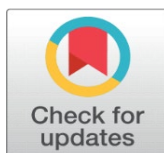


# A STUDY OF THINKING STYLES OF PROSPECTIVE TEACHERS IN RELATION TO THEIR STREAM

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## ABSTRACT

The Present Study assessed the Thinking styles of prospective Teachers in relation to their streams. The sample consisted 371 Prospective teachers (Male = 198, Female = 173) who were selected from B.Ed. colleges of Dr. B.R.A University Agra by using accidental technique of sample selection.

In the Present study the Normative survey method of Research was used. Thinking style Inventory (T.S.I.) constructed by Sternberg & Wagner was employed for data collection. Prospective teachers belonging to science, arts and Commerce stream differed significantly in few styles of thinking. Science prospective teachers were more legislative, more local and more external than prospective teachers belonging to arts and commerce stream.

**Keywords:** On Rest of Thinking Styles Viz, Integrated, Executive, Judicial, Monarchic, Hierarchic, Oligarchic, Anarchic, Global, Internal, Liberal and Conservative, No Significant Difference Were Found Among Prospective Teachers of Science, Arts and Commerce Streams

## 1. INTRODUCTION

Sternberg (1997) Very rightly suggested the educational implication steaming from the convergent – divergent thinking styles are for teaching. Convergent thinking styles are considered more condunsive for science –maths teaching and divergent thinking styles for arts.

Hudson (1996) has found that in general individual with convergent thinking styles prefer formal problems and task that are better structural and demand greater logical ability than the more open-ended problem forwarded by divergent.

Getzels and Jackson (1962) found that teachers prefer learners who are have convergent thinking styles.

Sternberg (2009) defined 5 dimensions i.e. Functions, forms, levels, scopes and learning. Thinking Styles (13) are also grouped under these dimensions according to theory of mental self-government. Zhang and Sternberg (2006) grouped these 13 thinking styles in into 3 types. Global thinking style is characterized by concentrating on the big picture, ignoring details, preferring abstractness, enjoying generalization, conceptualizing, and thinking (Streaming 2009, Zhang & Sternberg 2001) where as local style identifies. Focusing on detail, preferring concreteness, avoiding conceptual analysis and experiencing difficulty in distinguishing importance from unimportant (Sternberg, 2009). The studies on thinking styles can be clustered under three approaches. The first group, studies focuses on the relationship between thinking styles and personal variables. The second group explores the role of thinking styles in different aspects, such as Stream, psychological development and learning. The third group investigates how thinking styles correspond to other style constructs, for

instance. Bigg's learning approaches and Halland's career personality types (Zhang & Sternberg,2006). There are research that focused on thinking styles and technology usage (Kao, Lei &Sun, 2007). Thinking styles are cognitive preferences, which affect how an individual behave and feels, and selected as a cognition representative for this study.

## **2. REVIEW OF RELATED LITERATURE**

Several Investigators made attempts to examine differences in thinking styles of students belonging to different disciplines. some studies have been reviewed in this context in following paragraphs.

Lash (1983) found that students of computer programming has left hemisphere style of thinking.

Raina and Vats (1983) reported that arts students had greater scores on right hemisphere styles of thinking in comparison to science students but the differences in mean scores was not significant.

Taylor (1986) found that student's choice of major was not related to brain dominance. Grun (1986) observed that certain styles of thinking were found to be associated with specific major.

Kienholtz and Hritzuk (1986) the architecture students preferred the idealist thinking styles while the medical students favored the realist thinking style.

Lavach (1991) reported that humanities subjects depended on a more diffuse and perhaps, divergent thinking style. They exhibited right hemisphere style, where as natural science subjects appear to prefer a more left hemisphere

style. Social students exhibited the similar preference for styles of thinking. Sternberg and Grigorenko (1995) reported a significant effect of disciplines/streams on thinking styles. Humanities teaches were found more liberal than science teachers were found more local. Zhang and Saches (1997) found that students of nature science/technological subjects had more global thinking styles than those in areas of social science and humanities. Mishra (1998) reported that in general students, belonging to commerce, management, fine-arts mostly preferred right hemisphere style of Thinking on contrary, students belonging to arts prefer to use right hemisphere style of thinking.

Science students however were found to use left and right hemisphere style of thinking, Sood (2000) studied of diversity in thinking styles of territory students found that science student was significantly higher on legislative, oligarchic and

anarchic style than arts students but no significant difference was observed between science and arts group of students on executive, judicial, monarchic, hierarchic, global, local, internal, external liberal and conservative style of thinking. Sood further found that science students were higher on judicial, hierarchical and style of thinking as compared to commerce students.

- 1) While commerce students were higher on monarchic style of thinking. On rest of the thinking styles no significant differences were noticed between science and commerce students. On comparing thinking styles on commerce and arts students, no significant differences were found in the thinking styles of the two group.
- 2) Attri (2001) also found significant differences in thinking styles of students in certain professional courses. Verma (2001) also reported significant differences in thinking styles of professional and non-professional courses.

## **2.1. STATEMENT OF THE PROBLEM**

In the past several years, there has been extensive research on various approaches to college teaching. The more important question is to determine which student learn best under what conditions.

An emerging area of research that holds promise in helping us answer this question is student styles of thinking. There is stream variable which need to be investigated in relation to thinking styles of prospective teachers. the proposed study has been designed to address the following research question.

Do prospective teachers belonging to science, arts and commerce streams exhibit significant differences in their styles of thinking?

The above research question is the part of the research problem. Thus the problem of the study was stated as following; "A study of thinking styles of prospective teachers in relation to their stream".

## **2.2. OPERATIONAL DEFINATIONS OF TERMS**

1. Thinking styles 2. Stream 3. Prospective teachers

- 1) Thinking styles: - Refers the way one thinks or prefer to think using particular mental ability.
- 2) Prospective teachers: - Refers to those persons who are doing two year secondary teachers training under various B.Ed. colleges.
- 3) Stream: - An academic discipline/stream is a subdivision of knowledge that taught and researched at the college or university level.

Stream is known as a branch of knowledge, taught and researched as part of higher education.

## **2.3. OBJECTIVE**

To study the thinking styles of prospective teachers in relation to their stream (Science, arts and commerce)

## **2.4. HYPOTHESIS**

There will be significant differences in different thinking styles of prospective teacher's belonging to science, arts and commerce streams.

### 3. METHODOLOGY

In view of the objective of the study, the investigator. Used the normative survey method of research.

#### SAMPLE

The final sample of male and female teachers was selected from the total cluster of the teachers by using accidental technique of sample selections.

For the purpose of the study, 371 prospective teachers of B.Ed colleges of Dr. BRA University Agra were selected.

**Table 1**

Table 1 Stream and Gender Wise Structural of the Sample					
Stream			Gender		
Science	Arts	Commerce	Male	Female	Total
193	106	72	198	173	371

**VARIABLES:** - Two types of variables were considered in the study

- 1) Independent variabl:- Stream (Science, Arts, Commerce)
- 2) Criterion Variable :- Thinking styles (13- type)

[Legislative, Executive, Judicial, Monarchic, Hierarchic, Oligarchic, Anarchic, Internal, External, Global, Local and Conservative]

**TOOLS:** - In the present study the following tool were employed on the subjects for data collections.

Phase-I Thinking style inventory (By Sternberg and Wagnor) Phase-2  
Maudsley personality Inventory (MPI)  
Emotional Intelligence scale (by K.S. Mishra)

### 3.1. STATISTICAL TECHNIQUE

In case of comparison three groups, one-way ANOVA was used. In case of comparison of two groups" test was employed. In case of significant 'F' also 't' test was used to pin point the exact source of difference in three means.

### 4. RESULTS AND DISSCUSSION

(Mean  $\pm$  SD Formula was applied on scores for classification of subjects. The total sample of prospective teachers was categorized into three group on the basis of stream. A critical ratio test was applied to test the significance of the difference between the means of thirteen thinking styles of the two groups.

**Table 2**

Table 2 Summary of One Way ANOVA for the Scores of Legislative Style in Respect of Stream Group				
Source of variance	df	SS	MS	F- Ratio
Between Group	2	386.954	193.477	4.293
Within Group	368	16585.515	45.069	

Total	370	16972.469
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Significant at 0.01 level

The obtained 'F'- ratio of 4.293 is significant at 0.01 level with df=2 and

268. It shows that there were significant differences among the prospective teachers belonging to science, arts, and commerce stream, research hypothesis was accepted for legislative style , belonging to three streams.

**Table 3**

**Table 3 Significant Of Difference in Mean Scores of Legislative Style of Thinking In Respect of Science, Arts and Commerce Prospective Teachers**

SN	Stream	N	M	S.D	Comparison Group	't' Value
1.	Science	193	42.22	6.77	1 and 2	3.069**
2.	Arts	106	39.87	6.08	1 and 3	1.191*
3.	Commerce	72	41.03	7.4	2 and 3	1.101*

\* Insignificant at 0.05 level    \*\* Significant at 0.01 level

'F' – ratio of 3.069 comparing arts and science group came out to be highly significant ( $P < 0.01, df = 297$ ). Prospective teachers belonging to science and arts stream differed significantly with regard to legislative style of thinking.

since ( $M = 42.22$ ) > ( $M = 39.87$ ) i.e. science prospective teachers are more tended in legislative style of thinking than arts. Another "t" value (1.191) compares Science & Commerce. Group were in significant ( $p > 0.05$   $df = 263$ ) No significant difference in Science & commerce. Groups similarly 't' value (1.101) compare Arts & com group is not significant at 0.05 level all group were almost equal on legislative style. Science prospective teachers were more legislative, more local and more external than prospective teachers belonging to arts and commerce stream. on the rest of thinking styles, no significant differences were found among prospective teachers of science, arts and commerce stream.

## 5. CONCLUSION

Prospective teachers belonging to science, arts and commerce streams differed significantly in few styles of thinking. Science prospective teachers were more legislative, more local and more external than prospective teachers belonging to arts and commerce stream on rest of thinking styles viz, Integrated, executive, judicial, monarchic, hierarchic, oligarchic, anarchic, global, internal, liberal, and conservative, no significant – differences were found among. Prospective teachers of science, arts and commerce streams.

## 6. EDUCATIONAL IMPLICATION

Thinking styles of prospective teachers so that diversity thinking styles may be properly exploited for their development.

Stream has vital links with thinking styles of prospective teachers. Science prospective teachers were found more legislative more local and more external than arts and commerce prospective teachers. This underlying fact may

be used by educational counselor for guiding the prospective teachers in proper fields for the development for their talent.

### **CONFLICT OF INTERESTS**

None.

### **ACKNOWLEDGMENTS**

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