



**INTRODUCTION OF 'SMALL GROUP TEACHING' METHOD TO 1<sup>ST</sup>  
YEAR B.A.M.S. STUDENTS FOR IMPROVEMENT OF COGNITION**

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**ABSTRACT**

**Introduction:** There are several methods of teaching and learning (T-L method). Out of these didactic method is very common but it is one way communication. As students have passive role and different IQ levels, it is not so useful T-L method for better understanding of the subject. In such conditions there is a need of better T-L method for improvement of cognition of the students. So, 'Small group teaching' method is chosen for this educational research project.

**Methodology:** It includes two phases viz. planning and execution. In Planning phase all the required documents and study material collected. 7 students from first year B.A.M.S were selected randomly to form small group and their consent taken before starting the project. In Execution phase, final project was implemented. Pre-test was carried out to check the existing knowledge of the student about the topic. Then, one by one total 5 handouts were given to them along with study material followed by discussion on 'Anatomy of the stomach' in all aspect. Then activity sheet was provided related to each handout. At the end post-test was given along with questionnaire in the form of Likert scale. Data collected and analyzed statistically by applying paired t-test.

**Result:** The test result found statistically highly significant which indicates that the small group teaching method is very useful in improvement of cognition of students.

**Discussion:** Small group teaching is very effective in improvement of cognition of students. This T-L method should be practiced in every educational institute so as to get deeper understanding of the subject. With the help of this, students can achieve quality learning outcomes. It will definitely be helpful for improving the learning environment too.

**Key words:** Small group teaching, T-L method, cognition

**INTRODUCTION:** Students can be observed to use one of the three broad approaches to the learning i.e. surface, deep and strategic. Students adopting a surface approach to learning are predominantly motivated by a concern to complete the course or by fear of failure. The learning outcome is, at best, a memorization of factual information and perhaps a superficial level of understanding.

In contrast, students adopting a deep approach are motivated by an interest in the subject matter and a need to make

sense of things and to interpret knowledge. In such cases the outcome is deep level of understanding based on knowledge of broad principles supported by a sound factual basis.

Students demonstrating the strategic approach to learning may be seen to use process similar to both the deep and surface learner. Such students are motivated by the need to achieve high marks and to compete with others.

The learning outcomes can be broadly described in terms of quantity and quality of learning. Many of our teaching

approaches, curriculum structures and particularly our assessment methods may be inhibiting the use of deep approach and supporting as well as rewarding the use of surface or strategic approaches of learning. [1]

In such conditions there is a pressing need of innovative student centred teaching learning method. It will make student more likely to adopt a deeper approach to their learning outcomes. It will be definitely helpful for improving the learning environment.

**CONTEXT OF THE STUDY:** Small group teaching can be a most rewarding experience for both teacher and student. Small group teaching has characteristics like 1) Active participation 2) Face to face contact 3) Purposeful activity. [2]

Encouraging the active participation of students in learning process demands responsibility and organization on the part of students (teachers as well) and in this respect small group teaching fosters an independent approach to learning. At the same time close interaction with other group members can generate a sense of community within the small group and / or sense of shared disciplinary identity and quite simply, social interaction can make learning more interactive and fun. This may be particularly important for less confident students who may not participate as much in larger group or for those who for whatever reason seems reluctant to learn. Purposeful activity planned in small group teaching can be helpful to develop high intellectual skills of students such as criticising, analysing, problem solving and decision making.

Hence, small group teaching method is chosen for the project. This T-L method

will definitely help student to get deep knowledge of the subject.

#### **HYPOTHESIS:**

Null hypothesis **[H<sub>0</sub>]**- Small group teaching method may not be effective in improvement of cognition of students.

Alternative hypothesis **[H<sub>1</sub>]**- Small group teaching method is very effective in improvement of cognition of students.

#### **MATERIALS AND METHODS:**

**Materials:** Materials used are, 1) Consent form 2) List of students 3) Pre-test and Post-test 4) Questionnaire 5) Handouts for discussion 6) Activity sheet for conducting activities 7) Feedback form 8) A.V aids etc.

#### **Methods:**

**Phase 1- Planning:** The permission of the Dean of the institute was taken. Permission of Institutional ethical committee was taken. Literature reviewed & topic was finalized (Anatomy of the stomach). Peer and co-faculty were sensitized. Students were sensitized for participation. Seven students were selected randomly for formation of small group. Consent of students was taken. Pre-test and post-test M.C.Q, Questionnaire, handouts, feedback form and session schedule prepared. Study material and A.V. aids collected.

**Phase 2- Execution:** The final project was planned as a schedule and implemented on 30<sup>th</sup> August, 2016. The session was scheduled from 10a.m to 2.30p.m. The session was started with introduction and ice-breaking which made students relaxed and familiar to the environment. After that Pre-test was given to check the existing knowledge of the topic.

1) Then Handout-1 was given to them. With the help of handout-1 and the study material they thoroughly discussed 'General anatomy of the stomach.' After

that they were provided with activity sheet to complete activity-1. In this activity they were asked to draw neat and well labeled diagrams related to the stomach.<sup>[3][4][5]</sup>

2) After completing activity-1, Handout-2 was given. With the help of that they discussed and studied 'Histology of the stomach' which was followed by activity-2. In this activity they were asked to observe histological slide of stomach and note down any two structures seen.<sup>[6]</sup>

3) Then Handout-3 was circulated for the purpose of study and discussion on 'Embryological development of the stomach'. Then activity-3 was performed in which they were asked to write the steps in embryological development of the stomach.<sup>[7]</sup>

4) Handout-4 was provided for next discussion which supported them for studying 'Radiological anatomy of the stomach'. After discussion on this topic

### RESULTS:

Sr no	Student	Pre-test score	Post-test score
1	Student no.1	4	8
2	Student no.2	2	8
3	Student no.3	6	8
4	Student no.4	6	9
5	Student no.5	5	8
6	Student no.6	5	10
7	Student no.7	4	8

As the number of students is less than 30 and the data is quantitative in the form of before and after score, 'Paired t test' is applied for statistical analysis of the data.

**Table -1 Statistical analysis of pre-test and Post-test scores**

Parameter	Mean	S.D.	S.E.	t value	p value	Remark
Test score	3.86	1.345	0.5085	7.58	< 0.001	Highly significant

From the table of t, at 6 d.f. and 5% significance limit, probability of larger value of 't' is 2.45. The observed 't' value is 7.58 times the S.E. Hence there is no doubt that the small group teaching is effective.  $t=7.58$   $p<0.001$  hence the test is highly significant.

they were asked to do activity-4 in which they had to observe the provided X-ray for radio image of the stomach and note down at list one finding.<sup>[8]</sup>

5) After that they were provided with Handout-5. With the help of that they discussed 'Surface marking of the stomach'. Then they were asked to do activity-5 in which they would have to draw surface marking of the stomach on the mummy.<sup>[9]</sup>

Post-test was carried out. Students were asked to fill up the Questionnaire form. Teacher's feedback form was also given to the co-faculty. The session ended with the opinion of the students. After the implementation of the project the collected data in the form of pre-test and post-test M.C.Q. score was observed and treated with statistical calculation to get the result (outcome).

**Table -2 Analysis of Questionnaire (Likert scale)**

S.N	Question	Agree	Undecided	Disagree
1.	The Tutorials were relevant to the aims of the subject.	7	0	0
2.	The Tutorials were well organised.	7	0	0
3.	The number of Students in the small group was appropriate for effective participation.	7	0	0
4.	The tutorials were valuable for my understanding of the subject.	6	1	0
5.	The tutorials stimulated my interest in the subject.	7	0	0
6.	The tutorial work could be completed within the allotted time.	7	0	0
7.	More guidance should have been provided on how to work in a group.	6	1	0
8.	The assessment of tutorial work was fair.	6	1	0
9.	Teacher expectations were made clear	7	0	0
10.	I received adequate feedback on my work	6	1	0
11.	I was able to discuss my progress	6	1	0
12.	The recommended textbook was valuable for proper understanding of the subject.	7	0	0
13.	Resource materials were readily available	7	0	0
14.	My involvement in the tutorials was high	5	1	1
15.	I have developed more confidence in myself	7	0	0
16.	I have developed skills needed by professionals in this field.	6	1	0

**DISCUSSION:** Group discussion plays a valuable role in the all-round education of students, whether problem based learning and team projects or in the more traditional academic scenario of the tutorial or seminar. When it works well, discussion can allow students to negotiate meanings, express themselves in the language of the subject, and establish closer contact with the academic staff than more formal methods permit. Discussion can also develop the more instrumental skills of systems all over the world. Small group teaching learning sessions provide

listening, presenting ideas, persuading, and working as a part of a team. But perhaps most importantly, discussion in small groups can or should give students the chance to monitor their own learning and thus gain a degree of self direction and independence in their studies. <sup>[10]</sup>

Transition from a traditional lecture based educational system into a small group teaching based educational system is vitally important especially in medical and health educational productive academic environment, strategy for dynamic and collaborative learning

both in basic and clinical science. Small group methods have a valuable role to play in undergraduate medical education. It can be said that these techniques are useful to encourage learner's engagement with a topic.<sup>[11]</sup>

This educational research project was the part of 16<sup>th</sup> Advanced course of M.E.T. organized by Maharashtra University of Health Sciences, Nasik. In the present study it is observed that the statistical test applied is highly significant, small group teaching is very effective in improvement of cognition of students. In this project we have focused on the three competencies of cognition;

**1. Knowledge-** The learner should have thorough knowledge of anatomy of the stomach.

**2. Comprehension-** The learner should understand and grasp detailed description of the anatomy of the stomach.

**3. Application-** The learner will be able to integrate related knowledge in next academic yrs.

All the discussion and the activities were planned accordingly. With this respect we have achieved the goal of the project. This T-L method should be practiced in every educational institute so as to get deeper understanding of the subject. With the help of this, they can achieve quality learning outcomes. It will definitely be helpful for improving the learning environment.

**CONCLUSION:** Students enjoyed the small group teaching session. The experience was very nice. For conducting the session, we need many laborious hours for planning and skill. Involvement of students was also supportive. Such kind of practices in all the systems of education will definitely be useful. It will lead to overall development of the student.

Learning will be a fun with knowledge gaining. All the educational objectives like development of higher level intellectual skills such as reasoning and problem solving, development of attitudes; also the acquisition of interpersonal skills such as listening, speaking, arguing and group leadership will be boosted up by such kind of T-L method.

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