

AN ASSESSMENT OF THE PRACTICE AND ITS DETERMINANT FACTORS OF ACTIVE LEARNING METHODOLOGIES BY TEACHERS OF TEACHER EDUCATION COLLEGES OF BEGEMIDIR AND GONDAR: NORTH AND SOUTH GONDAR ZONES OF ETHIOPIA.

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ABSTRACT: *The study aimed to assess the practice and its determinant factors of active learning methodologies by teachers of Teacher Education Colleges of Begemidir and Gondar. Eighty two (82) teachers were participants of the study. The data was collected through questionnaire, interview and observation. Percentage, 1 sample T-test, Pearson correlation, Regression (multiple linear regression and stepwise regression) and qualitative analysis were used to analyze data. Results revealed apart from other empirical evidences reviewed there are two findings in this study. One is teachers are practicing active learning methods. The other is many of the challenges known to be preventing the practice of active learning methodologies were found to be as not challenges for the participants. The practice of active learning was attributed to statistically significant determinant factors. These were: the practice of assessment, positive attitude of teachers towards active learning methods, adequate pre-service and in-service training of teachers in active learning methodologies, availability of administrative and material support to teachers from the administrators.. Assessment and in-service training were predicting factors of the practice of active learning by teachers; while training was the most predictor variable. Nevertheless, though the teachers are practicing active learning methods they were facing two challenges, lack of full access of resources and full administrative support. Pertinent to the findings of the study conclusions and feasible recommendations were drawn.*

KEY WORDS: Practice of Active Learning in Ethiopia, Determinant Factors to Practice active Learning by Teachers and Challenges of Teachers to Practice Active Learning.

INTRODUCTION

Concept and Type of Active Learning Methodologies

In defining active learning approaches many give credit to educational philosopher Dewey (1959), with his learning by “doing” philosophy, and another most famous child psychologist Piaget (Gallagher & Reid, 2002), with his “active” approach to learning, for laying the theoretical foundation of the active learning movement. Unfortunately, active learning has a history of vague definitions and nebulous descriptions that make discussion of this concept difficult among educators (Bonwell & Eison, 1991, Prince, 2004). In fact, active learning is a broadly inclusive term, used to describe several models of instruction that hold learners responsible for their own learning. However, most recently, the leaders in the field of active learning namely, Bonwell and Eison (1991) have contributed heavily to its development and

to the acceptance of active learning as a viable approach. They as proponents of active learning describe that active learning is a process in which students engage in “doing things and thinking about what they are doing” in the classroom (Bonwell & Eison, 1991). Generally speaking, active learning has received considerable attention over the past several years. Often presented as a radical change from traditional instruction, active learning has appealed strong advocates among those looking for alternatives to traditional teaching methods all over the world (Prince, 2004; McGlynn, 2005; Peck, Ali, Matchock, & Levine, 2006).

DETERMINANT FACTORS FOR TEACHERS TO USE ACTIVE LEARNING METHODOLOGIES

The determinant factors include continuous assessment, attitude, training, and input (material and administrative support).

Continuous Assessment

Maria & Jorge (2012) in Spain found out that robust evidence of the positive impact of continuous assessment on all indices of academic outcomes considered. In addition, responses to a self-report questionnaire revealed that continuous assessment improved students' satisfaction and was perceived by students as a procedure that promotes deeper learning. Springer, Stanne & Donovan (1999) reviewed 383 studies and found out small group learning within individual discipline areas usually show large positive impacts on student performance, marks, attitudes towards learning and persistence or retention. In Ethiopia (Birhanu, 2013, Abiy, 2013., Desalegn, 2014) concluded that there is a positive relationship between some of the continuous assessment strategies known to be active learning methodologies such as presentation, project work, debate, role play, simulations and the like. These studies also reported that the continuous assessment techniques/ active learning methodologies used by teachers enhance students' academic performance.

Attitude

Someone's attitudes about an object, event, or group of people can also determine his achievement (Harbor-peters, 2005 as cited in Bernard, David, Sylvester and Olatunji, 2013). Attitude of teachers towards activity-based learning is an issue in education of students because if the teacher is not positively disposed to activity-based learning, he/she would not achieve the purpose and its objectives of the lesson in school. People's favorable attitudes towards their profession have a positive effect on their performance. This is more so for the profession of teaching. I.e. specifically those teachers who have positive attitude towards active teaching methodologies will tend to practice active learning methodologies in their teaching practices (Bernard, David, Sylvester and Olatunji, 2013). Furthermore, Yara (2009) in his study in Nigeria has found out that those teachers who have better attitude towards student-centered methodologies were found to practice active learning methodologies in their classes. He further added that the teachers have influenced their students to have a better attitude towards their leanings. Also, Reinke & Moseley (2002) in their studies found out that those teachers who have positive attitude to student-centered approach were found to developing an interest of application of new ideas and novel approaches in their instructions in the classes they are assigned in.

Training

Postareff, Lindblom-Ylänne & Nevgi (2006) in their study in Finland found out that pedagogical training had an effect on scales measuring conceptual change/student-focused approach and self-efficacy beliefs. Furthermore, Gibbs and Coffey (2004) in Postareff, Lindblom-Ylänne & Nevgi (2006) in their studies found out that when examining the impact of training of University teachers on approaches to learning of their students; found that students took a surface approach to a significantly lesser extent after their teachers had been trained in varied active learning methodologies. They further recommended that teacher training in higher education should be oriented towards changing teachers' approaches to teaching, to a more student-centered approach, because of its reasonable effect on improvement of learning processes and outcomes. In addition to this, Farooq & Shahzadi (2006) in their study comparing the effectiveness of trained teachers and untrained teachers in Mathematics subject found out the significant difference between the performance of the students in mathematics taught by trained and untrained teachers, where the training includes active learning methodologies.

Input (Material and Administrative Support to Teachers)

Dike (1989) in Ode (2014) stated that Audiovisual resources do not only increase the motivation of the teachers and learners; they add clarity to the topic taught and make learning more interesting. Because, classroom instruction can be described by the relationships and interactions between teachers, students, materials, and their environment (Cohen, Raudenbush, & Ball, 2002). Ode (2014) in his study in Nigeria found out that the use of audiovisual resources has significant impact on the teaching and learning in secondary schools. Saglam (2011) in his study in Turkey found out that if schools had sufficient materials/equipment, the teachers tended to use the teaching materials more in their lessons. According to Weimer (2002:174) as cited in Birhanu (2010), for the effective implementation of active learning/student-centered approaches the deans and academic department heads of the university/colleges need to recognize active learning approaches as building blocks for lifelong learning. They should do everything possible to facilitate active learning. This involves allocating funds for additional equipment and other instructional materials like books to satisfy students' needs while working in groups. In addition to this, they should provide the necessary training and continuous professional support and encouragement to lecturers who are implementing the approach. Furthermore, Egwunyenga & Enueme (2008) in their study in Nigeria concluded that those principals who play their instructional leadership roles to high extent were found to affect positively the work performance of their teachers in implementing active learning strategies in their classes.

Benefits of Active Learning Methodologies for Students Learning

A wide range of evidences from different studies supported the benefit of active learning to the maximum level of students learning. For example, in a large scale study of 6500 students studying according to active learning methods, Hake (1998) in David & Orit (2009) found out that stronger students exhibited greater improvement of conceptual understanding of Newtonian physics compared to other less skilled-students. Furthermore, educators (Auster & Wylie, 2006; Lee 2007; Raelin & Coghlan, 2006; Sarason & Banbury, 2004; Ueltschy, 2001; Umble & Umble, 2004) in their studies found out that the practice of active learning methodologies by teachers have improved the teaching-learning process and the active learning methodologies were found to be effective techniques in improving students' learning. To see

separate study outcomes on separate active learning methodologies we can mention studies such as Lecture active learning methodology by (Stewart-Wingfield, & Black, 2005; Whetten & Clark, 1996; Michel et al., 2009), Demonstration active learning methodology by (Dunn, 2008; Forsyth, 2003).), discussion active learning methodology by (McKeachie, 2002; Stewart, et al., 2010; Ryan & Patrick, 2001), class work/discussion active learning methodology by (Bolin, Khramtsova, & Saarnio, 2005), problem solving active learning methodologies by (Lipsev & Wilson, 1993; Norman & Schmidt, 2000), inductive or discover learning (Lott, 1983) were found to be effective methodologies helping teachers to make their students achieve curricular objectives (be it the cognitive, affective and psychomotor domains of educational objectives).

Challenge of Teachers to Implement Active Learning Methodologies Including Ethiopia's Case

In a study that interviewed 332 instructors and teachers (Niemi, 2002), found out his respondents noted six factors that they felt prevented them from engaging in teaching that promote active learning; these were: Lack of time due to the need to complete all the required material in a packed curriculum; Teaching in large groups; A shortage of study materials; Opposition among senior peers to changes after they have developed teaching methods suited to their capabilities and experience; A lack of meta-cognitive skills and motivation on the part of the students. Instructors feel that students prefer traditional learning; and among high school teachers, parental opposition to change was also mentioned. Aschalew (2012) in his study of the perception and practice of teachers of active teaching methodologies of teachers of college of education and behavioral sciences in Haramaya University_ Ethiopia found out Among the major factors affecting the effective implementation of active learning were instructors' tendency toward the traditional/lecture method, lack of students' interest, shortage of time, lack of instructional material and large class size. The other is attitude. For example, while in high schools the adoption rate of active learning approaches is quite high, in academic institutions only a small fraction of instructors' award attention to this approach, and an even smaller fraction consider its adoption for their teaching (Harmin, 2006; Redish, 2003). Azuka, Durojaiye, Okwoza & Jakayinfa (2013) studied the attitude of primary school Mathematics teachers towards the use of activity based learning methods in teaching mathematics in Nigerian schools. They found out that there is a significant difference in the primary school mathematics teachers' attitude towards the use of activity_ based learning between the University degree graduates and College of Education graduate teachers. A study conducted in Israel examined the attitudes of 153 lecturers in three higher education institutions in Israel. The findings reveal that in all these 6 domains there were significant differences between the attitudes of "active instructors" and their colleagues (David and Orit, 2009). Gara & Asrat (2011) studied the attitude of Bahir Dar University (in Ethiopia), instructors' attitude towards active learning approaches. Finally, they found out that out of 23 Instructors 17(85%) of the participants were having a positive attitude and in favor of the idea that active learning methods can give students a sense of participation; while 3(15%) participants were having a negative attitude and not in favor of the idea about active learning approaches are helpful for students.

Ethiopia

Indeed, in Ethiopia, the problem of quality at all levels of the education systems has become a serious concern of the government, educators, teachers and stakeholders. Despite the past and existing strong criticisms by educators, teachers and stakeholders on the conventional teacher based approach in all levels of the education systems of the country, the teaching learning

process in most Schools, Colleges and Universities in Ethiopia has persisted to be teacher dominated. Most classes are characterized by a situation where students are made to listen to their teachers and copy notes from the blackboard and the power point. Despite policy provisions and some practical endeavors that urge and guide all teachers in the country to move to learner _centered approach, learning by doing, problem solving, cooperative learning and group approaches are limited. Consequently, there is a widely shared concern that the quality of learning in schools is very low. In fact, the problem could be related to input factors like student_ teacher ratio, student-text book ratio, teachers' qualification, the way the teaching-learning process occurs, the extent to which teachers examine their own practice of teaching etc. However, of the most important factors that may be responsible to-learning quality could relate to how much Schools, Colleges and University teachers improve instruction and make the learning process active and learner centered (Daniel, 2007,; Ministry of Education, 2002, 2006, 2007).

That is why, within the framework of the 1994 Education and Training Policy, and the 20-year education sector indicative plan, the Government of Ethiopia launched the first five-year Education Sector Development Programme (ESDP I) in 1997/98, followed by ESDP II in 2002/03 and ESDP III in 2005/06. ESDPs I and II concluded in 2001/02 and 2004/05, respectively, with remarkable success in expanding access to primary education. Primary school enrolment was boosted from 3.7 million in 1999 to 8.1 million in 2000/01, and grew to 13.5 million in 2005/06. During the same period, the gross enrolment rate was increased from 61.6 per cent to 91.3 per cent, and the net enrolment rate grew from 52.2 per cent to 77.5 per cent (Ministry of Education, GEQIP 2007), but, “the achievements in enrolment have not been accompanied by sufficient progress in the quality of education” (Ministry of Education, GEQIP 2007). Currently, ESDP III is being implemented with particular attention given to ensure universal access to quality primary education by 2015 and to quality secondary education by 2025. The application of active learning methodologies by teachers in their classrooms is among those instruments to be used to realize the objective. Hence, it was justifiable and purposeful enough to undertake this study.

Problem Statement

Studies on active learning methods conducted in the country so far indicated that the practice of active learning methods is low (Daniel, 2007,; Ministry of Education, 2002, 2006, 2007). Furthermore, (Taye, 2008) in his thesis for his masters degree fulfillment he studied the “Perceptions and practices of active learning methods of English as foreign language class of Dilla University_ Ethiopia he revealed the instructors and students though they have positive attitude towards active learning their practices of active learning was found to be low.

Again, Birhanu (2010), in his PhD desertion studied the implementation of active learning methods in 6 Universities of Oromia Regional State of Ethiopia; in his findings he stated that:

Although the employment of active teaching and learning is emphasized in Ethiopian policies, traditional lecture methods, in which lecturers talk and students listen, dominate most classrooms. Relatively little use is made of active learning methods such as cooperative learning, inquiry-based learning, discovery learning, problem-based learning and discussion methods. The common obstacles found included: lack of time and resources to implement problem-based learning; rigidity of the time table; negative lecturer attitudes; lack of instructional materials and administrative support; and the huge amount of content to be covered.

The above facts made the researchers to develop an interest in closely studying the situation of the practice of active learning methods in their classes by teachers of Teachers Education Colleges of North and South Gondar Zones. Because, the colleges are teacher producing colleges and that the graduating teachers should be taught by teachers who practice active learning methodologies in their classes so that there would be assurance that the graduate teachers would practice active learning in their future classes. Hence, the study attempts to find out answers for the following investigative research questions:

1. To what extent are active learning approaches being practiced by College teachers?
2. What are the determinant factors that enhance the college teachers to practice active learning methodologies?
3. What is the correlation between the practice of active learning methodologies and those determinant factors?
4. What are the major challenges of the college teachers hindering their efforts of practicing active learning methodologies in their classes?

METHODS

Study Design

The study has employed a descriptive survey research design. It was a concurrent mixed approach to collect and analyse data. This was made because the study aimed to describe comprehensively the existing practices of active learning approaches in the Teachers Education Colleges of both North and South Gondar Zones.

Study Population

The target population for this study was teachers of Teachers Education Colleges of Gondar and Begemidir in the year 2014/15 who were found on the job excluding those who were on study leave and other duties. Based on the human resource and management office of the two colleges there were 100 (90 male & 13 female) and 60 teachers (56 male & 4 female) population of teachers in Gondar and Begemidir respectively.

Participants and Sampling Technique

The researchers employed both probability and non probability sampling techniques. Simple random sampling which was lottery method was employed to take 97 teachers out of 160 of both teachers' education colleges (only 56 teachers out of 100 teachers of Gondar college of teacher education and only 41 teachers out of 60 teachers of Begemidir college of teacher education). Purposive sampling was used to select 10 teachers, 5 teachers from each college for an interview. And, 6 teachers, 3 teachers from each college were taken for classroom observation.

Seventy eight teachers (95.1%) were male teachers. The majority of the teachers (52= 63.4 %) were being between 30-39 years of age. While, six teachers (7.3%) and the other six (7.3%) of teachers were with bottom age of 29 years and younger and the upper ages of 50 years and older respectively. Fifty teachers (61%) had 11 years and more of teaching experience. All most all of the participants (76 teachers, or 92.7%) were trained at a masters degree level. The majority of the participants (57 teachers=69.5%) were having more than 13 credit hours

workload. Besides, majority of the participants (66 teachers=80.4%) teach in a class of students who were 41 to 50 in number.

Instruments

Data were collected using questionnaire, interview and observation. Self-administered questionnaire was used to assess teachers' practice of active learning methodologies and it was a closed ended in nature. It was adapted from a PhD dissertation (Birhanu, 2010) and was made to be a 5 point likert scale; ranging from Strongly Disagree (SD) (represented by 1), Disagree (D=2), to Neutral (N=3), Agree (A=4) and Strongly Agree (SA=5). This, five liker scale works for variables of assessment, attitude, training and input. However, for the challenges part, 4 point liker scale was used (Strongly Disagree=1, Disagree=2, Agree=3, and Strongly Agree=4). Finally, out of the total 97 teacher participants the return rate was 100% (97 teachers). However, of the 97 questionnaire that was distributed to sample teachers (56 questionnaire from Gondar out of each 8 questionnaire were incomplete that is why only 48 questionnaire were used for the study) and (41 questionnaire from Begemidir out of which 7 questionnaire were incomplete that is why only 34 questionnaire were used for the study). As a result, the participants of the study were made to be 82 teachers.

Classroom observation was conducted to see how teachers were implementing active learning methods. Observation format of HDP module (MoE, 2010) was used for observation. A total of 6 observations 3 from each college were undertaken. The classes that were observed in Begemidir college of teacher education were classes of Mathematics, Biology and Science having topics of polynomial, excretion and the structure of science and cycles in science respectively. While, those classes that were observed in Gondar college of teacher education were classes of Mathematics, Amharic language, and Chemistry having topics of Implicitly differentiation, decision making and directing and aldehydes and ketones respectively. The range of time that the researcher took to observe classes ranges from 30' to 1 hour.

A Semi-structured interview guide was used to interview 10 teachers, 5 teachers from each college. The interview guide was adopted by the researchers after reviewing of related literature on the major variables of the study and the research questions of the research. The interview guide questions were 6 in number. The interview session took at each campus of the college with each teacher taking 10 to 30 minutes.

Reliability and Validity

The reliability of each of the variables in the questionnaire was of a Cranach's alpha reliability coefficient of (Practice: .861, Assessment: .894, Challenge: .924, Attitude: .872, Training: .921 and Input: .821). For instrument validity a huge effort was made to incorporate all the comments and suggestions of lecturers in pedagogical science and educational planning and management fields of school of education of University of Gondar.

Analysis

Both quantitative and qualitative methods of data analysis were used to analyze the data. In the quantitative analysis, statistical techniques of Percentage, 1 sample T-test, Pearson correlation, regression (Multiple linear regression and stepwise regression) were employed. The qualitative data was analysed on thematic basis considering the research questions. Based on such analysis, the results were summarized and conclusions were made.

Ethical Consideration and Procedure

This research was undertaken based on the full consent of agreement of all the teacher participants. To explain this more, letter of permission was taken from the school of education of university of Gondar and was given to the deans of each college. Then, the deans directed it to their research office coordinators, then the research office coordinators were convinced by the purpose of the research and they consented for the research to be undertaken. Then, they cleared the objective of the research to the teachers of the colleges. Finally, participant teachers were willing to engage themselves in the research. Being anonymous, all their in formations were kept confidential and used only for academic purpose.

RESULTS

GENERAL STATUS OF ACTIVE LEARNING PRACTICE, ASSESSMENT IMPLEMENTATION, ATTITUDE, TRAINING AND INPUT PROVISION (MATERIAL & ADMINISTRATIVE SUPPORT):

Table1. One Sample t- test for practice, assessment implementation, Attitude, training and input provision

Variables	No	Actual Mean	SD	t- test value (Expected mean)	t result	df	Sig. (2 tailed)
<i>Practice</i>	82	44.58	4.22	40	9.82	81	0.000
<i>Assessment</i>	82	35.01	3.13	32.5	7.25	81	0.00
<i>Attitude</i>	82	72.29	6.54	70	3.17	81	0.002
<i>Training</i>	82	39.84	4.01	37.5	5.58	81	0.000
<i>Input</i>	82	32.80	5.98	37.5	-6.95	81	0.000

The above table 1 shows that, the average value of active learning practice and assessment implementation was statistically significant ($t=9.82$, $df=8$, $p<0.05$ and $t=7.25$, $df=81$, $p<0.05$). This is evidenced from comparing the actual mean with the expected one. Besides, teachers have a positive and significant ($t=3.17$, $df=81$, $p.05$) attitude towards active learning. The same positive attitude towards active learning methods was reported by teachers during the interview sessions. For example, one teacher expressed his positive attitude like this, “ *Active learning methods have many importance to the students, since the students are actively participated the knowledge and perception of the students cannot be easily forgotten, besides they can learn from each other this makes learning social, clear, tangible and cooperative.*”

Moreover, the table show that, the teachers in both colleges have received adequate pre-service and in-service trainings ($t=5.58$, $df=81$, $p<0.05$) in active learning approaches. This was also evidenced in an interview held with teachers for example, one teacher stated that “*I have trained: In my first degree program, I have learnt about active learning methods. I have also taken HDP [Higher Diploma Program] training, I learnt a lot about it. In addition, I also improve the implementation of active learning methods through reading and experience. I also learnt in different workshop, seminars and TDP [Teachers Development Programs].*” Another

teacher stated the importance of the training this way, *“The training helped me to employ active learning in class, how to assess students, how to use variety of methods in teaching different topics.”* This training seems to be equally supported with adequate relevant supportive teaching materials and this is also evidenced from the statistical result of the above table ($t=-6.95$, $df=81$, $p<0.05$). In the interview for example one teacher stated that, *“I was given charts, laptop, and stationary materials.”* But, this teacher seems to be exceptional that almost all the teachers though they filled out the questionnaire as if there was provision of adequate materials while they were interviewed they reported that there was less provision of teaching materials by the colleges. For example, one teacher clearly stated that, *“The College as a whole initiate to implement and use active learning methods. However, they did not take some resources that used to implement active learning methods. There is no flip chart, no LCD, Laptop, marker, etc.”* In fact, on the challenge part of the questionnaire the teachers have indicated as there was lack of full and adequate provision of teaching materials for teachers from both colleges (we will see this in the proceeding). Also, during class observation teachers were observed to use no teaching materials. This may be partly that the teachers were observed without being told to be observed by the researcher and some of the classes were makeup and tutorial classes. Generally speaking, the teachers of the colleges seem to be satisfied with the provision of teaching materials from the colleges. They may be comparing to the current status with their past experience as a student and as a teacher teaching in primary and secondary schools and the college itself compared with some years back.

Table 2. Correlation results among active learning practice, assessment implementation, attitude, training and input provision (supportive administration and teaching material support)

variables	1	2	3	4	5
Practice (1)	1	.334**	.280*	.363**	.218*
Assessment (2)	.334**	1	.133	.142	.220*
Attitude (3)	.280*	.133	1	.163	.027
Training (4)	.363**	.202	.143	1	.429**
Input (5)	.218*	.202*	.027	.429**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The above table 2 portrayed that, active learning practice was significantly correlated with the assessments practice of teachers ($r=.334^{**}$, $p<0.01$). This was also supported by teachers while they were interviewed for example one teacher affirmed that, *“As it is known the lion share of learning is the learner’s active engagement in the learning process. As a result, I provide different tasks to be done in the classroom and outside the classroom in the form of project work. In addition, I aware my students by giving different examples from learning theories as learning requires the active involvement of the learner.”* The other teacher also added, *“I prepare some ways like peer assessment and self-assessment to make my students feel responsibility for their learning.”* It was also observed during the observation time that teachers were asking students about their past assignments, undertaking question and answer and group discussions. Furthermore, the teachers are attempting to apply those knowledge and skill that they have received in those trainings that have participated in active learning approaches ($r=.363^{**}$, $p<0.01$). This was also evidenced in the interview sessions held with teachers for example one teacher stated that, *“The training helped [me] in order to use active*

learning methods hand in hand or side by side with the teacher-centered approach.” Teachers were also observed in the observation sessions while they were using different active learning approaches (such as brainstorming, question and answer, peer and group discussion, problem solving, assignment, project work, presentation, decision line, debate) In addition, table 2 also shows that the teachers are practicing active learning approaches the fact that they have a positive attitude towards active learning approaches ($r=.280^*$, $p<0.05$). This was also supported by teachers in their interview sessions for example one teacher expressed his positive attitude with his justifications as follows, “ *I support the use of active learning methods. Because, active learning methods helps students to: construct knowledge by themselves, actively engage themselves in their own lesson, transfer their learning in long term memory, avoid rote memory, be creative and motivated to learn.*” One teacher goes to the extent that using active learning methods in class for a teacher is a must, “*I strongly support the utilization (implementation) of active learning, because it is the order of the day.*” Moreover, the teachers are being supported by supply of teaching learning materials that they are practicing active learning methods ($r=.218^*$, $p<0.05$). This point has been dealt in the proceeding in more detailed manner.

Table 3. Regression of practices of active learning method to assessment, attitude, in service training and input availability

Variable	Unstandardized Coefficient		Standardized Coefficient	t	F	R	R ²
	B	Std.Error	Beta				
Assessment	0.354	0.133	0.260	2.542*	6.454*	.501	0.251*
Attitude	0.125	0.065	0.200	1.972			
Training	0.293	0.113	0.277	2.501*			
Input	0.026	0.075	0.036	0.324			

** Significant at the 0.01 level (2-tailed).

* Significant at the 0.05 level (2-tailed).

As indicated in Table 3, aside from investigative the inter-correlations among the variables treated, the present study had the purpose of determining the combined effect of assessment, attitude, in-service training and input availability on the practice of active learning methods among colleges’ teachers. For this purpose multiple linear regressions was conducted. Specifically the intention was to determine the predictor variables (namely assessment, attitude, in service training and input availability) to the dependent variable, and to identify those independent variables that best explained the variances in the practices of active learning methods in students teaching. The results show that the combined effect of all the independent variables on the dependent variable was statistically significant ($R= .501$, $R^2=.251^*$, $F_{4, 77}=6.454^*$, $p<0.001$). This means the independent variables together explained about 25.1% of the variance in practice of active learning method.

The independent contribution of each predictor variable to the dependent variable were also computed and presented in the above table. From Table 3, it can be learned that while assessment practice ($t_{4, 77} = 2.542^*$, $p< 0.001$) as it was also clearly mentioned repeatedly by teachers in the interview sessions for example one teacher stated that, “*I evaluate myself whether my students actively engaged in their learning or not. I checked it in the class through observation and also the result from their exam.*” And, in-service training ($t_{4, 77} = 2.501^*$, $p< 0.001$) had statistically significant effect on the practice of active learning methods. This, all of

the teachers witnessed during the interview held with them. For example, one teacher concluded that, “*Since I have attended several courses and trainings, my duty and responsibility are trying to participate my students in the whole instructional process in every course that I am assigned to teach.*” However, attitude of teachers and input availability were not statistically significant. So, here therefore, it may be possible to argue that the conflicting report by teachers in the questionnaire (that there was provision of materials and in the interview sessions (there was less provision of teaching materials) and no teaching materials was brought to class as observed by the researcher (of course, it might be due to teachers were observed without being told to be observed by the researcher and some of the classes were makeup and tutorial classes) may take us into the conclusion that though there is no adequate provision of teaching materials from both colleges to teachers the colleges are trying their best to supply teaching materials to their teachers given the economy of the country.

Table 4. Stepwise multiple regression of active learning practice on the independent variables treated

Variable	Unstandardized Coefficient		Standardized Coefficient	R	R ²	Δ R ²	F (Δ R ²)
	B	Std.Error	Beta				
	Training	.382	.110				
Training	.339	.106	.322	.461	.213*	.081	10.674*
Assessment	.388	.136	.288				

As indicated in table 4 above, to decide the extent of increase of the overall R² made by the inclusion of each independent variable into the equation, stepwise multiple linear regressions was run. Table 4 indicates important variables that significantly predicated practice of active learning methods. The variables were in-service training and assessment practice. The table indicates that in-service training of teachers alone 13.1% of the variance in practice of active learning method, which was statistically significant ($F_{1, 80} = 12.106^*$, $p < 0.001$). The inclusion of assessment practice in the equation improved the coefficient of determination by 8.1%, which was significant raise ($F_{2, 79} = 10.674^*$, $p < 0.001$).

Table 5. The challenging factors teachers facing while practicing active learning methodologies (N=82).

Challenges	Relative Agreement								Mean Average
	SDA		DA		A		SA		
	F	%	F	%	F	%	F	%	
I feel that lecturers in general have negative attitude towards active learning methods	27	32.93	41	50	13	15.85	1	1.22	1.85
There is lack of time to actively involve students in my class	14	17.07	36	43.90	27	32.93	5	6.1	2.28
To involve students in active learning will add too much to my work load	15	18.3	29	35.36	31	37.80	7	8.54	2.37

It is difficult to cover the prescribed work if students ask many questions	14	17.07	43	52.44	18	21.95	7	8.54	2.22
Active student learning will create problems in my classroom management	23	28.05	42	51.22	11	13.41	6	7.32	2
It is impractical to implement active learning in large classes	24	29.27	30	36.58	13	15.85	15	18.3	2.23
The amount of content that needs to be covered prevents the use of active learning in the classroom	10	12.2	30	36.58	35	42.68	7	8.54	2.05
The rigidity of the time table prevents the implementation of active learning techniques.	5	6.09	38	46.34	31	37.80	8	9.77	2.51
I think students have negative attitudes towards active learning methods.	14	17.07	43	52.44	19	23.17	6	7.32	2.21
I think that lack of administrative support (e.g. financial, facilitation) inhibits the implementation of active learning in class.	5	6.1	25	30.5	37	45.1	15	18.3	2.77
Lack of classroom space inhibits group work	5	6.1	38	46.34	30	36.58	9	10.9	2.52
Lack of resource affects the implementation of active learning approaches	3	3.65	9	10.98	55	67.07	15	18.3	3
I think educational administration is unsupportive towards active learning	19	23.17	36	43.9	21	25.61	6	7.32	2.17

Note: The Likert scale was used where, SDA=Strongly Disagree, DA=Disagree, A=Agree, SA=Strongly Agree.

As depicted in the above table 5, the teachers were asked in the self-administration questionnaire to either agree or disagree on the list of challenges that inhabits their implementation of active learning methods in their classes. Hence, 68 teachers (82.93 %, mean=1.85), 50 teachers (60.97%, mean=2.28), 44 teachers (53.66%, mean=2.37), 57 teachers (69.51%, mean=2.22), 65 teachers (79.27 %, mean=2), 54 teachers (65.85%, mean=2.23), 42 teachers (51.22%, mean=2.5) 43 teachers (52.43%, mean=2.51), 57 teachers (69.51%, mean=2.21), 30 teachers (36.6%, mean=2.77), 39 teachers (47.56%, mean=2.52) and 55 teachers (67.07%, mean=2.17) have either disagreed or strongly disagreed to statements of teachers have negative attitude towards active learning methods; there is lack of time to actively involve students in my class, involving students in active learning will add too much to my work; it is difficult to cover the prescribed work if students ask many questions; active students learning will create problems in my classroom management; it is impractical to implement active learning in large classes; the amount of content that needs to be covered prevents the use of active learning in the classroom; the rigidity of time table prevents the implementation of active learning techniques; I think students have negative attitudes towards active learning

methods; I think that lack of administrative support inhibits the implementation of active learning in class; lack of classroom space inhibits group work; and I think educational administration is unsupportive towards active learning. This reflections were also supported in the interview sessions that were undertaken with teachers for example one teacher confirmed his dedication stating, *“As much as possible I tried my best in order my students to be ‘task on’ during the instruction by giving different activities to be done by students such as group discussion, pair work, buzz group and so on.”*

On the other hand, 67 teachers (81.67%, mean=3) have either agreed or strongly agreed to the statement lack of resources affects the implementation of active learning approaches. In fact this point has been interpreted well in the proceeding on the variable of input.

DISCUSSION

It is of great importance to find out two things. In this study, there are two new findings. The first one is, unlike the previous research findings in the country (see. For example, Aschalew (2012), Gara and Asrat (2011), Daniel (2007), Ministry of Education (2002, 2006, 2007), Taye (2008), and Birhanu (2010)) that indicated there was less or no practice of active learning methodologies by teachers of sample participants as sample schooling institutions, the present study came up with findings that clearly indicated the practice of active leaning methodologies by teacher participants of the study at both the teacher education colleges.

The second one is, unlike the previous research findings conducted in and outside of Ethiopia (see, for example, Niemi (2012), Aschalew (2012), Harmin (2006), Redish (2003), David & Orit (2009), Daniel (2007), Azuka, Durojaiye, Okwoza & Jakayinfa (2013), Taye (2008), and Birhanu (2010)) with the exception of lack of adequate teaching materials negative attitude of teachers towards active learning methodologies, lack of time, too much workload of teachers, difficulty of having proper classroom management, large class size of students, wide content coverage, rigidity of time table, students’ negative attitude towards active learning methodologies, and lack of administrative support were not found as challenges of teachers and did not found to prevent/inhibit teachers of this study participants from practicing active learning methodologies in their classes.

However, the study also came up with findings that are consistent with other previous research findings. I.e. the teacher participants of this study are practicing active learning methodologies in their classes as a result of four determinant factors. The first one is, the teacher’s engagement in educational assessment techniques. We can mention studies that support the hypothesis that if teachers engage in assessment activities they will be more likely to practice active learning methodologies in their classes see, for example, (Maria & Jorge, 2012; Springer et al, 1999; Gray, 2009; Birhanu, 2013; Abiy, 2013; and Desalegn, 2014). The second one is, the teachers are having positive attitude towards active learning methodologies. we can mention studies that support the hypothesis that if teachers have positive attitude towards active learning methodologies they will be more likely to practice active learning methodologies in their classes see, for example, (David, Sylvester & Olatunji, 2013; Yara, 2009; and Reinke & Moseley, 2002;). The third one is, the teachers have received short and long term trainings in active learning methodologies both in pre-service and in-service trainings. we can mention studies that support the hypothesis that if teachers have received short and long term trainings on active learning methodologies they will be more likely to practice active learning

methodologies in their classes see, for example, (Postareff, Lindblom-Ylanne & Nevgi, 2006; and Farooq & Shahzadi, 2006). The fourth one is, the teachers are accessing to inputs (material and administrative support). we can mention studies that support the hypothesis that if teachers have received input they will be more likely to practice active learning methodologies in their classes see, for example, (Cohen, Raudenbush, & Ball, 2002; Odes, 2014; Seglam, 2011; and Egwunyenga & Enueme, 2008).

Indeed, therefore, it would be reasonable to argue that the practice of active learning methodologies by teacher participants of this study at the two colleges will have unprecedented significant impact up on the learning/academic achievement of their students though argued without having academic achievement of students treated as one variable of this study. But, there are ample findings that support when teachers practice active learning methodologies in their classes there would be positive consequences including better academic achievement of students (see, for example, Auster & Wylie, 2006; Lee, 2007; Raelin & Coghlan, 2006; Umble & Umble, 2004; Michale et al, 2009; Stewart et al, 2010; and Bolin, Khramtsova & Saarnio, 2005).

Again, it is also reasonable to hope that the students of the two teacher education colleges are the would be teacher candidates, so, they will be role modeling the practice of active learning methodologies of their teachers. As a result, when they happen to be teachers the will be more likely to practice active learning methodologies in their classes. So, the vicious circle as an impact of teacher participants up on their future teacher- students will be positive and can be considered as there is a laying of a strong foundation in terms of the production of capable and efficient teachers to the zones, region and to the nation at large.

The crux of the matter is, the practice of the two teacher education colleges in terms of the application and utilization of active learning methodologies can be taken as an exemplary great lesson where other higher education institutions and other schooling institutions found in Ethiopia can share, learn and practice the trend if we need to realize quality education in the country. Furthermore, it is only when we practice at all levels of education that we can achieve the goal of ESDPIII i.e. Universal access to quality primary education by 2015 and to quality secondary education by 2025 (Ministry of Education, GEQUIP, 2007). In this regard, therefore, it will be reasonable to hope that similar colleges and other universities of Ethiopia will come in the future with similar trend of the practice of active learning methodologies serving as one instrument which the ministry of Education, the government, educators and stakeholders are aspiring for the realization of quality education in the country.

Implication

In any schooling system starting from K-12 and to a higher education system if we need teachers to practice active learning methods in their classes in Ethiopia or elsewhere in the world we need to work hard in their attitude, use of assessment, provide them training in active learning and provide them input along with strong administrative support.

CONCLUSION

Teachers of the two teacher education colleges are currently practicing active learning methodologies in their classes. The teachers are found to be in line with the principle and educational philosophy of student-centered paradigm which is educationally accepted all over

the world. Unlike other studies in this present study except lack of adequate teaching materials those challenges revealed by different studies reviewed known to be as factors of preventing teachers not to implement active learning methodologies in their classes were found as not challenges. The more teachers have positive attitude towards active learning methodologies and they are heavily engaged in educational assessment techniques the more their practice of active learning methodologies in their classes will be highly prevalent; and when teachers receive adequate training and input (material and positive administrative support) their practice and customization of active learning methodologies in their classes will increase.

RECOMMENDATION

The colleges should continue their efforts of ensuring the sustainability of the practice of active learning methodologies by their teachers in their respective classes in particular and the college in general. The colleges should make efforts to fully supply their teachers with teaching materials in order to sustain and customize the practice of active learning methodologies in the teaching-learning process. The colleges should design mechanisms to share this wonderful and exemplary experience of the practice of active learning methodologies at the college level to other schooling institutions found near and far found in Ethiopia and all over the world; and though the teachers are facing lack of adequate teaching materials and full support of the administrative bodies they should press on their culture of practicing active learning methodologies in their classes.

FURTHER RESEARCH

Based on the overall analysis further research of correlation study on the effect the practice of active learning methods by teachers on students' academic achievement should be undertaken to have much clearer picture and meaningful lessons on studies of such kind.

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