

## LATERAL THINKING OF PROSPECTIVE TEACHERS

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### ABSTRACT

Edward de Bono who invented the term "*lateral thinking*" in 1967 is the pioneer of lateral thinking. Lateral thinking is concerned with the generation of new ideas. Liberation from old ideas and the stimulation of new ones are twin aspects of lateral thinking. Lateral thinking is a creative skills from which all people can benefit enormously. The present study was probed to find the lateral thinking of prospective teachers with certain demographic variables. Data for the study were collected using self-made Lateral Thinking Questionnaire (LTQ). The investigator used stratified random sampling technique. The sample consists of 1345 prospective teachers who studied in Tirunelveli, Thoothukudi and Kanyakumari Districts in Tamil Nadu. For analyzing the data percentile analysis, 't' test and ANOVA were used as the statistical techniques. Findings show that (1) the level of lateral thinking of prospective teachers are moderate (2) there is significant difference between male and female prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving (3) there is no significant difference between rural and urban prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving (4) there is significant difference among the subject of language, arts and science prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.

### INTRODUCTION

Martin Luther King Jr., (1947, p.41) said "The function of education, therefore, is to teach one to think intensively and to think critically. Thinking involves the deeply cerebral manipulation of information, as when we form concepts, engage in problem solving, reason and make decisions. Edward de Bono divides thinking into two methods. (1) 'vertical thinking', or traditional thinking; and (2) 'lateral thinking' which involves looking at problems in different ways and finding solutions from new angles. (Jill Jesson, 2012, p.76). Lateral thinking is a way of thinking that seeks a solution to an intractable problem through unorthodox methods or elements that would normally be ignored by logical thinking Nelson Zagalo and Leonel Morgado, 2011, p.232). It is a creative skills from which all the people can benefit enormously.

### LATERAL THINKING

Edward de Bono invented the term "*lateral thinking*" in 1967. It was first written up in a book called "The use of Lateral Thinking". Lateral thinking is closely related to creativity. But whereas creativity is too often only the description of a result, lateral thinking is the description of a process. One can only admire a result but one can learn to use a process (Karl Albrecht, Steven Albrecht, 1987, p.104). Lateral thinking is concerned with the generation of new ideas (Stephen E. Kohn, Stephen E. Kohn and Vicent D. O'Connell, 2007, p, 167). Lateral thinking involves restructuring, escape and the provocation of new patterns (Edward De Bono, 1970, p.11). Liberation from old ideas and the stimulation of new ones are twin aspects of lateral thinking (Edward De Bono, 1977, p.11). There are three practical situations which encourage the use of lateral thinking and they are: description, problem solving and design (Educational Research Information Center, 1973, p.45).

### SIGNIFICANCE OF THE STUDY

Many of the major problems that face mankind must be met by new modes of thinking and acting. There are several ways of thinking. A person can possess any kind of thinking process in order to cope up with the environment and society. But, when we face fast changing trends, fierce competition and the need to work miracles

despite tight budgets-we need lateral thinking. Lateral thinking methods provide a deliberate, systematic process that will result in innovative thinking. Lateral thinking teaches thinking tools that will generate solutions to intractable problems and areas of growth, through unorthodox methods. As prospective teachers, the student teachers have the responsibility of kindling the students' mind and thoughts. In the current education system, the students are required to be creative. For the students to become creative, the teacher must be creative and encourage the students to exhibit their creativity in the classroom. For this task the teacher needs lateral thinking as it is the base for creativity. Lateral Thinking is a set of related techniques primarily intended to support creative thinking. So, the investigator tries to find out the lateral thinking of prospective teachers with certain demographic variables.

### **OPERATIONAL DEFINITIONS**

#### ***Lateral Thinking***

Lateral Thinking is a way of thinking which seeks the solution to intractable problems through unusual methods or elements which would normally be ignored by logical thinking.

#### ***Prospective Teachers***

Prospective Teachers are the student-teachers, who after their graduation, undergo a pre-service training on teaching learning process that provides experiences for development towards good teaching in the Colleges of Education, affiliated to Tamil Nadu Teachers' Education University, Chennai, in Tirunelveli, Thoothukudi and Kanyakumari Districts.

### **OBJECTIVES**

1. To find out the level of lateral thinking of prospective teachers.
2. To find out whether there is any significant difference between male and female prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.
3. To find out whether there is any significant difference between rural and urban prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.
4. To find out whether there is any significant difference among subject of language, arts and science prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.

### **HYPOTHESES**

1. There is no significant difference between male and female prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.
2. There is no significant difference between rural and urban prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.
3. There is no significant difference among subject of language, arts and science prospective teachers in lateral thinking and its dimensions description, humour, insight and problem solving.

### **METHODOLOGY**

This study was carried out by survey method. The population for the investigation is the prospective teachers studying in colleges of education in Tirunelveli, Thoothukudi and Kanyakumari Districts of Tamil Nadu, India. The Investigator selected 1345 prospective teachers by the stratified random sampling technique. The Lateral Thinking Questionnaire (LTQ) tool was designed and standardized by the investigator. For validating the LTQ Item discrimination index and Item difficulty index were calculated. The test-retest method was used to establish the reliability co-efficient for the tool which was 0.791. Thus a total of 47 items with 4 dimensions namely description, humour, insight and problem solving were selected for the final tool. For analyzing the data percentile analysis, 't' test and ANOVA were used as the statistical technique in the SPSS package.

**FINDINGS AND INTERPRETATIONS****Table 1 - Level of Lateral Thinking of Prospective Teachers**

Level and its dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Description	322	23.9	812	60.4	211	15.7
Humour	370	27.5	788	58.6	187	13.9
Insight	354	26.3	820	61.0	171	12.7
Problem Solving	380	28.3	672	50.0	293	21.8
Lateral Thinking	365	27.1	802	59.6	178	13.2

It is inferred from the above table that the level of lateral thinking of prospective teachers are moderate. Among them, they are high in insight (61%) and low in problem solving (50%). It may be due to the fact that, prospective teachers are still undergoing their course and are fresh with ideas and so they are good in insight. But, as they have not yet faced the real school situations they have not encountered any problems and so they are low in problem solving.

**Null Hypothesis - 1**

There is no significant difference between male and female prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving.

**Table 2 - Difference between Male and Female Prospective Teachers in their Lateral Thinking**

Lateral Thinking and its dimensions	Male (N = 267)		Female (N = 1078)		Calculated value of 't'	Remarks
	Mean	S.D.	Mean	S.D.		
Description	3.42	2.34	2.20	2.05	7.79	S
Humour	6.15	2.67	4.60	3.24	8.12	S
Insight	3.46	2.64	2.59	2.35	4.94	S
Problem Solving	3.60	2.43	2.80	2.54	4.79	S
Lateral Thinking	16.63	8.07	12.20	8.75	7.90	S

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

It is inferred from the above table that there is significant difference between male and female prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving. It may be due to the fact that men are exposed to different and varied outdoor experiences. Moreover, in our country, mostly men are the working sector and face many problems than women. Women are emotionally sensitive and they are less humorous when compared to men. Due to these reasons, men have higher lateral thinking than women.

**Null Hypothesis - 2**

There is no significant difference between rural and urban prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving.

**Table 3 - Difference between Rural and Urban Prospective Teachers in their Lateral Thinking**

Lateral Thinking and its dimensions	Rural (N = 904)		Urban (N = 441)		Calculated value of 't'	Remarks
	Mean	S.D.	Mean	S.D.		
Description	2.40	1.99	2.53	2.50	0.91	NS
Humour	5.00	3.18	4.71	3.21	1.58	NS
Insight	2.77	2.31	2.75	2.67	0.13	NS
Problem Solving	3.00	2.49	2.88	2.63	0.84	NS
Lateral Thinking	13.19	8.41	12.86	9.53	0.62	NS

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

It is inferred from the above table that there is no significant difference between rural and urban prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving.

### Null Hypothesis - 3

There is no significant difference among subject of language, arts and science prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving.

**Table 4 - Difference among Subject of Language, Arts and Science Prospective Teachers in their Lateral Thinking**

Lateral Thinking and its Dimension	Source	Sum of squares	Df	Means square	'F' Value	Remarks
Description	Between	154.10	2	77.05	16.73	S
	Within	6179.80	1342	4.60		
Humour	Between	565.55	2	282.78	28.79	S
	Within	13183.45	1342	9.82		
Insight	Between	261.18	2	130.59	22.70	S
	Within	7720.05	1342	5.75		
Problem Solving	Between	305.07	2	152.53	24.48	S
	Within	8360.77	1342	6.23		
Lateral Thinking	Between	4877.64	2	2438.82	33.00	S
	Within	99193.68	1342	73.91		

(At 5% level of significance, for 2, 1342 df, the table value of 'F' is 3.00)

It is inferred from the above table that there is significant difference among subject of language, arts and science prospective teachers in their lateral thinking and its dimensions description, humour, insight and problem solving. It may be due to the fact that arts students are able to use their creativity and are involved in extra-curricular and co-curricular activities. As we already know, lateral thinking is the basis for creativity. Therefore they may be able to think more laterally than others.

### RECOMMENDATIONS

Lateral thinking, like any skills, takes time to learn. And as with any skills, you learn more by applying it to real problems than you do by just doing exercises. After you get good at the exercises, start collecting issues and problems in your real life to start thinking laterally about and set aside time to think about it. In the present B.Ed. course, the number of days for teaching practice is 40. This is not enough for the students and it should be increased from 1 year to 2 years so that they get more time to spend in schools. This will help them to improve their problem solving skills.

Moreover, most of the teaching methods and evaluation methods are based on vertical thinking only. The reason for adopting an alternative approach is that straightforward vertical thinking will not produce the right or the best result. It is, however, a good way of testing ideas. Once a new idea has been generated it may be possible to test it using logic, but lateral thinking will often be a better way of generating ideas in the first place. Therefore, much more importance should be given in the curriculum to bring out the creativity of students in B.Ed. course so that even science and language students will be able to develop their lateral thinking. Prospective women teachers are lacking in lateral thinking and its dimensions when compared to men. For this reason, women should be encouraged to participate in various co-curricular and extra-curricular activities to develop their creativity.

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