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Original Research

Team-based learning: A new approach to enhance quality Education in higher Education institution

Kebede Nemomsa
College of Education and Behavioral Studies, Nekemte, Wollega University P.O. Box 395.

Abstract

This study investigated the current practices, impacts and challenges of team- based learning in Wollega University. The study intended to compare the practices of different colleges under Wollega University. The researcher used mixed approach and survey method to investigate the issue. Data was gathered from college Academic issue coordinators, Department heads, instructors and students through survey questionnaire, in-depth interview and focus group discussion. Purposive and simple random sampling techniques were employed to select the sample population. The main findings of the study indicate that, in all colleges, students were arranged in to 1-5 teams; most of the students were engaged in team - based learning modality, significant number of teachers were implementing this strategy of learning as part of their regular classes. Majority of the department heads and instructors agreed that the interdependence among team members depends on the interest and view of team leaders. Most of the time when two or more bright learners grouped in the same team, they develop an interest to work together, share responsibility and learn from each other. All students in all colleges have positive attitude towards team –based learning. However, the view of instructors was different from students' attitude (some have positive and others negative attitude). Peer evaluation is not known in all sampled colleges (even in the evaluation policy of the university). Therefore, top management of the university, college deans and department heads should be committed to support and follow up the practices of TBL through supervision, training and facilitating discussion at all levels. All university instructors should implement incentive system in their courses to motivate all team members to engage in all team activities. This incentive mechanism also incorporated in the assessment policy of the university, To increase the positive interdependence of students, and students' success team leaders should assign activities for individual team member and take measure on those who do not discharge their responsibility in conjunction with course instructors.

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***Corresponding Author:**

Kebede Nemomsa

E-mail:
kebedensaqeta@gmail.com

INTRODUCTION

Quality teaching and learning has taken center stage in the on-going educational reforms in higher education as promoting learning has become a major issue of concern to the 21st century university (Schleicher, 2011). Creating instructional conditions that promote quality learning are challenging for many higher education teachers (Haggis, 2006) since they commonly rely on the lecture as their main form of teaching (Fink, 2013). The situation is compounded in the developing countries, particularly Africa because of rapid expansion of higher education, difficulties with accessing resources, and the constraints associated with internal capabilities (Schweisfurth, 2011; Teferra & Altbach, 2003).

If teachers are not supported to change their instructional practices, it is more likely that many of the challenges they face will remain too great to overcome (Ramsden, 2003). To cope with these constraints and promote teaching quality, the primary focus needs to be on understanding the complexity of teaching and learning (Loughran, 2013), and transforming teachers attitudes and beliefs that change work habits (Goos, Dole, & Makar, 2007). A more realistic strategy may be the establishment of new pedagogies that are adaptive to local needs and constraints while at the same time providing the necessary support for teachers during implementation (Penuel, Fishman, Yamaguchi, & Gallagher, 2007).

Various pedagogic approaches exist to promote quality teaching so that teachers can transform classrooms into more engaging and more supportive learning environments, and one such approach is structured small group learning. Structured small-group instruction, here referred to as team – based learning (TBL) pedagogy, provides teachers with an alternative toolkit, to help them effect such changes (Smith, 2006; Yamarik, 2007).

Team-based learning was developed by Dr. Larry Michaelsen, in the late 1990s, to address the challenge of teaching large business courses (Michaelsen & Sweet, 2008; Michaelsen, Fink, & Knight, 1997). Since that time, the team-based learning concept has been modified and successfully used in a number of educational settings. Team-based learning is a highly learner-centered approach in which student teams engage in meaningful, problem-focused tasks. Team-based learning has been extensively utilized and evaluated in medical education (Haidet et al., 2012; Parmelee, Michaelsen, Cook, & Hudes, 2012).

Team-based learning (TBL) is defined as set of instructional principles designed to promote the effectiveness of lectures on small groups working independently in large classes with high learners. Larry Michaelsen is the father of this approach. He had the idea because he wanted to use classroom time for students to solve the problems they would find in the real world. When students work in small groups, they are required to communicate and learn from each other, and actively engaged in the task. They are exposed to perspectives different from their own and, thanks to that, they teach more effectively (Michaelsen et al, 2002).

A team evolves out of a small group that works together for a period of time and over several sessions. A team is different from a small group because it is characterized by a high level of trust among the members and by a commitment to the welfare of the group. A group becomes a team when the members need spent time interacting together, resources, a task becomes a common goal, and, lastly, they need frequent feedback on performances. If all these conditions are present a team is capable of working effectively and of successfully achieving goals, each member can endure a high level of individual effort and they can challenge each other without taking offence, because they appreciate honest communication.

Team-based learning (TBL) attempts to foster effective group interaction by keeping students in the same group throughout the semester and utilizing collaborative activities daily in class. In terms of team effectiveness, the TBL literature tends to focus on team size and regular interaction as keys to team success, emphasizing team sizes of 5 to 7 students and daily in-class interaction (Michaelsen et al 2002; Michaelsen and Sweet 2008). In such a context, "teams" become distinct from and more effective than "groups." Over time, as students begin to trust each other and develop a commitment to the group, the group becomes a team (Michaelsen et al, 2002).

There are two keys to TBL's effectiveness: (1) TBL shifts the focus of instruction away from the teacher as dispenser of information and instead places the focus on students actively engaging in activities that require them to use the concepts to solve problems, and (2) every aspect of a TBL course is specifically designed to foster the development of self-managed learning teams. Thus, in TBL classes, students are actively engaged with each other as they attempt to apply course concepts to solve authentic problems. Further, to the extent that its practices result in the development of effective, self-managed learning teams, TBL is far more powerful practical for fostering both engagement and learning than is possible with either individual interaction between the instructor and his or her students or even other forms of in-class, small-group work. These outcomes are possible only because, once developed, the teams provide a powerful intellectual and social foundation for dealing with genuinely challenging problems (McInerney & Fink, 2003).

Developing effective and self-managed teams is absolutely critical for TBL, while self-managed teams are not generally an objective for the other approaches. Thus, the TBL instructor's role consists of creating conditions in which teams will develop the ability to work effectively and independently. There are three critical conditions for creating effective self-managed teams: (1) providing resources (that is, permanent and strategically formed 5-7 member teams whose members are explicitly accountable for pre-class preparation for the in-class group work), (2) using group tasks that require making decisions and provide the opportunity for immediate performance feedback and (3) ensuring that there are incentives (both extrinsic and intrinsic) for individuals to prepare for and participate in group activities and for groups to do high-quality work.

Team – based learning has been popular in the area of engineering education, Engineering programs have long been synonymous with teamwork, but the TBL methodology had been used in only a small number of engineering courses in various institutions, such as the University of Oklahoma, University of Kentucky (L. Michaelsen, June 2008). TBL in engineering schools began to see more widespread implementations in 2004–2005, with the University of British Columbia's (UBC) second-year mechanical design course (Ostafichuk and Hodgson, 2005) and a fourth-year construction management course (Froese, 2005).

In Ethiopia the name "1-5change army" is given to team- based learning. Basically, Ethiopia has adapted this transformational tool from experience of countries like china and south Korea which were found effective in using 1-5 grouping. Currently Ethiopia has been implementing 1-5 change armies in all sectors including health education and farmers. Initially, the idea of team-based learning (change army) emerged from military principles; it was assumed that as soldiers work together cooperatively for defending the country. Based on this assumption 1-5 change army has been implemented at all levels of education including primary, secondary and tertiary educational institutions. This cooperative base groups are lasting for a year and consists of heterogeneous learning groups with stable membership whose primary purpose is to allow members to give each other

a support, encouragement and assistance they need to succeed academically. Currently the name is changed in to Education and Technology team.

Ethiopia introduced CL strategy as a means of instruction in all levels of education from upper primary schools to colleges and universities in 2010 (Woldemariam & Girmay, 2015). Since then, all public schools and universities have been practicing CL by organizing their students in a team consisting of 5 members from different academic achievements (higher, medium and lower achievers), sex (male and female) and race in each team.

Statement of problem

Team – based Learning (TBL) is a form of small group collaborative learning, which can also be extended to larger class settings. The first step in understanding Team Learning is to realize that the primary issue this approach addresses is one of Empowerment in the sense that empowerment means, "to give the means, ability, or opportunity to do". TBL is a pedagogical model that shifts responsibility for learning to the students (Michaelsen, 1992; 1994).

A formal 1-5 education development army approach that Ethiopia has currently implementing at all educational levels nationwide in which students and teachers grouped in to groups of five members led by one is relatively categorized under the category of 1-5 team – based learning described by different scholars.

Since its development in the late 1980s, TBL has been used extensively by educators who have observed improved performance of their students in areas such as attendance and engagement, as well as learning gains in course content understanding, application, and critical thinking (Michealsen, Knight, & Fink, 2004). Within several years, several publications indicated the positive academic and non-cognitive outcomes of TBL in medical education Schools of nursing, veterinary medicine, physicians' assistants, and other allied health professions programs have also developed TBL within existing curricular structures (Dunaway, 2005) .TBL in engineering schools began to see more widespread implementations in 2004–2005, with the University of British Columbia's (UBC) second-year mechanical design course (Ostafichuk & Hodgson, 2005) and a fourth-year construction management course (Froese, 2005).

A study conducted by Michaelsen, Davidson and Major (2014) on Team-Based Learning Practices and Principles indicates that team-based learning has a common goal of optimizing student learning, helping students develop higher-order thinking skills, and improving learning process and products, engage students in learning and, in turn, improve educational outcomes. Another study conducted by Fred Wiegant, Johannes Boonstra, Ton Peeters and Karin Scager, 2012 University College Utrecht and Utrecht University asserted that team-based learning leads us to recommend it as an effective and appropriate strategy for teaching students. Complex and challenging assignments in the context of TBL enable undergraduates to stretch their skill, confidence, and motivation to perform better than they imagined they could. The frustrations they inevitably feel in facing assignments that seem beyond their reach are mitigated by the support of their groups, and, by turning to each other rather than to the teacher for guidance, they experience the world of research as it is experienced by graduate students and professionals in the field, giving them and also their teachers a high level of pride and satisfaction.

The study conducted by Efrem Gulfo and Oukula Obsa (2015) on students' attitude towards 1-5 peer learning indicates that working in team helped the learners to understand the subjects more clearly than individual learning making learning interesting and enhancing their socialization. In Wollega University the philosophy of 1-5 team learning

has been implemented. The implementation of 1-5 team – based learning has investigated by higher Diploma trainees by using an action research project 3 years ago. The result of these findings indicated that there is no environment facilitated by the university to provide group reward that foster positive interdependence among group members, instructors do not provide materials for learners in advance before the classroom discussion. However; the practices, the outcome and evaluation mechanisms of this teaching approach has been not thoroughly investigated yet. The study focused on investigating the practice, impacts and challenges of team – based learning. Therefore, this study was designed to find out answers to the following research questions.

- To what extent instructors and students are implementing team-based learning strategies in their subject matter?
- What are the perceived effects of teams - based learning strategies on students learning?
- How instructors are assessing and grading the academic achievement of learners through team – based learning strategy?
- What are the major challenges influencing the in implementation of team- based learning in Wollega university?

General objective

The purpose of the study is to investigate the practices, effects and challenges of 1-5 team – based learning and recommend alternative solutions to the concerned bodies so as to effectively implement the new approach in the class room and outside the classroom.

RESEARCH METHODOLOGY

RESEARCH DESIGN

The study is a mixed approach in its nature and design. Hence, it used survey method as it helps the researcher to make investigation with narration of events and drawing of conclusions based on the information obtained from representative samples of the target population (Kothari, 2004). Since this study aimed to gain deeper understanding and fuller description of the status and practices of teams learning in Wollega University, the interpretive and positivist paradigm of research (mixed approach) was found to be the most appropriate.

Source of Data

In this study, primary sources of data were used to collect the pertinent information. Primary source of data were Academic issue coordinators, instructors, students, and Department from the university main campus and branch campuses through questionnaire, in-depth interview and focus group discussion.

Population, Sample Size and Sampling Techniques

The population of the study included Academic issue coordinators, department heads, instructors and students of the university from the three campuses. from the total population of this research, students (N=273,), instructors (N=96), Academic issue coordinators and department heads, (N=34), a sum of 401 was the sample of this study from the three campuses of Wollega university. In this study purposive sampling technique was employed to select sample colleges and interview and focus group participants and random sampling technique was used to select the departments and instructors involved in the study.

To investigate practices, effects and challenges of team- based learning in Wollega University; I used a descriptive survey research design. Three colleges were selected for the study, where a significant volume of data was acquired through in-depth interviews, focus group discussion and survey questionnaire.

Wollega University has three campuses and eight colleges, within these colleges there were a number of departments and programs. These colleges have different characteristics and found at different locations. For this study social science (Ghimbi campus), Agriculture (Shambu campus), Engineering Technology (main campus) and health science colleges (main campus) were selected. purposefully to compare the practices of team –based learning in these colleges.

Instruments of data collection

Questionnaire

The survey questionnaire was primarily meant to provide baseline data on what is prevailed at the higher education institutions in terms of the practices of team – based learning, the outcomes of team – based learning and the challenges that HEIs faced in the implementation of the strategy. Both the close and open-ended questions were used to tap perceptions and views of instructors, students and department heads from Wollega university Engineering and Technology college, Health science College, Shambu campus Agricultural college and Ghimbi social science college. This data collection instrument was prepared by the researcher.

Interview and Focus group discussion

Most of the data from the participants were collected through interview and focus group discussion. This was because it was believed that relevant and in-depth data concerning Team – based learning would be obtained. The interview was held with individual respondents to let the participant feel free to speak their practices, experiences and their opinion about Team – based learning. Academic issue coordinators and department heads were involved in interview and, Students team leaders participated in group discussions from all sample colleges.

Methods of Data Analysis

For this study, quantitative design served as 'main' and qualitative design as 'subsidiary'. Hence, both qualitative (thematic and content analysis) and quantitative (descriptive analysis) approaches were used. Thematic data analysis for the themes emerged from in-depth interview and focus group discussion, content analysis for the data received from open-ended questionnaires and descriptive statistics was employed for quantitative data. Finally, the data obtained from the quantitative and qualitative instruments are combined. During data analysis, codes like AC1,2, 3 for Academic coordinators, DEP 1, 2, 3,4 for department heads from four colleges and TL 1, 2,3,4 for student team leaders were used.

Results and Discussion

The purpose of this study was to investigate the practices, effects and challenges of team – based learning in Wollega University. A total of 88 instructors, 377 students and 22 academic issue coordinators and department heads involved in the study. A total of 90 and 395 questionnaires distributed to instructors and students respectively. The return rate was 88 (98 %) for teachers and 377 (95 %) for students. Moreover, 19 department heads and 3 Academic issue coordinators were interviewed and focus group discussions made with students' team leaders. For this study both qualitative (thematic data analysis) and quantitative (descriptive analysis) approaches were used. Thematic data analysis for the themes emerged from in-depth interview and focus group discussion and for the data received from open-ended questionnaires, descriptive and inferential statistics were employed. The results of the study are described below.

Practices of team – based Learning

According to Smith and McGregor (1992), group work is the broader term encompassing "a variety of educational approaches involving joint intellectual effort by students or students

and teachers together" (p.10). In practice, this joint intellectual effort very often entails "students working in pairs or small groups to achieve shared learning goals" (Barkley et al., 2005). The same view is supported by Tyson (1998) when he argues that the defining characteristics of most of group-based environments are that group members interact with one another, adhere to a set of values, roles and norms which regulate their interaction and stick to a common goal. From the definition of group work, it would make sense to proceed by trying to understand many other issues about group work and how these shape learning. Some of these issues are related to the confusion that exists between group and team work as well as collaborative work and team work. Other issues concern group types and sizes, and the common problems of working in groups and solution avenues.

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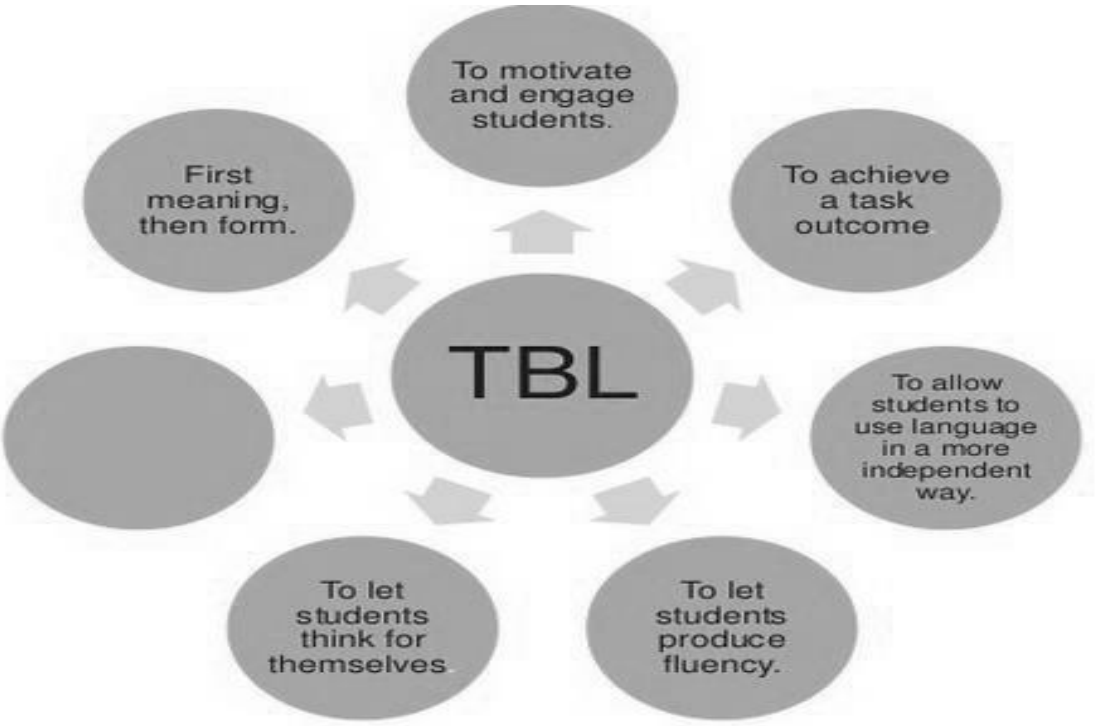


Figure *1. Process of team-based learning (Hrynchak and Batty, 2012).*

In TBL**,** three principles should guide the instructor in creating teams: never use student-selected teams, spread the wealth of resources across teams (for example, students' experience, ethnic diversity, skills, attitudes), and make the selection process transparent. When students learn that their assignment to a team is based on a principle of resource wealth distribution, they value their team members from two perspectives. Team formation in undergraduate courses can still be a contentious issue for students (and therefore instructors). Students often suggest using student-selected teams, but Brickell, Porter, Reynolds, and Cosgrove (1994) suggest that student-selected teams are often just "social entities" and show

that these teams underperform when compared to instructor-selected teams.

It was revealed that there have been practices of team –based learning strategy in all colleges of the university. According to the view of the majority of the respondents, in team – based learning students could be arranged as 1-4, 1-5, 1-6 and 1-7 members because students withdraw from the university, "F" cases registered for the course and the numbers of students in the classroom also not appropriate. Department heads had a mandate to organize learners in to teams-based learning on their academic achievement at the beginnings of the academic year. The formation of teams in team – based learning was according to the framework given by Ethiopian Ministry of Education, academic achievement was the only criteria to arrange students and select team leaders. However, ethnic group, students' presentation skill and students' resources and materials like laptops which are very essential to do home assignments and projects in a team were not considered.

Majority of the interview participants from Agricultural and social science college (Shambu and Ghimbi Campuses) indicated that the practices of team – based learning in the classroom was not adequate, most instructors use traditional methods of teaching than using teams – based learning pedagogy, still resistance and hesitation from instructors to transform traditional classes in to team –based learning environment. Still lecture was their primary approach to teaching.

One KI (DEP 3) from Shambu campus states that:

> *Still lecture method is dominant because most of the time because of shortage of instructors, 50% of our courses were covered by guest lecturers, guest lecturers choose lecture method to complete the course within a short period, we can't force them to use team – based learning strategy (in the classroom , for project work) . Besides, some courses have many chapters; instructors are in a hurry to cover the course than using TBL in the classroom. There is no conducive environment to support students in team-based learning (adequate offices, intern ate access are not available).*

The research finding also indicates that Team – based learning has discouraged the implementation of other active learning approach in the classroom. When instructor wants to conduct group discussions in the classroom, they perceive as one way of grouping students in the classroom that is 1-5 teams. If there are group "A", "B", "C" and "D" in the classroom, there was no interaction between the four team members throughout the semester, even the interaction with the whole classroom was minimized. This means that team – based learning discouraged other active learning strategies in the classroom like pair work, pyramiding, crossover, hot seat and others but encourages project and assignment works out of the classroom because most of the time instructors use team-based learning than other methods of teaching.

Though the degree varies, team – based learning used outside the classroom which focuses on project work and assignments, in Engineering Technology and Health Science College two or more projects are expected through team based learning each semester for each course, they were expected to work together in a team. In social science and Agricultural College one project sometimes two projects are expected from them each semester for each course, which means the practices of team work outside the classroom was common in Engineering and Health College than social science and Agricultural colleges. The participation of students in team project work or assignment .Very few students/1or2/ work the project and assignments the other team members were dependent, instructors follow up and support

during team project work was also low, instructors facilitate presentation for 1 or 2 team members, there was no formal mechanism to follow up the participation of students on project work and Team members were not responsible if they are not participate in team project work/ assignment, there was no accountability .

The issue of Positive interdependence among learners and individual accountability was raised for the focus group interviewees. Positive interdependence is the belief that the individual is depends on the contributions, inclusion and success of the others in the group in order to be successful. Those with strong sense of positive interdependence believe that there is value in learning from the idea and contributions of others and that group members sink or swim together. Majority of the department heads, team leaders and instructors agreed that the interdependence among team members depends on the interest and view of team leaders. Most of the time when two or more bright learners grouped in the same team, they have an interest to work together, share responsibility and learn from each other, team members were accountable to peers. When the number of bright learners in the team is only team leader their interest to share knowledge and learn from each other decreases or less because team leaders do not want to work with slow learners, he / she want to carry out all assignments or activities by themselves.

One KI (DEP 1) stated that:

> The interdependence of team members increases when students have ample time but when project or assignment is given to the team members and tests or examinations are approaching, all responsibilities left to team leaders, team members do not want to take responsibility, they do not want to come together, they need ready made things or copy from others work. As a result, students who are understandably concerned about the grades must feel that they are individually accountable for their performance in groups in order for 1-5 team – based learning to be successful, one student does all the work while the rest of the group members gets a free ride

Evaluation Mechanisms used by instructors

Performance Evaluation (PE) in the Team Learning Model is based on a grading system containing three essential components. Individual performance, group performance and peer evaluation. The group performance component provides incentives to support the development of group cohesiveness and to justify putting effort into group work. The peer evaluation solves two important motivational problems. One is providing an incentive for participating in group discussions**.** Second it tends to remove students' fear that they will have to choose between getting a low grade on the group assignments and having to carry group work (when other group members fail to do their fair share). The final decision on the weight of each of these components (i.e., Individual Performance vs. Group Performance vs. Peer Evaluation) should be a function of three factors.

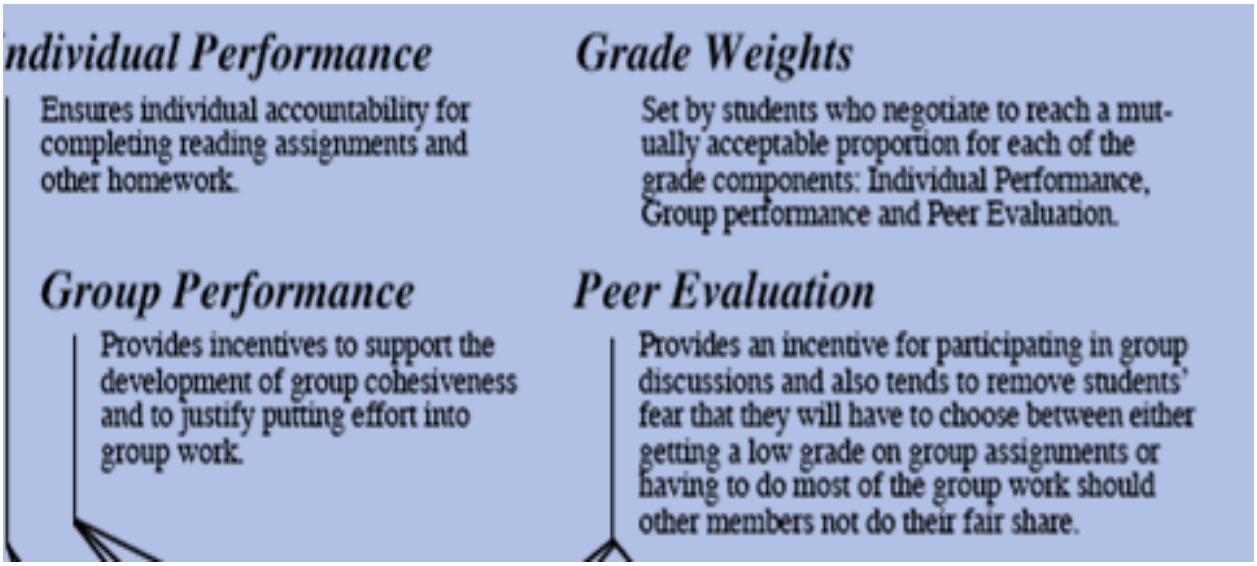


Figure. 2. Students grading system framework in team-based learning

Table 1: Evaluation of students' academic performance in team – based learning perceived by students and instructors

	Respondents	N	Mean	Std. Deviation	Std. Error Mean
Some instructors facilitate presentation in the classroom	Instructors	96	3.1000	1.00525	.10260
	Students	268	3.9328	.99961	.06106
The instructor identify those students who didn't participate in project work	Instructors	96	3.1042	.30708	.03134
	Students	268	2.0000	.00000	.00000
The instructors rewards those students who contribute more by giving additional marks	Instructors	96	1.0521	.22336	.02280
	Students	268	1.0000	.00000	.00000
The instructors use peer evaluation to identify non-contributing team members	Instructors	96	1.2188	.44017	.04492
	Students	268	1.1343	.34164	.02087
Instructors give the same mark for all if their name is written on the project	Instructors	96	3.6042	.58901	.06012
	Students	268	3.4664	.49980	.03053
There is no mechanism used by the instructors to identify those who contributed	Instructors	96	4.0000	.95145	.09711
	Students	268	3.9328	.99961	.06106

The above table 1 indicated that there is no significant mean difference between instructors and students in items 1, 3, 4, 5 and 6. Significant mean difference between the two groups observed on item 2, instructors identify those students who participate on team – based learning particularly those who participate in project and assignment works. Instructors Mean score is 3.1and students Mean score is 2.0, which indicates, instructors agree that they could identify students who actively engage on project and assignment

works and those who didn't participate but students disagree with the issue. The mean score of instructors and students on item 1, 3, 4, 5, and 6 was almost similar. some instructors facilitate presentation in the classroom (M= 3.0 and 3.9) which is undecided and agree ,the instructors rewards those students who contribute more by giving additional marks (M= 1.0 and 1.0) which is strongly disagree , the instructors use peer evaluation to identify non-contributing team members (M= 1.2 and 1.1) which is strongly disagree and disagree , instructors give the same mark for all if their name is written on the project (M = 3.6 and 3.4) and there is no mechanism used by the instructors to identify those who contributed and the non – contributors (M = 4.0 and 3.9) .

From the above data one can infer that, some instructors facilitate presentation in the classroom for class work, projects and assignments, The instructor do not identify those students who didn't participate in project work, the instructors didn't rewards those students who contribute more by giving additional marks, the instructors were not used peer evaluation to identify contributing and non-contributing team members, instructors give the same mark for all if their name is written on the project or assignment and there is no mechanism used by the instructors to identify those who contributed and the non – contributors. This agrees with the research findings of Ashraf that team-based learning in the classroom does not always appropriately simulate the situation in the workplace and the result is that less motivated students may receive better grades and productive students receive lower grades, relative to the level of effort expended. Ashraf also questions whether group projects result in students learning new skills, given that students often "divide and conquer" components of projects, working on the section of the project that they know best.

The researcher has raised the issue of how the instructors assess the performance of students during team work, particularly for projects /assignments? Is there peer evaluation for project/ assignment works? Which type of score is higher to grade students' performance (individual score or team score)? The data from interview with academic staff and focus group discussions with students' team leaders indicated that in all campuses and colleges' individual performance evaluation (individual projects, tests and final examination) and team projects /assignments were common evaluation strategies employed by instructors to determine individual student grade. Peer evaluation and team test were not practiced in all colleges, but the number and marks of individual and team projects varies from college to college. In Engineering technology and health science college areas, instructors give more attention to team projects than individual projects/ assignments (3- 4 projects for a single course) and in social science and Agriculture more attention was given to individual tests (1-2 projects / assignment for a course), some courses have no assignment or projects at all. If there is presentation for team assignment / projects, instructors use different mechanisms to identify learners who contributed and are not contributed for team success otherwise, if there is no presentation for the projects, all team members get equal marks, there was no mechanism to identify those who are engaged on team work /projects or not. As stated by majority of the interview participants from all colleges, continuous assessment accounts 70 % and final examination accounts 30% to grade students' performance which is in line with the university assessment policy. From this 70 % of students score, the highest score was team project/ assignment in the case of Engineering and health science college areas and the lowest score was individual score. However, in colleges of social science and Agriculture individual tests and quizzes accounts the highest mark out of 70 % and projects have low score.

In general, the research finding of this study indicates that team performance and individual performance were the two most common evaluation mechanisms used by university

instructors in all colleges. Peer evaluation and team test is not known in all sampled colleges (even in the evaluation policy of the university). Team test also not widely practiced by instructors in all colleges of the university. This research finding is against what the literature says and other research finding indicated or against the recommended grading system framework.

Perceived impacts of team-based learning on students learning

Research has shown positive outcomes including the development of critical thinking skills, team work enhancement, better quality of in class discussion, as well as optimal learning outcomes.

Table 2: Mean ratings of Academic staff concerning perceived outcomes of team – based learning

No.	Effects of 1-5 team – based learning		Test value = 3			
			Mean	SD	TV	PV
1	TBL Increased students relation ship and interaction	Instruc studen	1.8 1.5	.37 .49	5.0	0.0
2	Increased students mastery of the course content	Instruc studen	2.5 2.5	.50 .49	0.87	0.38
3	Increased students participation in the classroom	Instruc studen	2.5 2.5	.50 .49	0.87	0.38
4	Learners ability to be confident& contributed in the classroom	Instruc studen	2.5 2.5	.50 .49	1.0	0.31
5	Encouraged learners to work together in a team	Instruc Studen	2.8 2.3	.37 .49	5.0	0.0
6	Promoted students communication skills	Instruc studen	2.8 2.5	.37 .49	4.9	0.0
7	increased the performance of learners	Instruc studen	2.6 2.3	.47 .4	6.0	0.0

**p > 0 .05; in item 2,3,4 and P< 0.05 in item 1,5,6,7*

As depicted in Table 7 above, the majority of the academic respondents in the four colleges (M=1.8, .37) agreed that TBL strategy did not increase students' interaction to work together, (t =5.0, P <.05. At the same time teachers and students' respondents did not believe that TBL Increased students participation in the classroom (t =0.87 , p >0.05) which means there was significant differences between the responses of the two groups . Moreover , respondents argued thatTBL had no positive impact on Learners ability to be confident& contributed in the classroom. Since the other items 1, 2, 3, 4, 5, 6, 7 mean score were not higher than hypothetical mean (which is 3 or undecided) verifying that TBL had no impact on the issue of encouraged learners to work together in a team, promoted students communication skills and increased the performance of learners. From the data I can infer that university instructors agreed that TBL had no impacts on students learning.

In addition, an interview and focus group discussion was made with college academic issue coordinators , department heads and team leaders regarding the outcomes of students TBL. Majority of the respondents agreed that students team-baased learning created an opportunity for almost all learners to graduate from the university including slow learners (increased the number of graduates from the university) in team based learning students academic achievementswas high (high academic achievements observed) , the issue of "dependence" was seriously raised, as aresult of TBL students particularly slow learners developed dependence on bright learners .Students used 1-5 team – based

learning for conflict resolution; support each other when they face economic problems. On KI (AC 3) during group discussion stated that:

> *Students use 1-5 Teams to solve conflicts among themselves, support each other when they face economic problems. For example, in our college 1-5 teams opened a bank account, they collect money from team members and put in their Bank account, this would help them to support each other whenever they face a problem. In terms of knowledge, team brought nothing in steady students developed dependence; they developed the culture of coping assignments and projects from others. Team- based learning is killing generation and quality education.*

Many studies conducted on TBL indicate the positive outcomes of the approach. For example, the study conducted by Nadia Rania, Laura Migliorini1 and Stefania Rebora (2015) shows that the use of small groups in general and, more specifically of TBL, can encourage four kinds of learning. He underlines that the employment of small group activities can help students in the initial understanding of the content and also to enable the learning of the contents by applying them. Furthermore, small group activities offer to students many chances to better understand the content by working on assignments that require them to use their knowledge. Secondly, small group teaching processes provide the opportunity to learn how to apply the course material, by both a qualitative and quantitative increase in their ability: a quantitative rise because of the large amount of time spent on task; a qualitative rise resulting from the ability to solve increasingly difficult problems. Finally, grading the group work is an incentive for the teams to spend time and effort in doing their best to produce high quality outcome. The third kind of learning that is enhanced by benefits from small group teaching is the development of team skills; giving feedback about individual and group work makes students aware of the quality of their work, their learning and how well they are working together as a team. Lastly, the use of small groups operates in helping students to understand the value that teamwork can have in solving complex problems. This study contradicts with my study.

Even though , the effects of TBL approach on students learning and Academic achievement was debated between Academic staff and students, significant number of the academic staff of all colleges argued as team based learning brought nothing on students learning but data received from students through questionnaire and focus group participants agreed that TBL increased students classroom participation .team based learning provided a large learning benefit for low achievers and higher achiever students . Higher achieving students improved their knowledge and performance due to their interaction with different materials (during projects and assignment work) and slow learners got the chance to complete their education from the university.

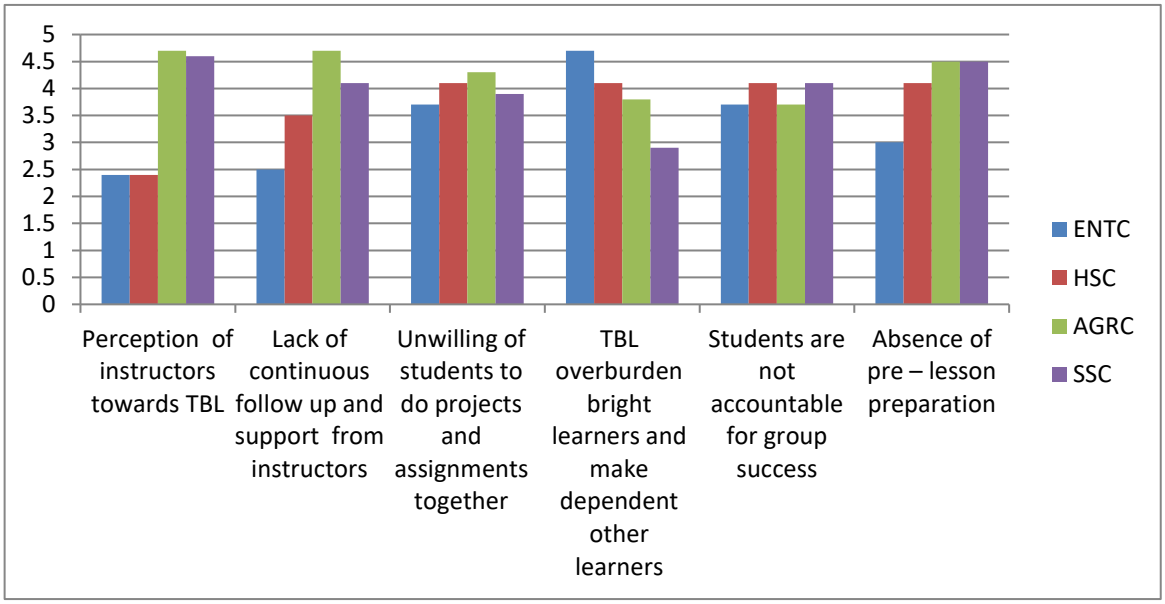
In some departments as results of team-based learning gaps and deficiencies' in understanding the content improved. In team-based learning students' academic achievement was high (high academic achievements observed), the issue of "dependence" was seriously raised, as a result of team-based learning students particularly slow learners developed dependence on bright learners. Students used team – based learning for conflict resolution; to support each other when they face economic problems.

In general, Team based learning brought some positive outcomes particularly in the areas of Engineering and health science colleges i.e. enhanced students participation in the classroom, increased students' academic achievement, teachers implementation of active learning strategy but still the research

findings disagree with team based learning enhanced critical thinking skills, better quality of in class discussion (quality of teaching) and quality education.

Challenges to TBL implementation

The data gathered from the respondents indicates that those factors which affect the implementation of the strategy in the classroom and outside the classroom vary from college to college. These factors are indicated below



Data was also gathered on the challenges of team – based learning through questionnaire, interview and focus group discussion from students, instructors, faculty academic issue coordinators, department heads and student team leaders. The data gathered from the respondents indicates that those factors which affects the implementation of the strategy in the classroom and outside the classroom more or less similar but its magnitude varies from college to college. However, the most common factors were Perception of instructors towards TBL; Lack of continuous follow up and support from instructors; Unwillingness of students to do projects and assignments together; TBL overburden team leaders/bright learners and make other team members dependent, Students are not accountable for group success; Pre-preparation of learners for the lessen, Course delivery by guest lecturers (Shambu), Language problem to communicate each other during discussion, Bright learners hesitate to work with slow learners (they undermine the contribution of slow learners and choose to work alone) , carry all the burdens (When team members are not volunteer to come together, team leaders instead of conflict with them, he/she works alone);Team members are no accountable for their own work. In addition to what has been mentioned above the following issues were mentioned as a challenge to implement Team – based learning strategy.

One KI (FG1) stated that “sometimes in team-based learning we have negative experience because I have to do most of the work and yet all of us get the same grade (i.e., it is unfair). Several of the students in my group simply didn’t care what grade they got (but I do) and therefore didn’t put much time on the projects”.

Course coverage: - some courses have many chapters and impossible to be covered within a semester (the instructors are forced to distribute some chapters for students in the form of assignment).

Perception of instructors: The perception and commitment of higher education institution instructor is crucial to implement team-based learning in the classroom and project work. If there is no commitment and effort from instructors and instructors have negative attitude towards it, then working and learning from team work may fail. The data indicates that some colleges instructors emphasized the importance of team-based learning (they have positive attitude) and other college instructors raises the negative aspects of team-based learning. One KI (DEP 4) during focus group discussion states that:

> *We strongly disagree with team – based learning, we have negative attitude towards it because Students academic achievement in group project is high but low in tests and exams, slow learners develop dependence on team leaders. It is also difficult to identify those who are contributors and non-contributors for group success. Team leaders carries all the burdens. All these have negative impacts on quality of education. We do not want to hear the name of 1-5 team – based learning.*

In addition, students from Ghimbi campus (team leaders) were not satisfied with the current practices of team – based learning because sometimes team leaders do not get time to prepare themselves for tests and examinations but it gives an ample time for those students who are reluctant to contribute for group success.

Other KI (DEP 1) asserted that the nature of the courses in the department pushes the learners to use team – based learning. He said that this strategy has been the best method of teaching in engineering fields. The view of One KI from surveying department stated as follows:

> The name of 1-5 team – based learning is not strange for us, its practice also not new for the department of surveying because surveying is a project-based program. In our case doing project has been impossible without team – work. This new pedagogy created a great opportunity for our learners to do things together. Our instructors and learners have weekly plan to perform their project together.

***Pre-preparation of learners*:** Most teachers have had the bad experience of the class discussion where no one has read the preparatory material. These can be painful, disappointing events. Larry Michaelsen realized that motivating his students to come to class prepared was key to their being able to engage in the deeper, richer, and more interesting problem-solving. However, majority of the team leaders stated that some instructor come to the classroom and present the content of the course using lecture method, after some minutes of presentation they facilitate team discussion, sometimes accompanied by group leaders' reflection. Providing preparatory materials before the classroom discussion was not known, most of the time instructors start team discussion without information.

Generally, the findings of the study indicate that the degree of the challenges that impede the implementation of team – based learning varies from college to college. In Engineering college, TBL overburden bright learners and make dependent other learners (M = 4.7), Lack of continuous follow up and support from instructors (M= 4.5), Unwilling of students to do projects and assignments together (M= 3.7) were very serious and serious challenges. In health science colleges Unwilling of students to do projects and assignments together (M= 4.1), TBL overburden bright learners and make dependent other learners (M= 4.1). In the case of Shambu Agricultural college Perception of instructors towards TBL (M= 4.7), Lack of continuous follow up and support from instructors (M= 4.7) and Absence of pre – lesson preparation (4.5) were the most serious problems and in Ghimbi social Science college

Perception of instructors towards TBL (M= 4.6), Absence of pre – lesson preparation (M=4.5), Lack of continuous follow up and support from instructors were the major problems. Other problems like Language problem to communicate each other during discussion/ team work, Bright learners hesitate to work with slow learners (they undermine the contribution of slow learners and choose to work alone), Team leaders carry all the burdens, when team members are not volunteer to come together team leaders instead of conflict with them, he/she works alone and Commitment from the college /less commitment from all parties were common to all colleges.

The qualitative and quantitative data indicate that the following factors were common for all colleges of the university. Perception of instructors on TBL, lack of continuous follow up and supports from instructors, unwillingness of students to do projects and assignments together, course delivery by guest lecturers (Shambu), language problem to communicate with each other during team discussion ,cleaver learners hesitate to work with slow learners (they undermine the contribution of slow learners and choose to work alone) , carry all the burdens and Commitment from the college /less commitment from concerned bodies .

CONCLUSIONS

The research findings indicated that there has been practices of 1-5 team-based learning strategy in all sample colleges. According to the view of the majority of the respondents, in 1-5 team – based learning students could be arranged as 1-4, 1-5, 1-6 and 1-7 members depending on their academic achievements. Significant number of the students is currently engaged in a team – based learning modality but traditional method of teaching has been dominant. most of the teachers were not implement this strategy as part of their regular classes but this practice varies from college to college. The practices of team work outside the classroom were common in Engineering and Health College than social science and Agricultural colleges. The research findings also show that when majority of team members are (composition) bright group, interaction is high, they learn much from each other, accountability also increases (sort of competition and debate, mine is right, yours is not right) feeling develop. Very few students/1or2/ work the project and home assignments, instructors follow up and support during team project work was low, instructors facilitate presentation for 1 or 2 team members, there was no formal mechanism to follow up the participation of students on project work and Team members are not responsible if they are not participating in team project work/ assignment were considered as a major factor.

Laying the groundwork for team-based learning begins on the first day. Students need to understand what team-based learning is, what the course will require them to learn and how it will relate to other work, why team-based learning is being used and how the class will be conducted? How will grades be determined?), for whom team members are accountable? The instructor must be knowledgeable, confident, and enthusiastic about team-based learning throughout the academic term in order to encourage the development of positive group norms. Therefore, top management of the university, college deans and department heads should be committed to support and follow up the practices of team-based learning through supervision, training and facilitating discussion at all levels. The university should use peer evaluation as another mechanism to evaluate the performance of the learners and incorporate in the university assessment policy. The peer evaluation process should compensate students fairly for their contributions to the success of the team and peer evaluation allows us to make sure that students are truly rewarded for their contributions to their team's success or else held accountable for their lack of contribution.

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