

## **COOPERATIVE LEARNING: AN EFFECTIVE TOOL FOR STUDENT'S THINKING STYLE**

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**Paper Received On:** 21 JUNE 2021

**Peer Reviewed On:** 30 JUNE 2021

**Published On:** 1 JULY 2021

**Content Originality & Unique:** 73%

### **Abstract**

*The features of thinking processes as well as styles of thinking are embodied in a person's innate tendency in processing information, which is referred to as thinking style. In all aspects of social interactions, it is critical to understand a person's thinking style. It has been reported in the literature that if a person understands his/her thinking style, he/she determines which function they can perform better in the team. However, once the group's thinking style is established, the team will work more motivated, energized and make better decisions. Therefore, the team work or the cooperative learning approach has a close association with the thinking style of the members. In the present paper, an effort is taken to study the thinking Style of Students of higher secondary schools of Dehradun district and to compare the thinking style of the students who are learning with the Cooperative Learning method and with the Traditional Method. The findings indicate that cooperative learning method is effective than the traditional method.*

**Key words:** *Creative Thinking, Convergent Thinking, Divergent Thinking, Decision Making, Problem Solving, Social Learning.*



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### **Introduction:**

Education is a social science that encompasses teaching and specific learning skills. It is their compassion for varied human qualities, passion and creativity of potential that assists teachers to investigate student to higher expectations of themselves and society at large. According to Dewey, schools are the miniature of society and they come from different background and every child is different, each has a different speed of learning. Today, we are focusing on the child centred teaching strategies, keeping the child's need in the centre. The world organization like UNESCO landmarks contributions to the cause of education namely

Edger Faure report, 'Learning to be' (1970) and Jacques Delores report 'Learning the Treasure Within' (1996). Having the roadmap for education in a 21<sup>st</sup> century, provide a robust philosophy of life long cooperative learning to meticulously meet the emerging challenges of a world order through the process of education. This report gives the Four Pillars of Education which emphasize the all-round development of child's personality. The first pillar "Learning to know" not only covers the whole cognitive domain of knowledge but also the strategies of knowing. Second pillar "Learning to do" suggests the whole domain and the strategies of doing one's task skilfully. Third pillar, "Learning to be" comprises the whole domain of values and effective learning and the related techniques including interpersonal relationship as well. Fourth pillar, "Learning to live together" not only addresses the whole gamut of cooperative learning but also how to implement the related techniques in the classroom. In cooperative learning method, teacher reflects their personal thinking style to develop the student's creative thinking, convergent thinking, divergent thinking, decision making and problem-solving attitude.

Thinking styles refer to how one prefers to apply one's intellectual abilities and knowledge to an issue. Two persons with the same amount of intelligence may have different approaches of focusing their abilities on a task. Thinking style is a preferred way of thinking (Sternberg, 1997). It refers to how one collects knowledge, organizes thoughts, generates perspectives and opinions, applies personal values and beliefs. Solves issues, make decisions, plans, and communicates with others. It is a manner of processing information that is unique.

It is strongly reported in the literature that cooperative learning technique is more provides more beneficial learning opportunities which improves students learning (Deepa, 2012; Huang, *et. al.*, 2015; Segundo, *et. al.*, 2020) and we can achieve the main goal of education. Cooperative learning approach promotes social support which contribute in physical. Psychological and social health of the individuals. It also focuses on how people think in different situations.

At present era, we are focusing the child centred education where we can develop their social and other skills. Students are coming from different social background and their mental ability is not same so the teachers have to know the thinking style of each student, then only he/she can deal easily with the students and meaningful learning can take place. There are various dimensions of Thinking Style like Creative Thinking, Convergent Thinking, Divergent Thinking, Decision Making and Problem Solving.

Segundo, et. al. (2020) conducted an experiment on promoting children's creative thinking through reading and writing in a cooperative learning classroom on primary school students. They reported a moderate positive correlation between creative thinking and academic achievement among the students of experimental group. Cooperative learning gives better environment to ELT students (Marashi, and Khatami, 2017) and is also beneficial for the students (Hathorn, and Hathorn, 2012).

Deepa (2012) investigated the effect of cooperative learning on critical thinking and problem-solving ability in Mathematics. She presented that cooperative learning approach is equally good for the high achievers and the low achievers. She further added that students scored higher when they work in groups. She emphasized that cooperative learning approach is one of the most effective approach for problem solving ability in Mathematics of the higher secondary students.

The present research was conducted with the objective to compare the thinking style of the students who have been taught through cooperative learning and those who have not been taught through cooperative learning. For this, null hypotheses were framed that there will be no significant difference between the thinking style of the students who studied with cooperative learning techniques and who have not studied with cooperative learning techniques.

### **Methodology**

The focus of the study was to find out the impact of cooperative learning on thinking style of students. The nature of this investigation led to the use of descriptive research method. Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible, to draw valid general conclusion from the facts discovered. Purposive sampling was used and a total 200 students were taken for the study out of which, 100 students were from secondary schools where the teachers were using cooperative learning technique in their classrooms and 100 students were from those secondary schools where cooperative learning technique was not used in the classroom. To measure the thinking style of the students a Self-made Thinking Style Scale developed by the researchers was used. Data was collected from higher secondary schools of Dehradun district. After scoring the test, the data was analysed in accordance with the objectives of the study. Descriptive statistic was employed for the students who are learning by cooperative learning method and learning by traditional method on the basis of their

thinking style and to find out the significant difference between cooperative learning and Thinking style of students t-test was used.

### Result and Discussion

The obtained results are described below.

**Table-1: Thinking Styles of the Students on the basis of Teacher using Cooperative Learning**

	TUCL*	N	Mean	SD	t	df	Sig.(2-tailed)
Thinking	YES	100	111.61	14.384	22.365	198	.000
Style	NO	100	66.93	13.865			

TUCL\*:Teacher used Cooperative Learning

Table-1 presents the thinking styles of the students who studied with cooperative learning and the students who didn't studied with cooperative learning techniques. The mean and SD were found 111.61 and 14.384 respectively for the students who studied with cooperative learning approach while those of students who did not studied with cooperative learning approach were found 66.93 and 13.865. the calculated value of t was 22.365 which is significant at 0.01 level of significance. Hence the formulated null hypothesis is rejected.

It can be said that students who studied with cooperative learning techniques and who did not study with cooperative techniques differ significantly for their thinking style. Students who studied with cooperative learning techniques have better thinking style than students who did not studied with cooperative learning techniques.

**Table-2: Dimension wise Thinking Style of Students on the basis of Teacher Using Cooperative Learning**

	TUCL*	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Creative Thinking	Yes	100	21.30	2.997	17.991	198	.000
	No	100	12.78	3.667			
Decision Making	Yes	100	21.74	3.335	16.871	198	.000
	No	100	13.40	3.649			
Convergent Thinking	Yes	100	22.90	3.427	18.363	198	.000
	No	100	13.27	3.969			
Divergent Thinking	Yes	100	22.18	3.006	17.967	198	.000
	No	100	13.65	3.675			
Problem Solving	Yes	100	23.49	3.828	16.500	198	.000
	No	100	14.01	4.284			

Table- 2 depicts the comparison of dimension wise thinking styles of the students who studied with cooperative learning techniques and did not studied with cooperative learning techniques. The dimensions of Thinking Style are Creative Thinking, Convergent Thinking, Divergent Thinking, Decision Making and Problem Solving.

The mean and standard deviation of creative thinking of the students who studied with CL were 21.30 and 2.997 and for students who did not studied with cooperative learning techniques were 12.78 and 3.667 respectively. The t-value was found to be 17.991 which is significant at 0.01 level of significance.

For decision making, mean and standard deviation of the students who studied with cooperative learning techniques were found 21.74 and 3.335 and those of who did not studied with cooperative learning techniques were 13.40 and 3.649 respectively. The calculated value of t was found to be 16.871. This value is significant at 0.01 level of significance.

It is also evident that the mean and standard deviation for convergent thinking of the students who studied with cooperative learning techniques were 22.90 and 3.427 and for the students who did not studied with cooperative learning techniques were 13.27 and 3.969. The value of t was calculated as 18.363. This value is significant at 0.01 level of significance.

In the case of divergent thinking, mean and standard deviation of students who studied with cooperative learning techniques and without cooperative learning techniques were found 22.18 and 3.006 and 13.65 and 3.675 respectively. The value of t was found to be 17.967 which is significant at 0.01 level of significance.

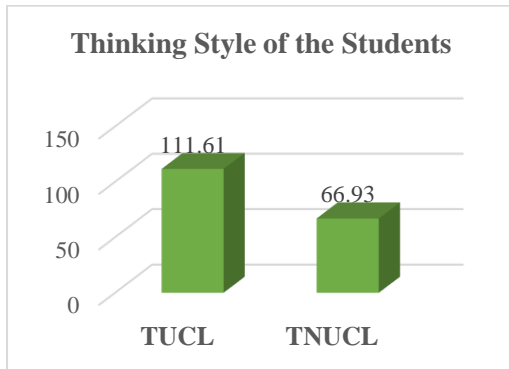
The mean and standard deviation the dimension of problem solving for students who studied with cooperative learning techniques were 23.49 and 3.828 and for the students who did not studied with cooperative learning techniques were observed 14.01 and 4.284. The t-value is calculated as 16.500 which is found significant at 0.01 level of significance.

### **Conclusion**

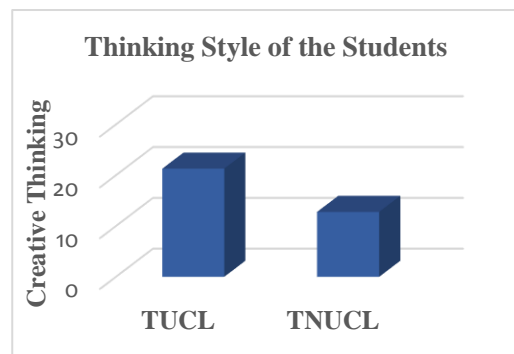
It has been found that the cooperative learning approach has a positive result on the thinking style of students (Fig.-1). The finding revealed that the student who have been given the opportunity to learn by cooperative learning have higher thinking style in all dimensions viz. creative thinking, decision making, convergent thinking, divergent thinking and problem solving (Fig.-2-6) than those who did not studied with cooperative learning techniques. It is better to use cooperative learning strategies.

Cooperative learning strategies can be used as a tool to promote better thinking in creative thinking, decision making, convergent thinking, divergent thinking and problem-solving  
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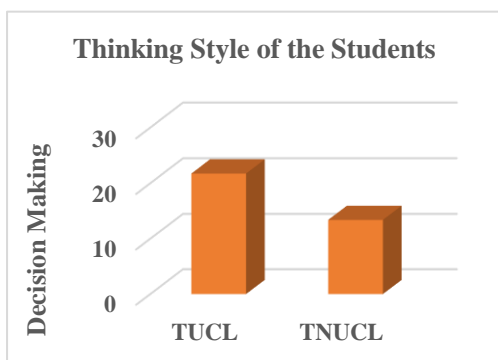
areas among the students. The new education policy 2020 emphasizes on the development of high order thinking skills of the students. It says that such type of pedagogies should be promoted which result in the holistic development of the students and they should be provided with multiple and cooperative learning opportunities in the class. So, it is suggested that all teachers should understand the importance of cooperative learning approach and use them in their teaching process. School management can play an important role to provide guidance and execution of this approach. Government should take some thoughtful steps for the teacher education programs and make the education system more practical and fruitful especially for cooperative learning approach. More research should also be conducted on large sample and on the other areas of the country.



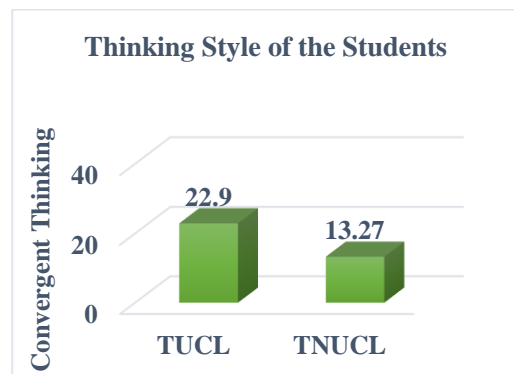
**Fig.1: Thinking Style of the Students**



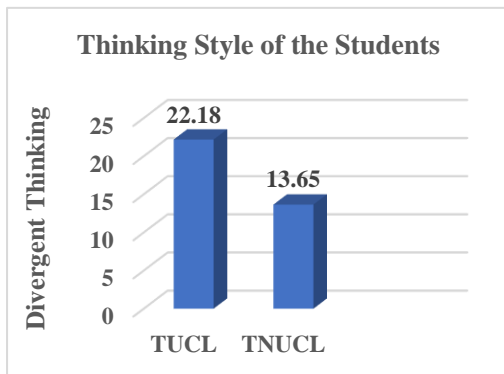
**Fig.2: Creative Thinking of the Students**



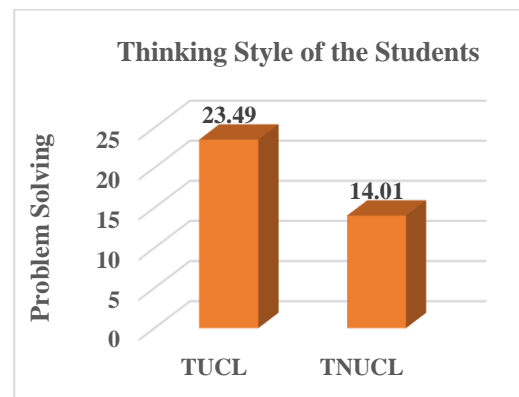
**Fig.3: Decision Making of the Students**



**Fig.4: Convergent Thinking of the Students**



**Fig.5: Divergent Thinking of the Students**



**Fig.6: Problem Solving of the Students**

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