

# RESEARCH AND REFLECTIONS ON EDUCATION

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❖ Ubiquitous Technology in Adaptive Teaching System.

❖ Examination Anxiety and Academic Achievement of High School Students.

❖ Mental Health and Suicidal Tendency of Higher Secondary School Students.

❖ Thinking Styles of B.Ed. Trainees.

❖ Parental Involvement and Academic Achievement of High School Students.

❖ Self Esteem of Prospective Teachers.

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Principal  
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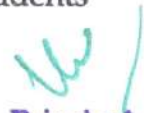
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# RESEARCH AND REFLECTIONS ON EDUCATION

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## ABSTRACT

The objective of the present study was to find out the thinking styles of B.Ed. trainees. The investigator used an adapted survey method. Thinking Styles Scale (TSS) constructed and validated by the investigator and a guide was used for data collection. 1050 B.Ed. trainees were selected for the study by stratified random sampling technique. 't' test and ANOVA were used for analysis of the data. The findings revealed that there was a significant difference between male and female B.Ed. trainees in lateral thinking and there was a significant difference among Kanayakumari, Tirunelveli and Thoothukudi districts B.Ed. college trainees with reference to logical thinking, problem solving and thinking styles. Moreover, there was significant difference between Tirunelveli, Thoothukudi and Kanyakumari districts B.Ed. trainees with reference to their thinking styles in all its dimensions.

## INTRODUCTION

Individual difference in human performance is an important area of interest in behavioral science. Intelligence and personality are some of the constructs developed for explaining individual differences. When they gave only a partial answer to the question of individual differences in performance, some interfaces between these constructs were developed. The notion of styles developed after 1950s is one among the attempts to describe individual differences using some interfaces between intelligence and personality (Sternberg, 1997; Sternberg and Zhang, 2001). Generally, styles are classified as cognitive styles, learning styles and thinking styles (Sternberg and Zhang, 2009). Cognitive styles are the ways of organizing information. Learning styles are the ways of learning something and thinking styles describe how one prefers to think.

## THINKING STYLES

Our abilities do not completely explain our performance in different situations. Individuals with equal abilities need not necessarily perform in a given situation similarly.

These differences are due to the variation one possesses in using the abilities. People like to use their abilities in different ways in different situations. Thinking styles are a preferred way of using abilities (Sternberg, 1997). While abilities describe what one can do, thinking styles show how one likes to use the abilities. Sternberg, in his theory

(mental self-government theory of thinking styles) gave a profile of 13 dimensions of thinking styles under 13 categories. Like the organization of governments in human society, according to this theory, individual mental self-government of thinking styles also has some forms (legislative, judicial and executive), forms (monarchic, hierarchic, oligarchic and anarchic), levels (global and local), scope (internal and external) and leanings (liberal and conservative).

Robert J. Sternberg (1999) defined thinking style as a preferred way of thinking not ability, but rather how to use the abilities we have. We do not have a style, but we have a profile of styles. In the present study thinking style is taken to an enduring psychological characteristic that influences a person's self-reported interest, daily behaviour and choices.

## SIGNIFICANCE OF THE STUDY

Thinking is one of the important aspects of the teaching-learning process. Our ability to learn and solve the problems depends upon our ability to think. It helps an individual in adjustment and is necessary for

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successful living. Only those, who can think distinctly, creatively and carefully, can contribute something worthwhile to the society. But no one is born thinker. One has to learn to perceive. Learning to think is not an easy task. It requires knowledge of the techniques and practices of proper thinking. The development of thinking and reasoning power not only helps in solving the numerous problems one faces in one's practical life but also in striving to solve the most typical social, cultural and scientific problems for the uplift of the society and humanity.

## OBJECTIVES OF THE STUDY

The investigator has evolved the following objectives for her study.

To find out the level of thinking styles and its dimensions of B.Ed. trainees with reference to gender.

To find out the significant difference, if any, in the thinking styles and its dimensions of B.Ed. trainees in terms of gender and discipline.

To find out the significant difference among, if any, in the thinking styles and its dimensions of B.Ed. trainees in terms of districts.

To find out the significant association, if any, in the thinking styles and its dimensions of B.Ed. trainees in terms of hobby.

## NULL HYPOTHESES

There is no significant difference between male and female B.Ed. trainees in their thinking styles and its dimensions.

There is no significant difference between arts and science B.Ed. trainees in their thinking styles and its dimensions.

There is no significant difference among Kanyakumari, Tirunelveli and Thoothukudi districts B.Ed. college trainees with reference to their thinking styles and its dimensions.

There is no significant association between hobby and thinking styles and its dimensions of B.Ed. trainees.

## METHODOLOGY

The investigator adopted the survey method to find the thinking styles of B.Ed. trainees.

## POPULATION FOR THE STUDY

The population for the present study consisted of B.Ed. trainees, who were studying in Tirunelveli, Thoothukudi and Kanyakumari districts.

## SAMPLE FOR THE STUDY

The investigator has used stratified random sampling technique for selecting the sample from the population. The sample was randomly selected from 30 colleges of education out of 77 colleges of education at Kanyakumari (36), Tirunelveli (27) and Thoothukudi (14) districts. The selection was done on the basis of type of college and locality of the college. From these colleges of education, 1050 B.Ed. trainees were selected by simple random sampling technique.

## TOOL USED

Thinking Styles Scale (TSS) was constructed and validated by the investigator and the guide (2015) and a General Datasheet was designed for the purpose.

## DATA ANALYSIS

The investigator has used mean, standard deviation percentage analysis, 't' test, ANOVA and chi-square.

1. Level of thinking styles of B.Ed. trainees with respect to gender.

Table 1

### LEVEL OF THINKING STYLES OF B.ED. TRAINEES WITH RESPECT TO GENDER

Dimensions of Thinking Styles	Category	Low		Moderate		High	
		N	%	N	%	N	%
Critical thinking	Male	37	33.6	47	42.7	26	23.6
	Female	217	23.1	504	53.6	219	23.3
Creative thinking	Male	26	23.6	60	54.5	24	21.8
	Female	205	21.8	536	57	199	21.2
Logical thinking	Male	20	18.2	65	59.1	25	22.7
	Female	190	20.2	586	62.3	164	17.4
Problem solving	Male	27	24.5	53	48.2	30	27.3
	Female	190	20.2	533	56.7	217	23.1
Decision making	Male	23	20.9	61	55.5	26	23.6
	Female	177	18.8	548	58.3	215	22.9
Lateral thinking	Male	29	26.4	52	47.3	29	26.4
	Female	168	17.9	550	58.5	222	23.6
Thinking styles	Male	30	27.3	48	43.6	32	29.1
	Female	221	23.5	511	54.4	208	22.1



The majority of B.Ed. trainees' thinking styles are moderate.

### Hypothesis 1

There is no significant difference between male and female B.Ed. trainees in their thinking styles and its dimensions.

**Table 2**

### DIFFERENCE BETWEEN MALE AND FEMALE B.ED. TRAINEES IN THEIR THINKING STYLES AND ITS DIMENSIONS

Dimensions of Thinking Styles	Category	Low		Moderate		High	
		N	%	N	%	N	%
Critical thinking	Male	37	33.6	47	42.7	26	23.6
	Female	217	23.1	504	53.6	219	23.3
Creative thinking	Male	26	23.6	60	54.5	24	21.8
	Female	205	21.8	536	57	199	21.2
Logical thinking	Male	20	18.2	65	59.1	25	22.7
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Problem solving	Male	27	24.5	53	48.2	30	27.3
	Female	190	20.2	533	56.7	217	23.1
Decision making	Male	23	20.9	61	55.5	26	23.6
	Female	177	18.8	548	58.3	215	22.9
Lateral thinking	Male	29	26.4	52	47.3	29	26.4
	Female	168	17.9	550	58.5	222	23.6
Thinking styles	Male	30	27.3	48	43.6	32	29.1
	Female	221	23.5	511	54.4	208	22.1

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that the calculated 't' value is greater than the table value (1.96) at 5% level of significance in the dimension lateral thinking. Hence the respective null hypothesis is rejected. But the calculated 't' value is less than the table value (1.96) at 5% level of significance in the dimensions of critical thinking, creative thinking, logical thinking, problem solving, decision making and thinking styles. Hence the respective null hypothesis is accepted.

While comparing the mean scores of male (mean=30.68) and female (mean=31.54) B.Ed. trainees it is inferred that the female B.Ed. trainees are better in the dimension of lateral thinking than the male B.Ed. trainees.

### Hypothesis 2

There is no significant difference between arts and science B.Ed. trainees in their thinking styles and its dimensions.

**Table 3**

### DIFFERENCE BETWEEN ARTS AND SCIENCE B.ED. TRAINEES IN THEIR THINKING STYLES AND ITS DIMENSIONS

Dimensions of Thinking styles	Category	N	Mean	S.D	Calculated 't' value	Remarks at 5% level
Critical thinking	Arts	525	30.63	3.6294	0.419	N.S
	Science	525	30.72	3.7428		
Creative thinking	Arts	525	31.35	3.8121	0.678	N.S
	Science	525	31.2	3.6468		
Logical thinking	Arts	525	30.38	4.011	3.481	R
	Science	525	31.22	3.7601		
Problem solving	Arts	525	30.16	4.034	2.406	R
	Science	525	30.75	3.8919		
Decision making	Arts	525	31.35	3.7884	1.634	N.S
	Science	525	31.74	3.9897		
Lateral thinking	Arts	525	31.22	3.8573	1.941	N.S
	Science	525	31.68	3.7989		
Thinking styles	Arts	525	185.1	16.409	2.194	R
	Science	525	187.3	16.306		

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that the calculated 't' value is greater than the table value (1.96) at 5% level of significance in the dimensions logical thinking, problem solving and thinking styles. Hence the respective null hypothesis is rejected. But the calculated 't' value is less than the table value (1.96) at 5% level of significance in the dimensions of critical thinking, creative thinking, decision making and lateral thinking. Hence the respective null hypothesis is accepted.

While comparing the mean scores of Arts (mean=30.38, 30.16, 185.11) and Science (mean=31.22, 30.75, 187.33) B.Ed. trainees it is inferred that the Science B.Ed. trainees are better in logical thinking, problem solving and thinking styles than the Arts B.Ed. trainees.

### Hypothesis 3

There is no significant difference among Kanayakumari, Tirunelveli and Thoothukudi district college trainees with reference to their thinking styles and its dimensions.



Table 4

# DIFFERENCE AMONG KANAYAKUMARI, TIRUNELVELI AND THOOTHUKUDI DISTRICT B.ED. COLLEGE TRAINEES WITH REFERENCE TO THEIR THINKING STYLES AND ITS DIMENSIONS

Dimensions of Thinking styles	Sources of variation	df = 2,1047		Calculated 'F' value	Remarks at 5% level
		Sum of squares	Mean square variance		
Critical thinking	Between	108.916	54.458	4.033	S
	Within	14136.28	13.502		
Creative thinking	Between	201.88	100.94	7.345	S
	Within	14387.8	13.742		
Logical thinking	Between	92.68	46.34	3.046	S
	Within	15929.511	15.214		
Problem solving	Between	303.853	151.927	9.788	S
	Within	16251.123	15.522		
Decision making	Between	106.379	53.19	3.526	S
	Within	15795.24	15.086		
Lateral thinking	Between	136.31	68.155	4.671	S
	Within	15277.614	14.592		
Thinking styles	Between	4650.017	2325.009	8.786	S
	Within	277061.49	264.624		

At 5% level of significance, for (2,1047) df the table value of 'F' is 3.00)

It is inferred from the above table that the calculated value is greater than the table value (3.00) for df 2,1047, at 5% level of significance. Hence the respective null hypothesis is rejected. It shows that there is significant difference among Tirunelveli, Thoothukudi and Kanayakumari districts B.Ed. trainees with reference to their thinking styles and its dimensions.

**Hypothesis 4**

There is no significant association between hobby thinking styles and its dimensions of B.Ed. trainees.

Table 5

## ASSOCIATION BETWEEN HOBBY AND THINKING STYLES AND ITS DIMENSIONS OF B.ED. TRAINEES

Dimensions of thinking styles	df	Calculated ' $\chi^2$ ' value	Remarks at 5% level
Critical thinking	6	20.468	S
Creative thinking		2.755	NS
Logical thinking		7.046	NS
Problem solving		16.867	S
Decision making		4.390	NS
Lateral thinking		6.134	NS
Thinking styles		12.051	NS

(At 5% level of significance, for 6 df the table value of ' $\chi^2$ ' is 12.592)

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Paper*

It is inferred from the above table that the calculated ' $\chi^2$ ' value is less than the table value (12.592) for df 6, at 5% level of significance in the dimensions of creative thinking, logical thinking, decision making, lateral thinking and thinking styles. Hence the respective null hypothesis is accepted. But the calculated ' $\chi^2$ ' value is greater than the table value (12.592) for df 6, at 5% level of significance in the dimensions of critical thinking and problem solving. Hence the respective null hypothesis is rejected. It shows that there is significant association between hobby critical thinking and problem solving of B.Ed. trainees.

## FINDINGS

23.6% of male and 23.3% of female B.Ed. trainees have high level of critical thinking. 21.8% of male and 21.2% of female B.Ed. trainees have high level of creative thinking. 22.7% of male and 17.4% of female have high level of logical thinking. 27.3% of male and 23.1% of female have high level of problem solving. 23.6% of male and 22.9% of female have high level of decision making. 26.4% of male and 23.6% of female have high level of lateral thinking. 29.1% of male and 22.1% of female have high level of thinking styles.

There is no significant difference between male and female B.Ed. trainees in the dimensions of critical thinking, creative thinking, logical thinking, problem solving, decision making and thinking styles. But there is significant difference between male and female B.Ed. trainees in the dimension of lateral thinking. While comparing the mean scores of male (mean=30.68) and female (mean=31.54) B.Ed. trainees it is inferred that the female B.Ed. trainees are better in the dimension of lateral thinking than the male B.Ed. trainees.

There is no significant difference between Arts and Science B.Ed. trainees in the dimensions of critical thinking, creative thinking, decision making and lateral thinking. But there is significant difference between Arts and Science B.Ed. trainees in the dimensions of logical thinking, problem solving and thinking styles. While comparing the mean scores of Arts (mean=30.38, 30.16, 185.11) and Science (mean=31.22, 30.75, 187.33) B.Ed. trainees it is inferred that the Science B.Ed. trainees have better logical thinking.



problem solving and thinking styles than the Arts B.Ed. trainees.

There is significant difference among Kanyakumari, Tirunelveli and Thoothukudi districts B.Ed. trainees with reference to their thinking styles and its dimensions.

There is no significant association between hobbies of B.Ed. trainees in the dimensions of creative thinking, logical thinking, decision making, lateral thinking and thinking styles. But there is significant association between hobbies of B.Ed. trainees and in the dimensions of critical thinking and problem solving.

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### MENTAL HEALTH AND...

5. There is significant difference between rural and urban higher secondary school students in their suicidal tendency. That is Rural (M=39.73) higher secondary students have less suicidal tendency than the urban (41.11) higher secondary students.
- There is significant relationship between mental health and suicidal tendency of higher secondary students.

### INTERPRETATION

In general, the level of mental health and suicidal tendency of the higher secondary school students is average, but 19.2% students have low or poor mental health. The reason for this may be lack of self confidence, over expectation and maladjustment. 16.6% of students have good mental health. The reason can be their good interpersonal and intrapersonal relationships, realistic behavior, attitude.

The 't' test reveals that the rural students are good their mental health and so they have less suicidal tendency.

Since they are from villages they may have some good habits, ability of facing problems and accepting new situations. Physical strength is also the reason for their mental health. Urban students are poor in their mental health and high in their suicidal tendency. The reason may be getting enough time to share their feelings and thoughts with their parents, wrong guidance by the peer group, usage of electronic gadgets like mobile phones, internet and social medias, lack of people to guide them in adolescent period. From correlation the investigator can know that there is a significant relationship between mental health and suicidal tendency. If the students are mentally healthy they will not have suicidal tendency or thoughts. Proper guidance at the stage of adolescent period, proper understanding about themselves and others, help them to have good mental health.

### RECOMMENDATIONS

1. Guidance and counseling programmes should be conducted.
2. Yoga classes should be conducted.
3. Personality development programmes should be conducted.
4. Motivational stories, messages, talks should be delivered.
5. Spiritual activities should take place in order to instill some moral values.
6. Co-curricular activities should be encouraged in order to develop their skills and to divert their mind from unwanted worries, thoughts.

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