

## **THE INFLUENCE OF THE JIGSAW METHOD ON SECONDARY SCHOOL STUDENTS' POSITIVE INTERDEPENDENCE.**

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### **Abstract**

Humans are the only species that can work together in a group to pursue a common goal. The impact of cooperative teaching practise: Jigsaw method on secondary school students' positive interdependence was explored. Two groups of 80 9th students were formed. The cooperative teaching tactics: Jigsaw method were used in the experimental group, while the standard approach was used in the control group. The following tools were utilised in the intervention: Positive interdependence attitude scale and cooperative teaching practice: Jigsaw method. The results revealed that: a) there is a significant difference in experimental group students' pre-test and post-test performance, b) there is a significant difference in experimental and control group post-test performance, and c) there is no significant difference in pre-test performance.

**Key Words:** *Key Words: Positive interdependence, Cooperative teaching strategy: Jigsaw method,*

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### **I. INTRODUCTION**

Some academics have recognised unbalanced involvement, or the presence of free-loaders/free-riders who avoid taking responsibility in group activities, as a significant potential concern in cooperative learning scenarios. Learners in unproductive groups frequently appear to be free-loaders who do not finish group tasks evenly. McWhaw, Schnackenberg, Sclater, and Abrami (McWhaw, Schnackenberg, Sclater, & Abrami, 2003). Slavin (1995) coined the term "free-rider" to characterise the problem that can occur when the responsibilities of individual members are not clearly defined.

When students are actively engaged in the classroom, they progressively lose their tendency to isolate themselves or to be shy.

When students in a classroom work together to learn, they are said to be participating in cooperative learning., some may feel unobligated to the group and create the free-rider dilemma by explaining their absence and carelessness owing to competing schedules and interests: they don't mind if they are ignored if they pass. This issue might cause students to refuse to participate in cooperative learning activities and have a detrimental impact on group productivity.

In cooperative learning, communication between teachers and students is critical for establishing educational relationships that are necessary for achieving group goals (Garrison, Anderson, & Archer, 1999). Effective communication in education, on the other hand, necessitates a collaborative community of learners that promotes positive interdependence and higher-order thinking (Garrison et al., 1999; Johnson & Johnson, 1994). Cooperation is also a necessary component for efficient engagement and training (Garrison et al., 1999).

Positive interdependence and group processing, two of the components of cooperative learning explored in this study, are based on social interdependence theory. Johnson and Johnson (2007) regard social interdependence theory to be a critical component in understanding and utilising cooperative learning components. The theory of social interdependence may also help to solve the problem of equitable contribution. Because social interdependence theory explains how individuals interact and proposes techniques to improve motivation and increase individual accountability, issues like a lack of student responsibility for group work can be more successfully handled (Johnson & Johnson, 1998).

### **Jigsaw technique**

The jigsaw cooperative learning framework encourages students to work together by assigning tasks to each of them. The group will be taught some of the material. This framework is made up of Students are divided into two groups: "home" and "away." 'Jigsaw group' and 'group' Students first meet in a classroom. Each member of the group is assigned to their home groups a fraction of the material to become a "expert" on. Residence. Then, like jigsaw puzzle pieces, the clusters disintegrate. Students are divided into jigsaw groups, from the other home groups that were given the task the same part of the document The jigsaw groups, on the other hand, were divided into two groups. Students talk about their content to make sure they understand it. After that, students return home.

Positive interdependence occurs when people feel their goals are linked to those of others, and as a result, they maximise each other's efforts to accomplish those goals (Johnson & Johnson, 1994).

Most researchers and theorists consider positive interdependence to be one of the most important aspects of cooperative learning. When group members believe that what helps one member benefits all members of the group, and what hurts one member hurts all members of the group, positive interdependence is created (Deutsch, 1962). There are two types of interdependence, according to previous research: outcome and means (Deutsch, 1949a; Kelly, 1957). The same two types were recognised by Johnson and Johnson (1989): result interdependence and means interdependence.

### **Reviews of related literature**

#### **Chang Woo Nam, B.A(2008)**

At the start of the study, 144 college students enrolled in one of three separate courses received first general teaching on cooperation skills and cooperative learning. There were substantial disparities in accomplishment levels and relationships between students in the "positive interdependence," "group processing," and "no structure" groups, according to the findings. Participants in the "positive interdependence" groups outperformed participants in the "group processing" and "no structure" groups by a substantial margin. The relative effectiveness of positive interdependence and group processing on different types of student interaction was also investigated in this study. On "sharing and comparing of information" interactions, "positive interdependence" techniques were shown to be more effective than "group processing" strategies, while "group processing" strategies were found to be more effective than "positive interdependence" strategies.

#### **César A. Collazos (2002)**

The essence of collaborative activities that characterise collaboration and transform group work into teamwork is positive interdependence. Simply putting students in groups and telling them to work together may not be enough to foster positive interdependence. For unsupported group activities, numerous types of positive interdependencies have previously been found.

In the case of computer-assisted group learning, several forms of interdependencies are now manifested. The examples in this paper are from computer games and other tools we've created to put students in situations where they need to work together to succeed. This paper also discussed many ways to structure positive dependency in software tools using interface design to guarantee that students think we rather than me.

## **II. METHODOLOGY**

### **Objective of the study**

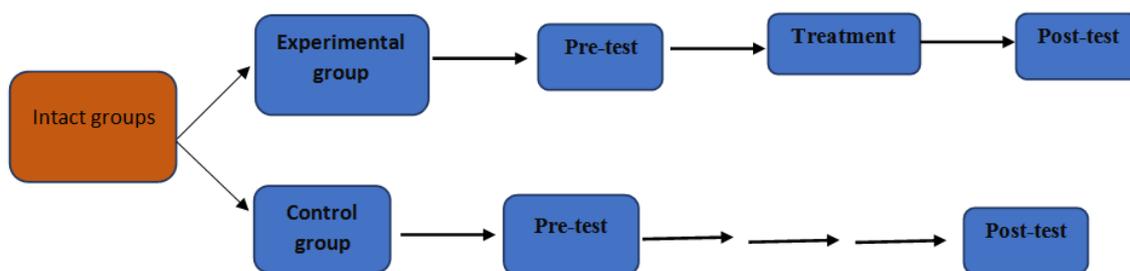
- To find out the effectiveness of Co-operative learning strategy: Jigsaw method to develop students' Positive interdependence of Secondary school students.
- To find out the of the impact of traditional method and Cooperative method: Jigsaw method on Positive interdependence of Secondary school students.
- To test the effectiveness of cooperative strategy: Jigsaw method to enhance collaborative skill Positive interdependence.

### **Hypotheses of the Study**

- There is no significant difference in the mean scores of the pre-test and post-test on Positive interdependence of the experimental group students.
- There is no significant difference in the mean scores of the pre-test and post-test on Positive interdependence of the control group students.
- There is no significant difference in the mean scores of the post test on Positive interdependence of experimental group and Control group students.

### **Research design**

The research design employed was the Non-equivalent two groups pre-test and post-test design



**Sample**

The study's sample consisted of 80 students in CBSE class 9 who were chosen at random.

**Tool**

The researcher created the tool. Using the split half approach, the tool's dependability was found to be 0.873. It was discovered that the content validity and concurrent validity were both present.

**Findings of the study**

**Table 1**

't'-test of pre-test and post-test on Positive interdependence of the experimental group students

Variable	N	Tests	Mean	SD	df	T value	Sig.
Positive interdependence Of Experimental group	40	Pre-test	29.95	3.137	39	18.221**	.000
		Post-test	39.25	.707			

**Table 2**

't'-test of pre-test and post-test on Positive interdependence of the control group students.

Variable	N	Tests	Mean	SD	df	't' value	Sig.
Positive interdependence Of Control group	40	Pre-test	16.26	1.195	39	.035	.972
		Post-test	16.25	1.260			

**Table 3**

't'-test of post-test on Positive interdependence of experimental group and Control group students.

Groups	Variable	N	Mean	SD	df	't' value	Sig.
Experimental group	<i>Positive interdependence</i>	40	39.25	.707	39	18.798**	.000
Control group		40	30.15	2.797			

\*\* .01 & .05 level of significance.

- There is significant difference in the mean scores of the pre-test and post-test on Positive interdependence of the experimental group students. ('t' value- 18.221\*\*)
- There is no significant difference in the mean scores of the pre-test and post-test on Positive interdependence of the control group students. ('t'-.035)
- There is significant difference in the mean scores of the post test on Positive interdependence of experimental group and Control group students. (18.798\*\*)

**III. CONCLUSION**

Cooperative learning practises, it can be inferred, have a greater impact on the development of Positive interdependence among students. Positive interdependence is a major impediment to pupils' ability to express themselves and work together to achieve a common goal.

The following implications can be derived from the study's findings:

- ❖ Students must be involved in teamwork, and their behaviour must be checked on a regular basis.
- ❖ Each subject teacher should collaborate on a variety of classroom activities.
- ❖ Other constructivist-based teaching methods should be employed.

***Suggestions for further research include:***

- Different variables could be employed to perform further studies to obtain better results.
- The sample size can be increased to generalise the results.
- Interventions such as constructivist approaches and online learning can be utilised to help students acquire additional collaborative abilities.

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