

Effectiveness of Group Discussion Method of Teaching and Traditional Teaching Method in the Subject of Science at Elementary level

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Abstract

It is an experimental research and design of research is pretest posttest control group. Major objective of the study is to find out the effectiveness of discussion method of teaching. Population of the study was 158 students of class 8th of Government Elementary school Chak Shahhbaz District Mandi Baha ud Din and Government Elementary School Melu kohna District Mandi Baha ud Din enrolled for the session of 2025-2026 in the subject of Science. Two groups of 30 students were randomly selected from the students of class 8th of both schools who got above 65% marks in pretest which was prepared by researcher from class 7th text book. Group of 30 students from Government Elementary school Chak Shahhbaz was nominated as Experimental group and was taught chapter 1&2 general science grad 8th through group discussion method for time period of one month and group of 30 students from Government Elementary school Melu kohna was nominated as control group and was taught chapter 1&2 general science grad 8th through traditional method of teaching for the time period of one month. At the completion of one month teaching, a posttest was prepared and conducted by the researcher to the both groups and marked the posttest of the both groups for data collection. For data analysis t test was used. Major finding of the study indicates that results are better of that group which was taught through group discussion method of teaching. The findings give superiority to the group discussion method of teaching because this method of teaching has positive effect on students' academic achievement.

Keywords: Group discussion, traditional teaching method, pretest, posttest, Experimental group, control group, Pretest/posttest control group

Introduction

Group discussion is a best way to enhance the quality of any academic, professional and managerial domains. Group discussion has a complete procedure which is based on an organized and purposeful collaborative oral practice. During the group discussion teachers and students exchange their ideas and mental status about a specific object through talking with each other in verbal position. Systematic and structured method is used to exchange the different ideas in the

discussion method. Teacher discusses his ideas with the students and students also discuss their ideas with their teacher about the specific topic or object (Bender, 2023).

The contributors sit in the front of each other in a semi-circle almost and exchange their ideas on the specified matter or issue. Group discussion is based on cooperative learning process. In the group discussion speaker speaks about the qualities of the topic, against the topic or about the deficiencies. In group discussion every

member of the group participates equally and every member takes place for the success of group. Group success shows the success of every member of the group and group failure indicates the failure of every member of the group (Canek, 2022).

Group discussion assists the students to identify the problems about the topics and trains to discuss about the given topic. Due to discussion method students can express their views on different serious subjects and can argue about the given topic. Group discussion enhances ability of critical thinking, listening and speaking talents and confidence in the students. Group discussion is used as a tool of problem solving, assessment of an individual and decision making (Baig & Yadegaridehkordi, 2023).

Group discussion is consist of three major elements i.e. purpose, planning and participation. First component “purpose” deals with the discussion among the group. Main objective of this component is to attain the reasonable conclusion (Romiszowski, 2024).

Second element “planning” is a fundamental component of Group discussion. Students decide the aims of the discussion on the specific issues or problems. Major aim of group discussion is to reach at suitable decision not only express the ideas. It is planned that the discussion must lead to the nearer to its goals. Planning process is consisting of different portions. First of all, teacher selects a group leader from the whole group. Teacher prepares an agenda for discussion and informs the all members of the group about the agenda; fix the time, date and venue for discussion and meeting. It is

ensured that group members remain aware from agenda and all planning of discussion (Sweet & Michaelsen, 2023).

Third element of group discussion is “participation” which is known as life of any group argument. Followers of a group have to be drawn out. It should not be conquered through a few. While this does tend to occur in maximum group deliberations, the soundless participants’ intelligent attending also supports. Maximum members participate in group discussion process. During group discussion process every participant contributes his or her share of knowledge and provides his or her idea about the specific objective. In this way group discussion can be most effective and meaningful (Cole, 2024).

There are four major areas of group discussion i.e. subject knowledge, Verbal Conversation Skills, team behavior and leadership skill (Bohari, 2020).

First area which is “subject knowledge” deals the students or participants of discussion knowledge about the topic which is given for discuss. Deep knowledge and understanding about given topic is very necessary because without deep understanding about the topic participants cannot become positive member of conversation and they cannot become an active member of the discussion. During group discussion you have to organized and prepare yourself to argument on a variety of subjects. Your creativity, understanding and command to the subject are those capabilities which give you a positive position in group discussion. When you have command on subject, you shall show more and more

confidence and passionate during the group discussion (Sund, & Gericke, 2020).

Second major area of group discussion is “verbal conversation skills” which deals communication skills like speaking and listening. Idea changing process completes through speech during the group discussion. During the group discussion one member of group speaks loudly the topic of discussion and other members of group listen the speaker carefully. After listen the speaker other members of the groups share their knowledge and ideas about the topic. Good communication skills have many components which make the communication skills strong and meaningful like Active listening, proper nonverbal clues, apt language and transparency of thought and appearance (Iqbal & Jami, 2025).

There is a deep desire that everybody wishes to listen himself or his/ her voice. We don't desire to listen the other people or other members of the group. When a member of the group will listen the talk of other member of the group carefully he will be capable to find out the major findings and main ideas of the discussion. Speaking is very necessary element of group discussion and communication skills whereas listening is also very fundamental component of the communication skills. Listening and speaking lead group discussion to the completion process. When a member of group participates as an active member of the group and listen every point with carefully, he can speak better than other members of the group (Palmer, 2024).

There is another thing which called clarity. Clarity appears when an individual gets ready to display himself at the position

of clarity among the group members or audience. When a group member has command on his expressions, it means that his expressions or ideas are clear and he can conversation among the audience without any hesitation. If a person has command on his expressions he can satisfy his audience positively. Clarity of ideas or expressions is a speaking art which provides an individual high level among the group members. For an effective speaking your voice should be moderate. Level of your voice should not be too high or too low. When you use moderate voice for your audience you can convince your audience effectively and you can provide main ideas to the audience. During the speaking some things are very important i.e. correct usage of pronunciation, phonetic correctness and avidness from non-natural pronunciations. In short, it is all possible due to clarity of expressions or ideas (Gustavsen, & Foshaug Vennebo, 2025).

When you are speaking among the audience, flow of language must be in smooth manner. Don't use the long sentences during the conversation whereas you should use the simple sentences for conversation. Avoid from grammatically mistakes during the speaking. Don't use extravagant language and unfamiliar expressions. Discuss the specific objectives of conversation. Be considerate and gracious. In this way you can provide your point of view to the audience clearly and they can understand effectively (Gasser, Preisig, Frei, Dammert, Egger, & Murphy, 2025).

There are nonverbal clues which have positive effects on speaking art i.e. body language, facial appearance, signs and Eye interaction. Nonverbal clues are observed

from the other group members or panel deeply. The Panel observes self-possession, mutual consultation, anxiety, obstruction, faintness and lack of confidence of the speaker. If an individual has common on nonverbal clues, he delivers his lecture or speech effectively than other members of the group (Paneth, Jeitziner, Rack, Opwis, & Zahn, 2024).

Third area of group discussion is “team behavior” which deals the interaction of a group member with other group members. When you show positive behavior at the position of speaking and listening, you show maturity and don not lose your temper at any situation in the anxiety you can give positive performance during the group discussion. In this way when all team members show positive behavior to speaking and listening, group achieves success and obtains the specific objectives. During the group discussion when all the members of the group play role as motivator, knowledge inquirer, information provider, procedure organizer, opinion enquirer, opinion provider, clarifier, summarizer, social-supporter, pressure reliever, compromiser, assailant, comedian and dominator group achieves success (Charness, & Chen, 2020).

Forth major area of group discussion is “leadership skills”. When each member of the group has a capability of leader they lead their group to the success. Every group has its own leader who leads his group to the success and each member of group follows him effectively and seeks leadership skills from him. But in group discussion there is no leader present, a leader emerges. During a group discussion each member of the group role plays as a leader. There are many

leadership qualities such as self-confidence, decision making power, critical thinking, good communication skills, Assertiveness, discretion, objectivity, patience and persuasiveness. When these qualities occupy each member of the group, each member of the group becomes natural leader (Young, Wood, Phillips, & Pedersen, 2021)

Objectives of the Study

1. To identify the elements of Group discussion more responsive to students achievement
2. To examine the effectiveness of Group discussion for students’ academic achievement as compared to traditional method of teaching

Hypothesis of the Study

H0 Score: There was no significant difference among the mean achievement marks of students taught through group Discussion and students taught through traditional teaching method.

Population of the study

Population of the study was 75 students of class 8th of Government elementary school Chak Shahhbaz District Mandi Baha Ud Din and 83 students of class 8th of Government elementary school Melu kohna District Mandi Baha Ud Din enrolled for the session of 2025-2026 in the subject of Science. Total population of the study was 158 student of class 8th of Government Elementary School Chak Shahhbaz District Mandi Baha Ud Din and Government Elementary School Melu kohna District Mandi Baha Ud Din (Van den Bergh, Swings, Fauvart & Michiels, 2018).

Sample of the study

30 students were randomly selected from the students of class 8th of Government Elementary school Melu kohna District

Mandi Baha Ud Din for control group who got above 65% marks in pretest which was prepared by researcher from class 7th text book.

30 students were also randomly selected from the students of class 8th of Government Elementary school Chak Shahbaz District Mandi Baha Ud Din for Experimental group who got above 65% marks in pretest which was prepared by researcher from class 7th text book (Kam, Wilking, & Zechmeister, 2007).

Data Collection

A test of 50 items was prepared by the researcher from chapter 1&2 of general science text book of class 8th for both experimental group and control group. Data was collected through making the test of both groups. For the comparison of the both group's scores, range of scores means, standard deviation and t test was used (Lessler, Edmunds, Halloran, Hollingsworth, & Lloyd, 2015).

Procedure and Method

First of all researcher took permission from higher authority for research in both schools named Government Elementary School Chak Shahbaz District Mandi Baha Ud Din and Government Elementary School Melu kohna District Mandi Baha Ud Din. Time period of research was one month only. A pretest was prepared by researcher from class 7th general science text book. Pretest was consisting of 100 MCQs items. Pretest was conducted by the researcher for students of class 8th of both schools. 63 students of class 8th of Government Elementary School Chak Shahbaz District Mandi Baha Ud Din obtained above 65% marks in pretest and 30 students were randomly selected for

experimental group. 68 students of class 8th of Government Elementary School Melu kohna District Mandi Baha Ud Din obtained above 65% marks in pretest and 30 students were randomly selected for control group. Chapter 1&2 of general science class 8th were taught by the researcher to the both groups (Control group and Experimental group) for the time period of one month. Control group was taught through traditional method of teaching and experimental group was taught through discussion method of teaching.

After the completion of one month teaching, researcher prepared a posttest from chapter 1&2 from general science text book of class 8th. Posttest was consisting of 50 MCQs items. Posttest was conducted by the researcher to the both groups (Control group and Experimental group) separately. After conducting the pretest to the both groups, researcher marked the pretest of both groups and data was collected for analysis and further procedure.

Data Analysis and Presentation of data

60 students were randomly separated into two groups of 30 each. Experimental group was taught through group discussion method of teaching and control group was taught through traditional method of teaching.

Table
Showing t test results for Experimental
Group and Control Group of General
Science test

Study Group	No	Mean	SD	Std. Error Mean	P value
Experimental group	30	38.291	3.91883	.64692	.001
Control group	30	24.457 1	6.49002	1.1929 5	

Above table displays the results of t test which was used for the comparison of the results of both groups (compare Experimental Group and Control Group) Mean and SEM were used for the data presentation. According to the results Pvalue is consisting of .001 which indicates that there is a significant dissimilarity among Experimental Group and control group students' scores. Experimental Group's Mean score was $38 \pm .64$ and Control Group's Mean score was 24 ± 1.19 . Mean values of Experimental group are greater than control group which shows that the results are better of that group which was taught through discussion method of teaching than group which was taught through traditional method of teaching. It was proved through results that discussion method of teaching has positive effect on students' academic achievement.

Findings

1 According to the results P value is consisting of .001 which indicates that there is a significant dissimilarity among Experimental Group and control group students' scores. Experimental Group's Mean score was $38 \pm .64$ and Control Group's Mean score was 24 ± 1.19 . Mean values of

Experimental group are greater than control group which shows that the results are better of that group which was taught through discussion method of teaching than group which was taught through traditional method of teaching. It was proved through results that discussion method of teaching has positive effect on students' academic achievement.

2. Null Hypothesis: There was no significant difference among the mean achievement marks of students taught through group discussion method of teaching and students taught through traditional teaching method, is rejected because significant difference is present in both groups due to p value which is .001 and the results of that group which was taught through discussion method of teaching are better than other group which was taught through traditional method of teaching.

Recommendations

1 Discussion method of teaching may be used for other subjects such as Mathematics, English, Urdu, Social Studies etc.

2. Profits of Discussion method of teaching should be used to growth superiority of this method in all educational institutions from Elementary to university level.

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