field of Education. The concept of constructivist class room will only work when it will take initiation from the teacher education programme.

STATEMENT OF THE PROBLEM

Constructivism is the buzz word in the academic fraternity all over in India. But are we prepared for the same. Teachers are the backbone of educational system. Moreover teacher educator have multilayered impact in the area of teaching and learning process. While considering the contemporary challenges in the era of Globalisation. Are our teachers equipped and are ready for the change occurring in the field of education? Brain based education is in high all over the world. The punch line of brain based education is “Brain is like jungle nobody rules it.” With this consideration researcher felt the need of studying on Cognitive style of Teacher educators so as to get the understanding of Cognitive style of teacher educators. Hence the title of the study is as follow.

TITLE OF THE STUDY

A Study of Cognitive Style among Teacher Educators

Operational Definitions

Cognitive style

In the present study Cognitive style refers to two parts of the brain i.e. left hemisphere and right hemisphere of the brain. The left brain hemisphere includes Sequence, Time Analysis, Abstraction, Causation, Uniform, Objective, Subordination, External, and Reason and One Way. Whereas right brain hemisphere includes Simultaneous, Space, Synthesis, Concrete, Association, Unique, Subjective, Juxtaposition, Internal, Feeling and Many ways.

Teacher Educator

In the present study teacher educator refers to the teachers educators selected as per the NCTE norms and teaching at B.Ed. and M.Ed. level.

Study

Study refers to Systematic study of the Cognitive style of teacher educators.

Objectives of the study

1. To study the present status of Cognitive Styles among Teacher Educators.
2. To study the present status of Cognitive Styles among Teacher Educators based on
 - i) Discipline wise
 - ii) Gender wise
3. To make appropriate suggestions on the basis of findings of study.

Significance of the study

The finding of the study will help to get cognizance about the Cognitive style of teacher educators teaching in teacher education colleges and Department of Education at University level. Simultaneously it will give insight to the curriculum construction bodies and policy makers. The study itself will create awareness among teacher educators participated in the present study.

Scope and delimitations of the study

The findings of the study may be applicable to the teacher educator of similar educational inputs and SES. The study is delimited to the responses of the teacher educators on cognitive style . It also delimits the participants of the refresher course in the subject education.

Review of related literature

Zahra Shasavar, Tan Bee Hoon (2011) does cognitive style affect Bloggers' attitude in an online learning environment? The prevalence of using blogs among college students has great impact in online. Communication it is therefore important to identify how learners with different characteristics use this technology. This study examines if bloggers' cognitive styles particularly field dependency affects students attitudes toward blogs. The subjects were a class of undergraduate students enrolled in an obligatory course. The group embedded figures test was administered which classified them as either field dependent or field independence. Then they were requested to respond to a questionnaire designed to assess their attitude toward blogs on three factors: blog anxiety blog desirability and blog self-efficacy.

Chia-Wu Lin Ya Jen Cheng Ling-Ling ShenGuoShu Yuan (2010) the moderating role of cognitive style congruence in the relationship between task conflict and team performance. This paper had explored what influences team members to complete the tasks and make decision with their members if conflict between tasks happened. R and D team works improve technology. A team members due to each teams' responsibility, they would still approach their team performance on time generally; team members have many (e.g, Krumboltz, Kinneir, Rude, Scherba, and Hamel, 1986). In addition, Ausburn and Ausburn proposed three steps in instructional design, a) to analyze the learning task to find the basic stimulus- transformation requirements b) to find out for urban it needs to be supplanted, and c) to find out how to supply the supplantation.

Cassidy (2004) and Dörnyei (2005) separately point out, providing a definition of this term is not a straightforward process because the number of labels and style dimensions are varied, and there is little agreement among scholars as to how they should be defined. Similarly, Ehrman, Leaver and Oxford (2003, p. 314) argue that the terms *learning* and *cognitive style* are often used "interchangeably", which I believe should not be the case. In my opinion, in order to provide a definition of *cognitive style*, it is first necessary to examine what is understood by the term *learning style*.

Wonder and Donovan (1984) describe this phenomenon as follows: Researchers refer to the left brain as the dominant hemisphere and the right as the nondominant one, because the skills of the left brain are dominant in our society. Money, technology, efficiency and power are thought to be the rewards of left brain planning. (p. 14) In an industrial and highly technological society,

systematic ability is critical; therefore, the systematic style has become favored. Yet innovation is fostered by the intuitive style.

Methodology of the Study

As the objective of the study is to study the status of cognitive style among teacher educators researcher found Descriptive survey method more appropriate to achieve the objectives of the study.

Sample of the Study

The present study sample/ cases contains of 25 Teacher educators participated in Refresher course in Education during 02/02/2015 to 23/02/2015 at UGC ASC University of Kerala, Karivottom campus, Thiruvantpuram, Kerala.

Tool of the Study

The tool used for the present study was Alert Cognitive styles prepared by Carol Philips.

Statistical Techniques

For the present study Percentage as statistical technique was used to analyze the data.

Objective wise Data Analysis

Objective 1. To study the present status of cognitive styles among teachers educators.

Table No. 1

Response of Teacher educators for Cognitive style

Total Respondents	Strong Left Brain		Moderate Left Brain		Mid Brain		Moderate Right		Strong Right Brain	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
25	04	16 %	14	56%	05	20%	02	8 %	00	00

Observation

Table No. 1 shows the Response of Teacher educators on Cognitive Styles and it is observed that about 56% teachers Educators are towards Moderate left Brain 20% of teachers are tend to Mid Brain and 16 % teachers towards Strong Left brain and % 8 responded towards Moderate Right Brain.

It is observed that none of teacher educators responded towards Strong Right Brain.

Interpretation

Thus, based on the observation it can interpret that Most of the Teacher educators are using Moderate Left Brain predominantly. The numbers of teachers using Mid Brain are moderate whereas very few are using Moderate Right Brain. None of Teacher educators uses Strong Right Brain.

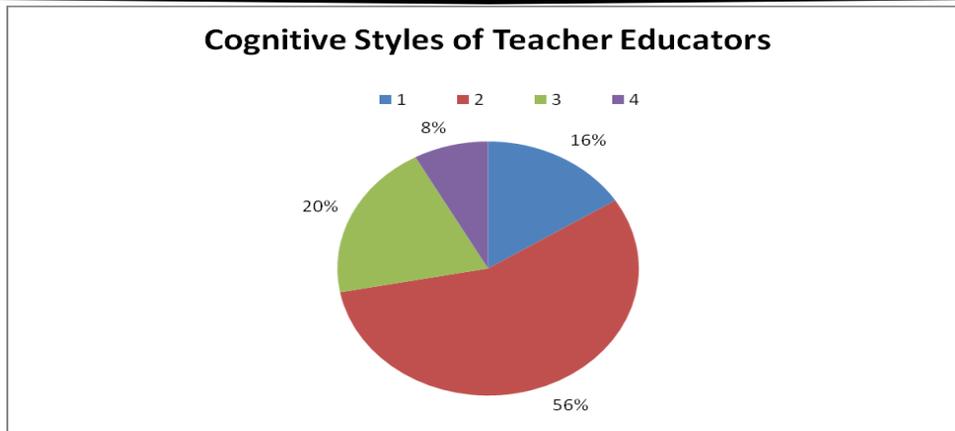


Figure No.2

Objective 2.To study the present status of cognitive styles among teachers educators based on i) Discipline wise ii) Gender wise.

Table No. 2

Response of Teacher educator on Cognitive style (Discipline wise)

Number of Respondents	Discipline	Strong Left Brain		Moderate Left Brain		Mid Brain		Moderate Right		Strong Right Brain	
		Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Count
14	Science	02	14.28 %	07	50 %	04	28.5%	01	7.14%	0	0
11	Social Science	01	9.09%	05	45.45%	01	9.09%	02	18.18%	0	0

Observation

Table No. 2 shows responses Teachers educators on Cognitive Styles Discipline wise. It is observed that about 50% teachers educators of Science tend towards Moderate Left Brain 28% to Mid Brain and 14.28 % teachers towards Strong Left Brain and 7% responded towards Moderate Right Brain.

Similarly in case of Social Science it is observed that 45.45% teachers educators of Social Science tend towards Moderate Left Brain 9.09% to Mid Brain and 18.18 % teachers towards Moderate Right Brain and 9.09% responded towards Strong Left Brain

It is observed that none of teacher educators responded towards Strong Right Brain.

Interpretation

Thus, based on the observation it can interpret that Most of the Teacher educators of Science and Social Science Discipline uses their Moderate Left Brain. The number of Teacher educators of Science and Social Science responded moderate use of Mid Brain. Whereas, very few are using

Strong Left Brain. None of Teacher educators of Science and Social Science uses Strong Right Brain.

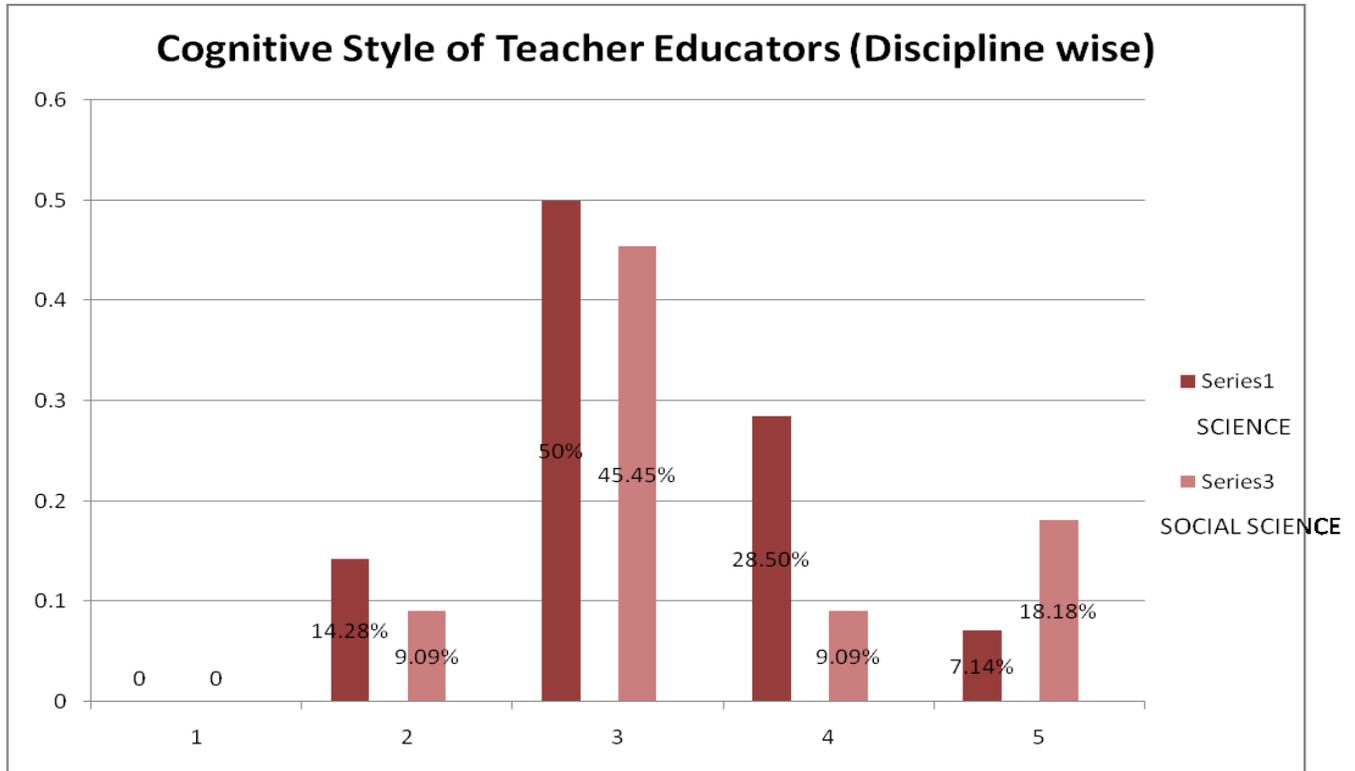


Figure No.3

Table No. 3

Responses of Teacher educator on Cognitive style (Gender wise)

Number of Respondents	Discipline	Strong Left Brain		Moderate Left Brain		Mid Brain		Moderate Right		Strong Right Brain	
		Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
16	Female	02	12.5%	09	56%	03	18.75	02	12.5	0	0
09	Male	01	11 %	05	55.55%	02	22.22%	01	1%	0	0

Observation

Table No. 3 shows Responses of Teacher educators on Cognitive Styles Gender wise. It is observed that about 56% female Teachers educators tend towards Moderate Left Brain followed by Mid brain i.e. 18.75 % and strong Left Brain and Moderate Right brain i.e.12.5 % each respectively.

It is observed that 55.5% male Teacher educators tend towards Moderate Left Brain followed by Mid brain i.e. 22.22% and strong Left Brain and Moderate Right Brain i.e.11% each respectively.

It is observed that none of female and male Teacher educators responded towards Strong Right Brain.

Interpretation

Thus based on the observation it can be interpret that Most of female and male Teacher educators are using Moderate Left Brain predominantly. The female and male Teachers educators both responded moderate use of Mid Brain, whereas very few of them are using Moderate Right Brain. None of them given response towards Strong Right Brain

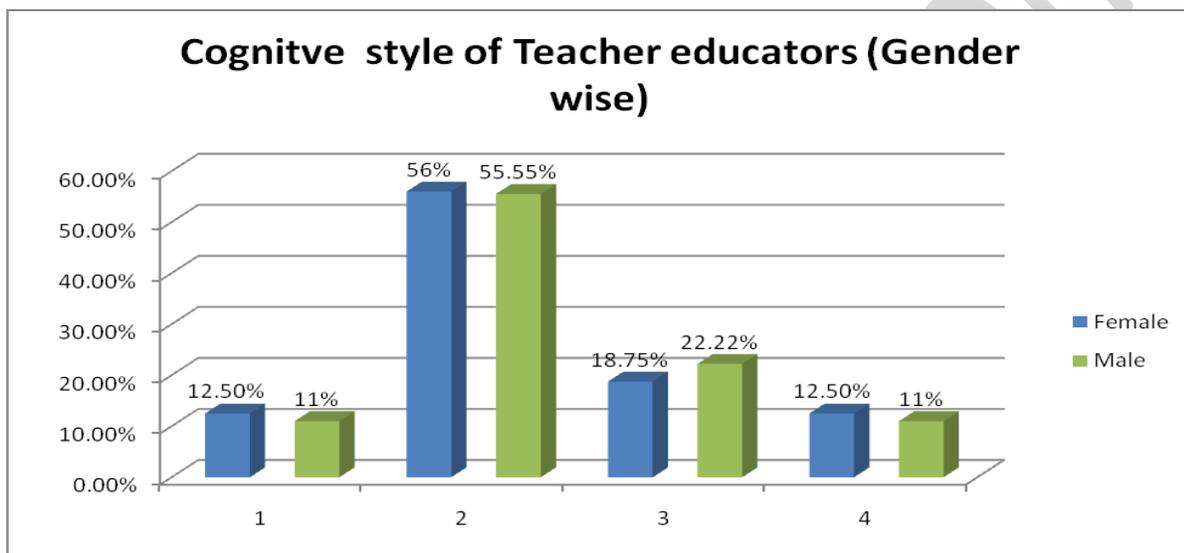


Figure No.4

Findings of the study

1. It was found that Most of the Teacher educators are using Moderate Left Brain predominantly. The numbers of Teacher educators using mid brain are moderate whereas very few are using Moderate Right Brain.
2. It was found that Most of the Teacher educators of Science and Social Science are using Moderate Left Brain predominantly. The numbers of Teacher educators of Science and Social Science using mid brain are moderate whereas very few are using Moderate Right Brain.
3. It was found that Most of the Teacher educators female and male are using Moderate Left Brain predominantly. The numbers of Teacher educators of Science and Social Science using mid brain are moderate whereas very few are using Moderate Right Brain.

CONCLUSION AND DISCUSSION OF THE STUDY

The research findings support the following conclusions. It was found that Most of the Teacher Educators are using Moderate Left Brain predominantly. The numbers of teachers using Mid

Brain are moderate whereas very few are using Moderate Right Brain. This finding is useful for several reasons. First, it confirms that Most of teacher educator's cognitive style is Left Brain oriented. It might be because the Left Brain hemisphere is more explored in the curriculum practices, classroom practices and eventually educational practices. The second conclusion led questions as Discipline of education do not play important role in the Brain development as Most of Social Science Teacher educator too responded for Moderate Left Brain. It might be because of the social culture and individual born and brought up as this finding can be supported by Wonder and Donovan (1984) as they states the left brain as the dominant hemisphere and the right as the nondominant one, because the skills of the left brain are dominant in our society. Money, technology, efficiency and power are thought to be the rewards of left brain planning. The third conclusion had led many questions as genders do not differ in cognitive style as most female too have responded on Moderate Left Brain.

The teacher educators need to be educating more about the right brain characteristics and their use and for that teacher educators need to initiate themselves to understand the characteristics of right brain and explore new horizon. The balance orientation of Brain will have positive impact on curriculum and teaching and learning practices. The multilayer effect of teacher educators will be great input for pupil teacher and theory of constructivism in Education.

REFERENCES

- i. Witkin, Herman A.(1972)The Role of Cognitive Style in Academic Performance and in Teacher-Student Relations.Paper presented at a Symposium Sponsored by the Graduate Record Examination Board, Montreal, Canada.
- ii. Wonder, J., & Donovan, P. (1981). *Whole-brain thinking*. New York: William Morrow.
- iii. Lorna P. Martin(1988) The cognitive-style inventory. London The Pfeiffer Library Volume 8, 2nd Edition.

Web Resources

- i. <https://www.andrews.edu/~freed/oldpages/pdfs/u-2scale.pdf>
- ii. [www. Superduperinc.cpm/.../pdf](http://www.superduperinc.com/.../pdf)
- iii. www.lausd.net/...
- iv. http://nmr.mgh.harvard.edu/mkozhevnlab/wp-content/uploads/pdfs/cognitive_styles2007.pdf (alert scale)
- v. http://en.wikipedia.org/wiki/Cognitive_style (Definition)
- vi. <http://www.personal.kent.edu/~plucasst/Cognitive%20Styles.pdf> (What is Cognitive Styles?)