

TITLE-EFFECTIVENESS OF SNOWBALL TECHNIQUE IN TEACHING PATHOLOGY TO SECOND MBBS STUDENTS

ABSTRACT

Background-The medical students experience difficulties in understanding several topics in their subjects. Small group teaching is employed to overcome these hassles. One such method is in small group teaching is snow ball technique. Snow ball technique is a newer innovative method used in schools and corporative fields. Limited literature is available worldwide of this technique .This method can be experimented in medical students in teaching their subjects.

Aim-To study the effectiveness of snowball technique as a teaching and learning method.

Materials and methods-This is quasi experimental study conducted in department of pathology, ASRAMS, on phase II MBBS pathology students over a period of four months from September to December 2023.Around one hundred and fifty students were included in the study. Few topics were selected and discussed as routine in small group teaching. Pre and post tests were conducted and scores were taken. Same topics in other small groups (around 30 members each) were taken using snowball technique. Pre and post tests were conducted and scores were taken and ranks were given. Comparison of scores (ranks) obtained in routine small group teaching and those using snowball techniques was done.

Results:Comparison of pretest and posttest ranks in snow ball technique and routine small group discussions was done. There were significant numbers of positive posttest ranks in snow ball technique method.

Conclusions: Snowball technique proved to be an effective way of teaching students and helped in better understanding of the subject. This good impact was reflected in their summative examinations.

Key words: Snowball, teaching, method.

INTRODUCTION:

The pitfalls in current teaching methods often become obstacles in students learning process, which are results in the deterioration of motivation and student learning outcomes. The motivation has been started playing a role in determining learning outcomes. It is a psychological process that provides direction in achieving goals, which is driven by the desire to meet needs or make of learning the goals. Therefore there are constant efforts by the teachers to explore newer methods of teaching which will

Comment [R1]: Rephrase for clarity!

Comment [R2]: , punctuation.

improve critical and creative thinking in students. One such innovative technique is snowball technique. This study is focused on applying snowball throwing technique in teaching, learning and to figure out whether it can improve students learning, comprehension skills among undergraduate medical students.

Comment [R3]: Elaborate on what is snowball technique and why you have chosen it?

AIM: To study the effectiveness of snowball technique as a teaching method.

OBJECTIVES: 1. To analyze the change in the knowledge acquired by the second MBBS pathology undergraduate students at the end small group discussion adopting snow ball technique.

2. To evaluate the advantages and disadvantages of snowball technique in small group teaching, through questionnaire based and focus group discussion, feedback from students and teaching faculty.

3. To study the perception of faculty and students regarding snowball technique.

MATERIALS & METHODS:

Study Design: Quasi experimental research

Study Participants: Second MBBS pathology students were included in the study

Study duration: Four months from September 2023 to December 2023

Sample size: one hundred and fifty students were included in the study

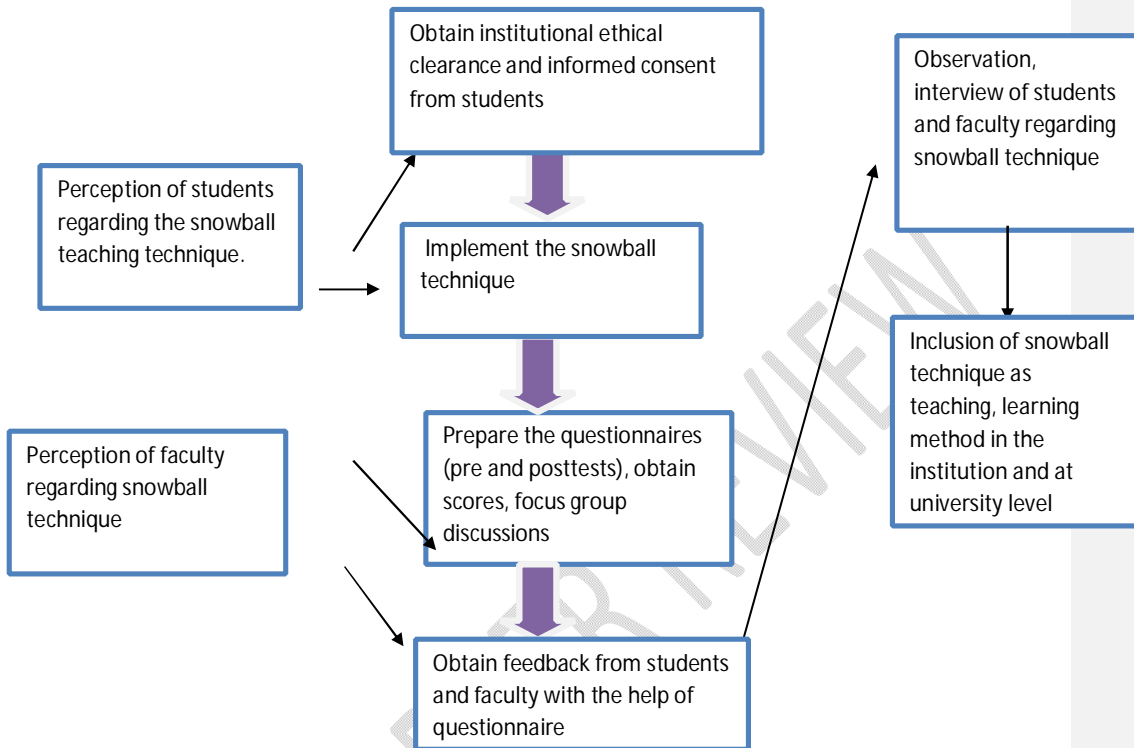
Comment [R4]: Grammar. Rephrase for clarity!

Inclusion criteria: Phase II Second MBBS pathology students were included

Exclusion criteria: Students unwilling, other phase and subject students

IEC (Ethical) Approval: Institutional ethical committee consent approved

Data Collection method: Few topics were selected, taken and discussed as routine in small group teaching. Pre and post tests were conducted, scores were taken and ranks were given. Same topics in other small groups (around 30 members each) were taken using snowball technique. Pre and post tests were conducted, scores were taken and ranks were given. Comparison of scores (ranks) obtained in routine small group teaching and those using snowball techniques was done.



RESULTS:

Fig/Table1 -Comparison of pretest and posttest ranks in snow ball technique

Snow ball technique	N	Mean Rank	Sum of ranks
Pretest	402 ^b (Positive ranks)	216.1	86886.5
Post test	19 ^a (Negative ranks)	102.3	1944.5
Tie	28 ^c		
Total	449		

a=posttest<pretest, b=posttest> pretest, c=posttest=pretest

Fig/Table2-Comparison of pretest and posttest ranks in small group discussion

Small group discussion	N	Mean Rank	Sum of ranks
Pretest	189 ^c (Positive ranks)	131.96	24939.5
Post test	65 ^d (Negative ranks)	114.55	7445.5
Tie	195 ^f		
Total	449		

c=posttest>pretest, d=posttest< pretest, f=post=pre

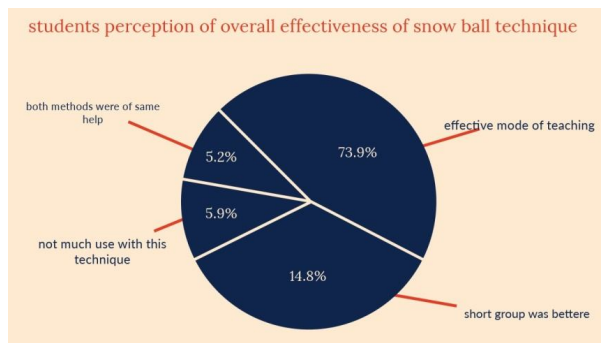
Figure/Table3-Statistical significance between pre and posttest ranks in small group discussion versus snow ball technique

Pre and post test	P Value	Z Value(standard score)
Small group discussion	<0.001	-7.521
Snow ball technique	<0.001	-17.064

STATISTICAL ANALYSIS: Statistical significance was observed between pre and posttest of small group $z = -7.521$ with $p < 0.001$ by Wilcoxon Signed ranks test.

Statistical significance was observed between the pre and posttest of snow ball technique $z = -17.064$ with $p < 0.001$ by Wilcoxon Signed ranks test.

Figure 4: Students perception on snow ball technique



Comment [R5]: Why this test rather than other? Was it non-parametric?

Comment [R6]: Spelling error of Better in "short group was better" isn't it small group??

DISCUSSION: Snowballing is a group problem solving technique. It works by having students tackle a series of problems, each one more complex or challenging than the last. This technique is most effective for complex problems, where smaller sub-problems must be solved sequentially in order to solve the larger problem. By starting out with very small group, or even individuals, and then amalgamating groups as the sub-problems become more complex, students benefit from working with each other and they learn how to approach difficult problems by breaking them into manageable parts. As in our study snowballing helped students to understand difficult topics better when compared to routine small group teaching. At each level of the snowballing process, student solutions are vetted in the amalgamated group. Students are often more willing to participate when they don't feel the peer pressure involved in responding in front of the whole class. Snowballing allows time to become invested in the work as the stakes get higher. The class constructs the knowledge by working through a challenging topic in the subject, rather than having the teacher explain it in a way that may not suit all learning styles.

CONCLUSIONS: Snowball technique proved to be an effective way teaching students and helped in better understanding of the subject. This good impact was reflected in their summative examinations.

Take home message: Snowball technique can be implemented as a teaching method especially in small groups.

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Comment [R7]: Refer more published papers on snowball method and its effectiveness!

UNDER PEER REVIEW