

Application of Adult Learning Theories to Establish an Effective Teaching Method in Some Colleges of Addis Ababa University: The Case of Small Group Teaching Methods

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Abstract - This paper is written with the objective to assess the current teaching methods in the colleges of Addis Ababa University (AAU) and suggest some changes suitable for adult learners. The purpose is to review literatures on the application of some of the adult learning theories to establish an effective teaching method in the colleges of AAU. A literature search was made from Internet, peer-reviewed Journals, Books and Handouts about Small Group Teaching Method (SGTM). The information obtained from the above mentioned sources were synthesized as it is applied to teaching specific fields in the school of public health and medical sciences, and summarized. The group session generates their own issues most easily; enable participants to deal with the present rapid changes in all branches of health sciences and replacing outmoded knowledge and assimilating new inspiring teaching methods. About eight to 12 is an optimal number, allowing all the participants to be regularly active. One of the crucial steps in achieving success in small group session is to have a skilled group leader as well as learners. The strength of the method is that participants appreciate effective group meetings and they value it because it encourages social interaction among students and helps them to practice their communication skills. As a means of testing theories discussed in the reviewed literature, problems of adult learners were observed during the first three sessions of Higher Diploma Program (HDP) for AAU instructors where passivity, boredom, and inactiveness surfaced out. ‘Small Group Teaching Method’ (SGTM) was then repeatedly used in the HDP of AAU. Reflections of adult learners on the strength and limitations of the methods were collected and documented. The reflections gathered from HDP participants, who were teaching staff of public health and medical sciences, witnessed the advantages pointed out in the literature as: “...The group interaction about our teaching profession gave the enforced HDP enjoyable life that we have been looking forward to the weekly HDP session”. The potential weaknesses of small group discussion methods could be difficulties in creating an interactive group when the group leader is inexperienced; secondly, the methods require careful planning, and more resources such as rooms and adequate learning material. In conclusion, a small group teaching approach is instrumental if tailored and tuned to the desired goals when learners are adequately coached and connected to the subject matter. Nonetheless, it would be partial and defective if the sessions are not accompanied by reflection, and deliberation. Because of the enormous benefits obtained from the method, all Colleges of AAU need to consider such an innovative teaching approach for building the competence of adult learners.

Keywords - Small Group Teaching Method, Higher Diploma Program, Reflection.

I. INTRODUCTION

This paper is written with the objective to primarily assess the current teaching methods in the colleges of AAU and suggest some changes in the methods of instructing adult learners. The teaching approach used currently in most educational departments in the country including ours is

traditional lecture method. (Handbook for HDP, AAU, and Nov, 2014). Such approach is less favoured by many education experts because it is not taking care of broader views (Mohammed Y.A, 2001). Due to such limitation, most teachers' shifted to a combination of theory based approach and tools in most centers as an innovative

approach of teaching adults effectively. These teaching approaches range from group discussion, seminars, tutorials, case-based or problem-based learning to buzz group instructional models (Steinert Y, 1996). In all, these approaches are believed to enhance student-faculty interactions and improve adult learning (Tiberius R. 1990). In contrast to the traditional large group methods of teaching, small group teaching methods (SGTM) are collaborative and cooperative case based education tools, and its applicability in adult learning is quite effective (Walton H.,1997). Based on the various literature sources, a group is defined as a number of people interacting in a face-to-face situation to generate individual activity as the basis for interaction among all the participants. It is a reasoning process that results in learning, directed at resolving the particular tasks set for the participants (Barkley, et al., 2005).

Accumulated evidence from more than 30-40 years shows that SGTM are superior tools to the old traditional methods of teachings because students learn more, retain their lessons longer and students are usually satisfied. It is suitable for both graduate and undergraduate learners. Because of its being student centered, it is often seen to address educational objectives that emanated from adult learning theories (De Vul R.A, 1994). The idea of SGTM in adult learning theories had gained marked interest in recent years because of its relevance in most teacher education disciplines where the core of teaching process is primarily knowledge and skill transfer (Davis

B.G. 1993). Furthermore, it is problem based learning and thus makes the method essential for all college of education teachers working to build competence in skill and knowledge. Lack of such competence building mechanism can never have been more damaging (Walton H. (1997). The other additional advantage of the small group teaching methods is that it imparts free communication or dynamism between group leaders and among participants (Tuckman Bruce 1965).

II. DISCUSSIONS OF LITERATURE REVIEW

1) Theories: on the basis of the systematic reviews made by the National Research Council of the National Academy of Sciences, it is concluded that evidence from numerous branches of science converge in support of a new theory of learning (13 -9). The emerging view is learning as an active, constructive, social, and self-reflective process. As a result, learners would construct a unique mental representation of the material to be learned and select information perceived

to be relevant and interpret it on the basis of pre-existing knowledge and group interests. In addition, substantive learning could occur in periods of puzzlement and during discussions in which understandings are challenged especially when the process of learning is monitored and controlled by the learners (7, 10-11).

These basic research findings on learning suggest the need for educational environments that learner-centered and knowledge-rich, guided by assessment is a crucial steps for effective learning. It is with this background information that medical educational programs have included case-based or problem-based learning and other small-group instructional models like seminars, case presentations, discussion etc. to support student-instructor interactions, and technology enhanced educational tools (13).

Learning in small groups facilitates the development of students' cognitive processes through their engagement in the active construction of meaning and socially negotiated understanding. In small-group discussion, students are encouraged to articulate what they know and don't know, challenge their assumptions, wrestle with the limits of their understanding, decide how to frame and ask questions, determine what information is needed to answer the questions, and reflect their views in action what they learned. A meta-analysis of 39 studies of small-group learning in university science courses demonstrated consistent effects of achievement (7). According to Westberg (18), SGTM is a tool for generating free communication between members and group leader. In addition, the teaching approach gives the opportunity for members to gain from their fellows, in a type of communication which cannot take place in a lecture hall and often times group leader make positive use of the differences in knowledge and attitudes among participants as they interact (18).

Much of recent curriculum reform in college of education has been fuelled by the belief that learning is enhanced by students' working in group on cases. For instance, in problem-based learning, the successive disclosure of case material is coupled with a period of self-directed study and repeated small-group discussion for purposes of stimulating students' knowledge acquisition, application, and learning skills (14, 18). Other case-based approaches employ a single discussion period using complex case studies, clinical problem sets, or a sequential case presentation that require students to apply what they have learned through advanced reading, concurrent class work, or clinical experience to the understanding and

resolution of the case. All college of education departments described their curricula in terms of active learning methods. In addition, 57% reported using problem-based learning. To the effect, small-group case-based learning continues to be the area of greatest change in medical school curricula (5).

2) Application: Small group teaching method may be used with mature students. It is quite suitable in upper secondary classes, colleges and universities. A big class may be divided into small groups each with a leader and a secretary or recorder. The leader for each group directs the discussion throughout. The instructor moves from one group to another finding out what progress is being made. His/her contribution to the discussion in each group may add some life to the whole discussion. Once the participants are aware of the time factor, they will get focused and concentrate to discuss the major issues. As soon as the time is over, all students come together to hear reports from various groups. In grouping students for such discussions, very large groups are not recommended. The size of the group will determine student participation in the discussion. Students may deliberately avoid participating when groups are very large. In some cases, one or few students may dominate the discussion allowing no time for others to take part. In such cases, to keep the momentum of the learning process, the instructor has to consider the ability and competence of students while grouping. To avoid self-selected experts or shy students which impact negatively the learning process, students of similar interests, abilities and competencies better form a group of their own for active learning.

2.1) Group dynamism: Dynamism is an essential social force whenever people gather in small groups. The dynamism has to pass through sequential distinct stages to orient the leaders, and equip them to make the learning appropriate to the groups. The leader has to deliberately withdraw from being the focus of attention and his/her primary role must be ensuring that all members interact on same foot as well as with him/her, thereby promoting group inter-activity and providing opportunities for participants to express their own feelings towards the point of discussion. According Walton (17), the stages of the group dynamism is slated to begin with forming, norming, storming, reforming and adjourning whereas Tuckman describes the stages of the group dynamism as depicted in Figure 1. Based on Tuckman (16) and Steinert (13) descriptions, the stage of team begins with forming followed by storming, norming, reforming and adjourning phases. These sequential steps mentioned by the

aforementioned authors (16, 13) and as listed below seem to be reasonable steps that take place during effective learning process.

- **Forming:** it is the first stage where the leader gets to know each other.
- **Storming:** as the name implies, it is the stages where confronting and conflict in the group occur.
- **Norming:** the subsequent stage known as honeymoon phase. In this phase group agreement is established and conflict is resolved.
- **Reforming:** also known as performing stage. During this phase, a considerable cohesiveness towards a shared goal, with pleasant fellow-feeling, and a sense of satisfaction is accomplished.
- **Adjourning:** The stage in which the group leader is helping members to gain a realistic perspective about their achievements during the whole process of the sessions. Although SGTm evokes psychological complexes of the participants, leaders or facilitators should focus on any aspect of personal abnormality of group members.

2.2) When to use SGTm method as a major educational method?

In the review of literature (Westberg J & Jason H, 1996; Walten H, 1997), SGTm is affirmed to be conducive for:

- Difficult subject matter, complex facts or involve technical procedures,
- Factual knowledge subjected to reasoning,
- Reasoning, problem-solving and decision-making,
- When interaction with fellows is needed to deepen a participant's intellectual grasp and motivation etc.

Given the enormous advantages of the teaching method, it is sensible to advocate and use SGTm as innovative approaches to implement it in college of education including other institutions in the country where competency in knowledge and skill is required.

Additionally, SGTm has a tremendous addition in resource constrained countries because of the feature that the teaching methods have several advantages (Gerard, et al. 9). Among others, it enables participants to gain a substantial skill and knowledge from their fellows, in a type of dialogue which cannot take place in a traditional teaching method.

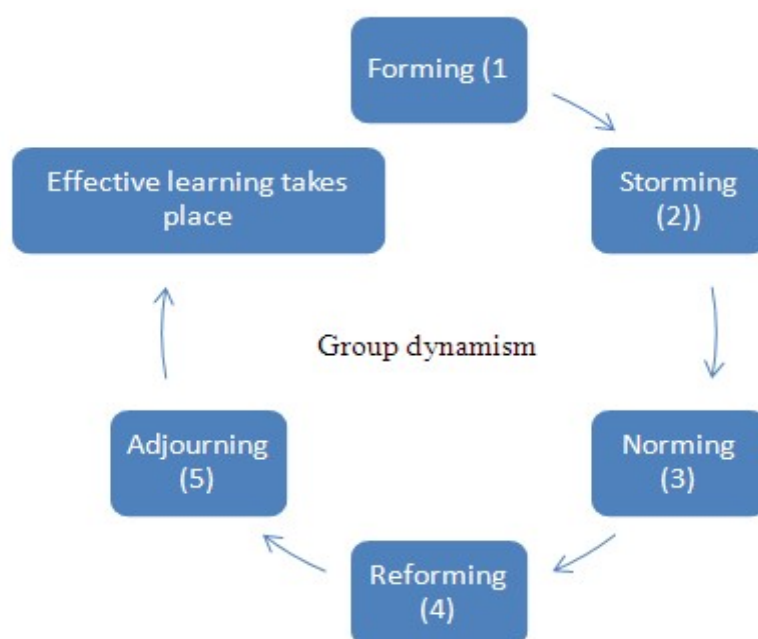


Figure 1: Steps of effective learning

2.3) Strengths and Weaknesses of Group Work

Strengths	Weaknesses
Participants appreciate effective group meetings and they value it for the following reasons: • It encourages social interaction among students and helps them to practice their communication skills. • During the learning process, learners acquire information and can influence the content and methods of their work in a democratic way. • It welcomes opportunities to critical and logical thinking and ability to listening to subject matters discussed. • Learners obtain better understanding of the subject and develop greater ability to assemble and present information. • Learners ask questions, clear up their	The potential disadvantages or limitations of small group discussion methods could be difficulties in creating an interactive group when the group leader is inexperienced: • Require careful planning, more resources and educational skills, and costly (higher teacher-student ratio). • Negative attitude towards learning certain skills may occur when instructor is disorganized or not motivated. • Instructor may not attend all the groups' needs adequately as a result idleness and disorderly may occur. • When the session is dominated by few bright learners, weak learners are discouraged and

difficulties and aided by the personal relationship with the group leader. - Learners become more articulate, speak better in public, with increased confidence and are stimulated to follow the subject further. - Learners obtain instant feedback with their efforts to solve their problem.	deterred from expressing themselves. - Some learners may depend on others in the process of solving group problems. - A more withdrawn personality type of learners may take no part in the discussion, while others dominate. - Bright learners may be bored when group leaders fail to take account of learner caliber.
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2.4) What are the Technical Requirements for Small Group Teaching Methods?

Resource	Participants	Group leader/facilitator
- A suitable room of appropriate size with adequate light and some teaching aids. - A round table may be helpful for participants to see one another and observe their body language and verbal communication. - It is necessary to have as many chairs as the number of learners, so that when one member is missing, the group remains aware of the absentee's potential influence. - Adequate number of skilled facilitators.	- Participation number should not exceed 20. - All learners need to sit in a circle, and be able to see each other. - Eye contact is critical and obligatory during the process. - Learners must encourage one another to express their feelings. - Respect opinions of each learner with harmony. - As much as possible, the group must give chances to the leader's tact when there are aggressors, recognition seekers or bumpers for his intervention.	- The success of small groups depends on the skill of the leader. - Democratic leadership style and serve as a catalyst or a resource person. - Primary role is to explain the task and ensure the group understood their task; ensure necessary logistics are present and functions properly. - Provide stimulus when necessary; review outcomes and explain the progress to the group. - Interfere only when the learning process is constrained. - End the session with the set objectives

3. Implication of SMGT methods

- For subject matters that learners raise their own informally-stated questions,
- Knowledge subjected to reasoning contextually through democratic discussion,

- Examination of attitudinal change and interactive type of discussion,
- Situations such as dealing with the present rapid changes in medical fields of replacing outdated concepts and assimilating new knowledge,
- To counteract the authority-dependence polarity seen in academic and management activities,
- To examine learners their own behavior and understand better how they relate to others,
- To allow learners learn from one another, and enables them witness their impact on other people, patients and professional colleagues,
- To Build a capacity to working in teams, a skill increasingly necessary in professional practice,
- Most importantly, in all medicine field consisting of debate, dialogue and solving problems, to acquire knowledge and skills.

Thus, the implementation of SGTm in the schools as well as other higher education institutions available in the country would enable to produce efficient graduates' who can perform a wide range of expertise in their respective field. Its practical implementation in higher education like Addis Ababa University has to verify the theoretical assumptions suggested. Hence, a qualitative action research

was done on Higher Diploma Program participants of Addis Ababa University where 23 academic staff of public Health and Medical Sciences participated in the academic year of 2018/19. There were one leader and one tutor facilitating the sessions. The characteristics of participants are shown in Table one.

Table 1. Some Characteristics of the participants

Age	Group	28 – 35yrs	36 -45 yrs	Above 45	Total
	Number	8	11	4	23
Sex	Male	6	8	4	18
	Female	2	3	0	5
Teaching Experience	5-10yrs	8(2F)	4 (3F)	0	12 (5F)
	10 and <	0	7	4	11
Qualification	MSc	5(2F)	9(2F)		14(4F)
	MD+Spec	2	2	2	6
	PhD	1	0	2	3
Academic Rank	Lecturer	7 (2F)	9 (2F)	0	16
	Asst, Prof	1	2 (1F)	2	5(1F)
	Assoc.Prof	0		2	2
Main Teaching methods Used		Lecture/Ind. Assignments	Lecture/Ind. Assignments	Lecture/some Discussion	

As shown in the table, there is age mix in the participation though dominated by the younger ones (19 below 45) with few female Teachers (only 20%).about 70% are lecturers in rank, with only three terminal degree holders. The main method of teaching is lecture because they had no training in teaching. They said: *"They teach as*

they were taught." (Feb 28-HDP Participant first day comment about their teaching).

The additional purpose of this paper is, thus, to test primarily reviewed theories on SGTm by applying it to teaching methods of adult learners of the HDP participants of AAU and document their strength and limitations from

both theories in the literature and reflections gathered from adult participants.

Problems of Adult Learners in HDP Sessions

During the first three HDP Wednesday sessions that took place on February 28, March 7 and 14, 2018 the introduction part and topics on ‘Teachers as Reflective Practitioners’ were presented to participants dominated by the leader’s lectures. Thorough observation on participants reaction was done supported with agreed upon cell phone video record on the third day, used only for identifying problems observed during the session. The observation supported by video record showed that there was boredom expressed in terms of yawning, passivity, inactiveness and reluctance to express reflections. During the three sessions thirteen participants (3, 6, and 4 each day) left early during the sessions, some after an hour, giving various reasons for leaving.

During the fourth session there was an open discussion on the teaching methods used which was mainly lecture either by the leader or the tutor. The reactions gathered revealed that they did not learn much. Some of the reactions recorded included the following:

“..Worthless forced act and waste of our valuable time...”.

“...teacher dominated, boring, took longer time, non-educative ...”

“...I do not see any use in the sessions for there is no new trick in it to teach the old dogs.”

(March 21/2018 4th session HDP participants’ reflections, 04:30pm)

Hence, the quite often used lecture method failed to achieve the stated learning outcomes because the adult learners considered the learning environment to be boring and non-educative dominated by passivity. This clearly showed that the teaching methodology needs change with active learning methods. Therefore SGTM was selected among other active learning methods and employed as intervention in the HDP learning sessions.

III. METHODOLOGY

The methodology used for this paper is qualitative and included review of literature that have addressed different teaching methods, particularly the Small Group Teaching Methods (SGTM), in both developed and developing countries. The approach adopted to analyze the various sources of information was SWOT analysis from the

perspective of the pros and cons of SGTM. Then the results were cross checked as applied to teaching in HDP of AAU.

The SGTM intervention in the HDP of AAU was made from February to August 2018. The HDP is a 16 weeks program where participations have four hours sessions weekly.

The HDP is prepared by AAU to train all academic staff members on Modularization, Teachers as Reflective Practitioners, Subject Area Teaching Methodologies, Assessment, Action Research and Field Based Learning. There are modules prepared where participants are expected to exercise reflective activities including self-assessment. The writer happened to be HDP leader for the stated group and observed problems of adult learners at the beginning, and gathered reflections at the end of the sessions about the advantages and limitations of SGTM. The groups’ understanding expressed during whole group sessions and repeated-common-reflections were noted.

During the first three sessions of the HDP in February and March Problems of adult learning were identified and then SGTM were applied in its different forms like: group discussions, group work presentations, buzz-group, debating in groups, group action research report, brainstorming and reflection sessions. The training handbook is full of reflective activities done individually at home and discussed in groups during the 13 weeks sessions. The group numbers varied between seven and three, but usually five.

Group leadership and reporting followed the rotation method where each group member got a chance to play the two roles.

IV. FINDINGS

According to Walton (17), a group is defined as a number of people interacting in a face-to-face situation to generate individual activity as the basis for interactive learning among participants. It is a reasoning process that results in problem solving, directed at resolving a particular task set for the learners. The group session generates their own issues and work productively towards their shared goals. About eight to 12 is an optimal number, allowing all the participants to be regularly active. Twenty is perhaps the maximal size which can work effectively. For instance, most of traditional methods of teaching contain large groups which can form several small groups.

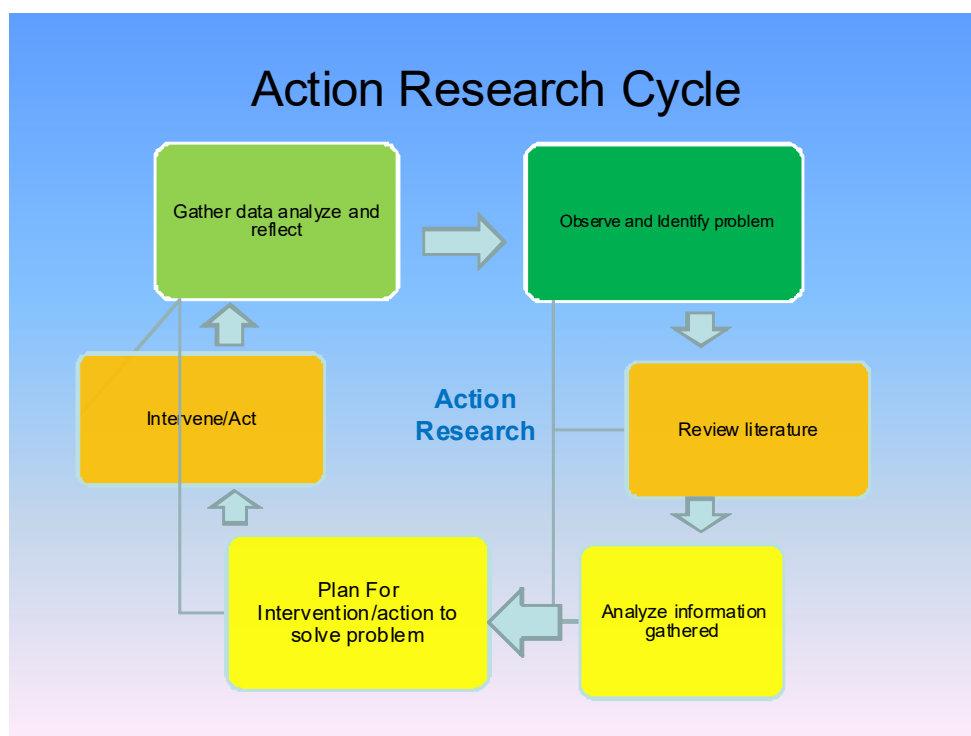


Figure 2: Action Research Cycle

SGTM was properly planned and applied in the HDP of AAU for the 13 sessions. The last session reflection of the 19 participants (four dropped out for various reasons) on the use of SGTM pointed out the following:

1. *"It helped me to air out what I believed to be true and gave me a chance to correct my misconceptions...I learned a lot from my colleagues..."*
2. *"The group interaction about our teaching profession gave the enforced HDP enjoyable life that we have been looking forward to the weekly HDP session lately..."*
3. *"The Group discussing was a vital method that kept all group members to be active and focused. Without it the sessions would have been boring and non-fruitful."*
4. *"It gave me a chance to learn from my colleagues. It created a forum for discussion about teaching and the education system, where we commented and suggested possible improvements."*

5. *"It keeps us busy and alert because we have to listen, react and reflect all the time. The problem is that very few were dominating the floor. Sometimes either the topic or the presenter may not be liked."*
6. *"It has affected my classroom action and I have changed for the better. Application of SGTM in my class has rekindled active participation of most of my students..."*
7. *"It is good. But shortage of time may be a factor that affects its wide application"*

The above reflections seem to show the turning point taken by HDP participants who primarily considered the learning sessions to be boring ended up saying that it was an enlightening, looked-forward activity. Additionally the writer has observed heated argument that occurred at times taking longer hours than the scheduled time. The professional friendship observed among the participants of the HDP also seems to be a by-product of the group work done together.

In conclusion, a small group teaching approach is instrumental if the subject matter is tailored and tuned to the desired goals when learners are adequately coached and well-connected and focused to the subject. Nonetheless, it is partial and defective if the sessions are not accompanied by reflection, and deliberation. Hence, what was observed after intervention of SGTm in the HDP of AAU seems to verify what the theories recorded in the literature. Because of the enormous benefits obtained from the method after proper application, it seems justified to suggest to all teaching colleges of AAU to consider application SGTm as a very useful teaching approach for adult learners of higher education.

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