

Active Learning Strategies Utilization and the Surrounding Dilemma in Ethiopian Public Universities

Amera Seifu Belayneh*

Abstract: This study was conducted on 304(260 males and 44 females) Ethiopian public university teachers. Its major purposes were (1) to identify teachers' utilization of active learning strategies and its status (2) to assess the differences of teachers' active learning strategies utilization with respect to the experiences of the university, faculty type, HDP training status and professional course dosage level and (3) to examine teachers and academic officers dilemmas in the utilization of active learning strategies. The research design was a descriptive survey type. Questionnaire and interview were used to collect the required data to the study. One sample t-test, ANOVA, post Hoc mean comparison and qualitative description were used to analyze the collected data. One sample t-test showed that since all the observed means are significantly below the expected mean (3), university teachers' utilization of active learning strategies is in its minimal position. One way ANOVA results, however, indicated that teachers from high experienced university tended to utilize active learning strategies relatively more than the less experienced university teachers did. The same ANOVA results, on the other hand, revealed that there are no significant differences in teachers' active learning strategies utilization as the function of their HDP training status and professional course dosage level. The result of Post Hoc mean comparison depicted that engineering faculty teachers were relatively best of all other faculty teachers in utilizing active learning strategies and they were followed by natural science teachers. Taking group discussion as a substitution of active learning, imposing teachers to use active learning strategies regardless of examining the context, using active learning strategies mainly for social science contents, and practising agenda which are inconsistency with active learning strategies were found as the major dilemmas observed in the utilization of active learning strategies.

*Assistant Professor of Curriculum Studies and Teacher Education Department, Bahir Dar University, E-mail: amera1960ec@yahoo.com.

Background of the Study

Recently, active learning strategies have been introduced to the education system as an alternative to the traditional instructional deliveries such as lectures and demonstrations. All the human and material inputs such as teachers and other staffs, the curriculum, buildings and other furniture in the education system are there with the assumption that students' reaction, engagement and then proper learning over the contents/curriculum experiences could be enforced (Hall, 1995). The practice of any teaching-learning processes, therefore, is not for the satisfaction and progress of anybody else. Rather, it has to rely mainly on students' learning satisfaction and progress. In support of this, Colliver (2000, p. 23) contended that:

The underlined idea of teaching as it does not matter what and how I (a teacher) and other staffs do. It only matters what and how our students do. Therefore, he said, I, as a teacher and/or as a staff, have to think and do actively about my students learning engagement, satisfaction and progress.

By nature, human beings, throughout their day-to-day experiences, are explorers, critical observers, analyzers and problem solvers of various problems which they encounter in their environment (Rand, 1991). Therefore, teachers have to work for the continual of these self-searching behaviors (sometimes rights) in the school children through active learning engagements (Feriére, 1972).

The past and near past history of instruction, however, tended to disclose that almost all of the teaching and leaning processes in the world were accomplished with teachers' active oral presentation, where students were mere passive listener. Consequently, the instructions were conducted without checking how much students' learning were progressive and could remain permanent (Donald, 1971). This was grounded, as communication theorists mentioned, from the dominant oral-based communication culture of the earlier society of the world (Teharanian, 1997). Moreover, traditional (religious and cultural/indigenous) education in Ethiopia was highly believed

to be deep rooted in oral literature presentation by the religious leaders (educators) and by the community elders to the youth of their society (Girma, 1967). As an evidence to this, Girma argued that “the students were expecting to take the idea of the presentations as it is without raising the why and how questions” (Girma, 1967, p. 38). Furthermore, the relationship between the religious leaders /community elders/ and the young learners was master-servant type (Inbakom, 1970; Donald, 1971). Such kinds of traditional education and communication features have been exerted their own influence in the teaching-learning processes of today’s modern education. For example, those features might encourage students’ simple memorization and dependency without arguing about their feelings (Cohen, Manion and Morrison, 2004), which are the direct opposites of the grand principles of learning such as exploring, innovating and learning something actively (Robert and Tagg, 1995).

In the most traditional society of Ethiopian, furthermore, being silent, non-argumentative and passive-respondent without raising any kinds of why and how questions were among the elements of well-accepted personalities (Girma, 1963). It seems natural that schooling is highly affected (positively or negatively) by its surrounding society. In this regard, Doll (1989) noted that schools are the miniature of the society. This implies that some practices observed around the school have a power to interfere in its teaching learning process (Kelly, 2004). The traditional beliefs and practices of the Ethiopian society that encourages being silent and less argumentative have put its own negative influence on active learning strategies implementation, which strongly demands learners and their trainers to raise the how- and why-questions (Dahlstrom, 1999).

In cognizant with this view, though there are various problems in using active learning strategies, Ethiopia has tried its best to introduce and exercise active learning strategies (Ambaye, 1999; Haileyesus, 2007). The country, through her education and training policy stipulates that the implementation of active learning strategies in all levels of the education systems is almost a mandatory practice (MOE, 1994). Nevertheless, some writers in the field

claim that it is more fit when students are matured and contents are at higher level than it could otherwise (Cruickshank, et al., 1995; Johnston; 1994; Prince, 2004). Prince (2004), for example, noted that learners in higher institutions have basic ingredients (independency, maturation, and motivation) which are crucially important to manage once own learning in a better way, particularly in utilizing active learning strategies. And most of higher education contents are thought to be at a higher level for they would serve as a pathway to their workplace. The present study, therefore, gives attention to the exploration of the utilization of active learning strategies and its surrounding dilemma among Ethiopian public university teachers.

Currently, there are number of attempts to implement active learning strategies in higher learning institutions in general and in teacher education institutions in particular. For instance, using continuous assessment, involving learners to group/individual assignments and presentations, using variety of group discussions in the class are some of the attempts in implementing active learning strategies, which are relatively exercised by higher institution teachers (MOE, 2004). However, these attempts have initiated or pressurized by university/faculty officers, HDP trainers and even people from Ministry of Education (Ayalew et. al., 2009).

Yet, the teaching-learning methodological point of view realizes that the selection and utilization of instructional alternatives/ methodologies should be left for the classroom teacher rather than imposing him/her to utilize teaching methodology "X", "Y" or "Z". It is he/she that has to identify and decide the relevant teaching methods by considering students background, the nature of the contents, availability of educational resources, the physical environment of the institution through shared decision processes with his/her respective trainees (Duke, 1990; Arrends, 1994; Feriere, 1972). By considering these and other factors in to account, the classroom community (teacher and students) have to select and use the best fit active learning strategies that able to immerse them to deep thought, exploration and engagement over the teaching-learning task. This discrepancy, that is, forcing teachers to use certain methods, on the one hand, and what the

science of instructional methodology proposes, on the other hand, initiated the present investigation into existence.

The second vantage point for this study is related to people's misconceptions about active learning strategies. Teachers, students and even parents, foreexample, consider the utilization of active learning strategies in higher institution is a relief from a serious and continuous teaching and learning processes that face in the traditional approach (Silberman, 1996; Reda, 2001). However, this is not the fact in the active learning strategies utilization processes. Rather active learning strategies demand high mental and physical investment from its main classroom actors: Teachers and students (Vygotsky, 1978; Wolffe and McMullen, 1996).

Biggs (1996), moreover, portrayed that since active learning strategies are less detailed and tentative in planning and its process is open for argument, suggestions, alternative ideas and justifications by all participants in the class, it faces the teacher with challenges and then deep thinking in order to manage these unexpected and/or sudden arguments or ideas. The same is true for students. Teachers have the right (and even professional obligations) to face learners with number of challenges/problems and then to push them towards striving for it and look for solutions (Mayer, 1994). Both teachers and students, therefore, have to be active, diversified and explorative if they believe in the implementations of active learning strategies (Johnston, 1994; Amara, 2003).

In support of this, Prince and Felder (2006, p. 23) further stated, "If education is always to be conceived along the same antiquated lines of mere transmission of knowledge, there is little to be hoped from it in the bettering of man's future." This means that a learner and a teacher get better, out of the total process of education, when education is meaningful to them and they value learning as well as when they actively think and participate/engage in the learning processes (Yalew, 2004; Amare, 2000). The case in traditional approach to teaching, however, seemed relatively

simple and well-defined and pre-determined kind of activities. This is to say that teaching is simply a matter of transferring well planned and designed information from one source to another, just like the pipe line of water transfers water from a certain reservoir to the user (Lott, 1983).

Such kinds of confusions may affect negatively the implementations of active learning strategies implementation in all education levels, in general, and in higher learning institutions, in particular. Nonetheless, Wondimagegnehu (2006) and Haileyesus (2007) further noted that though there is a strong intention to introduce and employ active learning strategies, since the 1994 education and training policy, it is not yet in the right track. Teachers' belief, conceptions and practice about constructive approach/active learning is weak and even not consistent with the theories that explained how to implement it (Haileyesus, 2007; Haftu, 2008; Reda, 2001). Haftu (2008, p. 79) surprisingly reported that "teacher respondents were narrowly equating the essence of problem solving in teaching, which is a central approach to facilitate active learning strategies utilization, with students' daily economic, social and disciplinary problems such as drop out, cheating, late coming and shortage of learning materials."

Ayalew, et al (2009), in their book entitled: "Quality of Higher Education in Ethiopian Public Universities" also found that the teaching-learning processes in the Ethiopian universities were highly teacher centered. They further contended that little is attempted to employ active learning strategies. Hence, this study tried to delimit itself to public university teachers' active learning strategies utilization and related dilemmas by taking some institutional (experience of the university and faculty type) and professional (HDP training and professional course dosage) variables in to account.

Statement of the Problem

Active learning, the process of constructing and internalizing learning via learners' deep thinking and involvement, is a design for the teaching learning process which encourages deep mental and physical engagement of the

individual learner (Biggs, 1996; Norman and Schmidt, 1993). Another writer Prince (2004) also noted that according to constructivists' theory as a base for active learning strategies, teaching is not a matter of imposing or transmitting knowledge through direct instruction by the teacher and/or through the smart wordings of some influential students in the class (within the name of different types of group discussion and presentation) etc. Rather constructive theorists claimed that teaching in general and utilization of active learning strategies in particular have to initiate every individual student's deep mental thought investment to construct or create meanings out of the environment in general and the teaching-learning process in particular (Schon, 1991; Lott, 1983; Norman and Schmidt, 1993).

"The best indicators of good teaching is holding most students to use their higher cognitive level thought processes which demand high amount of learners' mental effort" (Prince, 2004, p.19). To do so, the tasks/contents for learning should be at optimal level in its degree of difficulty. That is, it should not be too solid (totally out of students' experiences) and not be too shallow (totally within the experiences of the learner) (Cruickhank, et al, 1994). The learning contents therefore should be designed in keeping the concept of learning that states as "learning is a systematic movement of learners' from the known to the unknown contexts through the initiations and engagements of learner's mind" (Prince and Felder, 2006, p 12). Moreover, the very essence of active learning strategies utilization is trying to face learners to problems (by designing tasks carefully) and then pushing them towards better understanding and problem solving activities through the investment of qualified thinking (Akalewold, 2005). Active learning strategies therefore serves as a vehicle to enable students to transfer, interpret and use of concepts and understandings from their classroom discussion to their real life situations (Reda, 2001; Amara, 2003).

To achieve all these educational outcomes, the key for any kind of teaching learning process, are selected, organized and presented to the learner on grounds that seem more important (Kelly, 2004) than other side issues of active learning strategies utilization, for example, classroom routines,

availability of furniture, class size, style of groupings, etc. (Collis and Lacey, 1996). The core assumptions of active learning utilizations do not encourage teachers to tell formulas, rules and principles for students to solve problems. Rather, it is advisable to push learners to find formulas, principles and/or generalizations by their own, of course, by indicating well designed hints that properly guide them (Brown, Oke and Brown, 1982). Through this kind of approach, learners might get opportunity for deep learning thereby to promote their creativity and problem solving skills which form the major objectives of any modern education system.

With this in mind, the present investigation tried to explore public university teachers' performance differences in implementing active learning strategies and to identify its surrounding dilemma with reference to some selected independent variables.

Cognizant of these situations, the following leading questions were formulated.

- 1) What is the status of active learning strategies utilization of university teachers?
- 2) Is there any significant difference in teachers' active learning strategies utilizations as far as experience of the university, faculty type, HDP training status and professional course dosage level are concerned? If so which group/s is/are significantly differ from the others?
- 3) What are the major dilemmas about the concept and utilizations of active learning strategies?

Operational Definitions

Dilemma: Refers all practitioners and officers' confusions that observed in their understandings and practices of active learning strategies.

Active learning strategies: Are all teaching methods and tactics that have a capacity to initiate and activate the learners to be thoughtful, active explorer, alert, independent, etc. and then help to internalize and use the learning outcomes for relatively permanent period of time.

Experience of the University: All Ethiopian Public Universities classify as high experienced (universities found and started formal bachelor training in and before 2001) and less experienced (universities found and started formal bachelor training after 2001).

HDP training: Is one year training about different professional issues in teaching. There are teachers who are completed, on the process and not started the HDP training yet.

Professional Course dosage: Refers the amount of teaching and related courses that teachers took while they were training for different levels of qualifications. It can be classified as high (greater than or equal to 30 cr.hr.), intermediate (11-29 cr.hr), low (1-10 cr.hr) and none (0 cr.hr).

Faculty type: Refers institutional classifications which contain related departments mainly work for academic-administration purpose. This study incorporates six selected faculties: Engineering, Natural Science, Social Science, Business and Economics (FBE), Humanities and Education.

Methods of the Study

Design of the Study

Since the investigation attempted to examine contemporary issues from large scale area and population, it has employed a descriptive survey design.

Populations, Samples and Sampling Techniques

Higher institution teachers were the major focus of this study because they were assumed to have connection with the dilemma as well as utilizations of active learning strategies. To gain further insight into the problem, university officers, faculty deans, department heads and higher diploma leaders, were included. Of the public universities of Ethiopia, four universities were selected through purposive sampling. Locations of sample universities, for relatively faire representativeness of the nations' public universities, experience level of the university, access for the researcher were considered as a criterion for selecting the sample universities. Bahir Dar University and

Addis Ababa University as representatives of high experienced universities, and Wollo University and Dere Dawa University as less experienced universities, on the other hand, constituted the research settings of this study which were all purposively selected.

The types of the faculties which included in the study were chosen also through purposive sampling. This helped to obtain faculties from various fields of studies by considering social sciences, hard sciences, humanities and education as the arena of the disciplines. Simultaneously, the status (high, middle, low and none) of faculty's HDP training and professional course dosage were also taken into consideration while selecting sample teachers. Thus, humanities, education, natural sciences, social sciences, engineering and business and economic (FBE) faculties were taken as sample faculties of the study. The study further employed stratified random sampling to identify respondents (participants), from each sample faculty, for the questionnaire. This sampling was also helpful to secure reasonable number of sample-teachers from all the faculties identified, and from both high and less experienced universities. Purposive sampling was employed to identify proper officers, experienced HDP leaders/tutors and information rich teachers for the interview.

From 2664 (2428 males and 236 females) in engineering, education, science, social science, FBE and humanity faculties of the sample universities were the population of the study. From the total population, 320 teachers (272 males and 48 females) were selected and participated in the study. The questionnaire was distributed for all 320 respondents though 16 of them did not return it. As a result, 304 teachers (260 males and 44 females) properly completed and returned the questionnaire.

Data Collection Instruments

Two data collection instruments namely questionnaire and interview were employed during the study.

Questionnaire

The questionnaire consisted of three parts. Its first part had 6 completion items, which helped the researcher to collect preliminary data about teachers' faculty type, university name, HDP training status and professional course dosage and other personal information. The second part comprised 26 closed-ended items, which helped to get data about teachers' active learning strategies utilization. These items were constructed on the bases of theoretical as well as empirical grounds about teachers' utilization of active learning strategies (particularly from Norman and Schmidt, 1993; Colliver, 2000; Yalew, 2004, Haftu, 2008). The third part of the questionnaire, on the other hand, consisted 2 open-ended items to seek qualitative data about the dilemma of active learning strategies utilization.

The response format, for the closed-ended items, used was ranged as strongly disagree, disagree, undecided, agree and strongly agree. In scoring, a point of 1 was assigned for a "strongly disagree" response, 2 for a "disagree" response, 3 for an undecided response, 4 for an "agree" response and 5 for a "strongly agree" response.

After the questionnaire items had been prepared, the questionnaire was given to two professionals (1 PhD in educational psychology and 1 MA in curriculum and instruction). Based on the comments and suggestions of the experts, some items were revised and new items were added. Then a pilot study was conducted to determine the reliability of the questionnaire and Cronbach Alpha was used in order to assess the internal consistency of responses from one item to another. The reliability results of most of the items were calculated to be Cronbach Alpha 0.82.

Since all the participants of the study were university teachers, the questionnaire was prepared in English and administered.

Interview

To triangulate the data obtained through questionnaire, interviews were conducted with university officers, HDP trainers and teachers. In doing so, 16 interview respondents (8 teachers, 4 HDP trainers and 4 officers) were selected purposively and interviewed. Experience, fields of specialization and level of qualification were some of the criteria that have been considered to determine interview respondents.

After explaining the objective of the study and having got the interviewees' consent, the researcher himself made the interviews.

Data Analysis Techniques

Both quantitative and qualitative data analysis techniques were used carried out in the study. ANOVA was used to see whether there are mean differences in teachers' active learning strategies implementation across experiences of the universities, faculty type, HDP training status and level of professional course dosage. To identify the mean or means that significantly differ from one group to another, Post Hoc Test was conducted. One sample t-test was also employed to analyze teachers' current active learning utilization status. In order to indicate the dispersion and central tendency of the data, the means and standard deviations of the variables were reported. The data collected through interview and open-ended questionnaire were analyzed qualitatively.

Results

Examining teachers' active learning strategies implementation in line with the experience of the university, faculty type, HDP training status and professional course dosage level was the front line purpose of this study. The study also identified the main dilemmas that face in the utilization of active learning strategies. To this end, the results obtained were presented and analyzed as follows.

The crude eyeball observation of the mean score (in Table 1) indicated that all the means are below the expected mean of the population (3.00). One-

sample t-test was employed to check whether the mean score values are significantly below the expected mean of the population. To this end, Table 1 showed that all the mean values of responses are significantly below the expected mean of the population (3.00). This implies that university teachers' utilization of active learning strategies is in its minimal position.

Table 1: Teachers' Active Learning Strategies Utilization across the Selected Independent Variables

Source of Variation		Number	Mean	S.D	t-observed	P-Value
Experience of the University	High	168	2.68	8.42	2.02	0.01
	Less	136	2.55	5.26	2.96	0.02
Faculty Type	Engineering	71	2.78	4.34	2.42	0.04
	FBE	69	2.48	7.02	3.08	0.00
	Education	32	2.53	3.82	2.76	0.03
	Language/Humanities	34	2.50	6.08	2.68	0.01
	Social Science	38	2.44	6.42	2.62	0.02
	Natural Science	60	2.67	3.84	3.02	0.03
	Completed	124	2.46	7.24	2.48	0.03
HDP	On training	33	2.51	6.81	2.80	0.00
Training	Not started	147	2.55	7.76	2.83	0.02
Professional Courses	High	56	2.62	4.06	2.06	0.03
	Intermediate	54	2.55	6.83	2.84	0.00
Dosage	Low	38	2.61	6.24	2.68	0.03
	Not at all	156	2.59	7.46	2.86	0.00

$P < 0.05$ t -critical = 1.96 and Expected population Mean = 3.00

Moreover, the mean scores presented in Table 1 revealed that there seemed to be difference in the mean scores of active learning utilization behavior among engineering (2.78), science (2.67), education (2.53), social science (2.44), business and economics (2.48) and language (2.50) faculty teachers. The same table, Table 1, also showed that there is a difference between the mean scores of high experienced university (2.68) and less experienced university (2.55) teachers. Differences are also observed among a mean score of teachers with high (2.62), intermediate (2.55), low (2.61) and none (2.59) professional course dosage. The data in the above table also

indicated that there are mean score differences among the teachers whose HDP training is completing (2.46), ongoing (2.51) and not yet starting (2.55). In order to check whether the mean score differences among different groups, reported in Table 1, are significant, ANOVA test was employed. And the results were presented in Table 2.

Table 2: Teachers' Active Learning Strategies Utilization as the Function of their University Age, HDP Training Status, Faculty Type and Professional Course Dosage

Sources of Variation		Sum squares	df	Mean Square	F	P- value
Experience of the University	Between Groups	386.24	1	486.24	221.98*	0.00
	With in Groups	526.86	302	1.74		
	Total	1413.10	303			
HDP Status	Between Groups	22.22	2	11.11	2.90	0.16
	With in Groups	1152.73	301	3.83		
	Total	1174.95	303			
Faculty Type	Between Groups	426.44	5	85.29	78.25*	0.00
	With in Groups	324.12	298	1.09		
	Total	750.56	303			
Professional course Dosage	Between Groups	23.46	3	7.82	1.94	0.12
	With in Groups	1208.44	300	4.03		
	Total	1231.90	303			

The ANOVA results portrayed that there is a significant mean difference between high experienced and less experienced university teachers as a favor of high experienced university teachers ($F_{\text{observed}} = 221.98$, $df_1 = 1$, $df_2 = 302$, $F_{\text{critical}} = 3.86$ and $P = 0.00$). The same table again showed that there are significant differences among various faculty teachers active learning utilization behavior ($F_{\text{observed}} = 78.25$, $df_1 = 5$, $df_2 = 298$, $F_{\text{critical}} = 2.26$ and $P = 0.00$). On the other hand, teachers did not have significant differences of implementing active learning strategies with respect to their HDP training

status ($F_{\text{observed}}=2.90$, $df_1=2$, $df_2=301$, $F_{\text{critical}} = 3.02$ and $P=0.16$) and professional course dosage ($F_{\text{observed}}= 1.94$, $df_1=3$, $df_2=300$, $F_{\text{critical}} = 2.63$ and $P=0.12$) (Table 2). When the experience of the university considered, since all the nation's universities are classified into two categories (high and less), the high experienced universities (with the greater mean, 2.68) are utilizing active learning strategies in a better position than less experienced universities (with the lower mean, 2.55) do.

Table 3: Post HoC Mean Comparison Values for Active Learning Strategies Utilization of Teachers as the Function of Their Faculty Type

<i>Group</i>	<i>Denominator</i>	<i>Q-calculated</i>
<i>Education Vs Language</i>	<i>0.99</i>	<i>3.58</i>
<i>Education Vs Natural Science</i>	<i>0.95</i>	<i>5.31*</i>
<i>Education Vs Social Science</i>	<i>1.05</i>	<i>3.82</i>
<i>Education Vs BE</i>	<i>1.28</i>	<i>2.88</i>
<i>Education Vs Engineering</i>	<i>0.98</i>	<i>6.24*</i>
<i>Language Vs Natural Science</i>	<i>0.93</i>	<i>4.87*</i>
<i>Language Vs Social Science</i>	<i>1.04</i>	<i>2.54</i>
<i>Language Vs BE</i>	<i>1.08</i>	<i>3.15</i>
<i>Language Vs Engineering</i>	<i>0.86</i>	<i>6.43*</i>
<i>Natural Science Vs Social Science</i>	<i>0.99</i>	<i>6.04*</i>
<i>Natural Science Vs BE</i>	<i>1.07</i>	<i>5.26*</i>
<i>Natural Science Vs Engineering</i>	<i>0.93</i>	<i>4.85*</i>
<i>Social Science Vs BE</i>	<i>0.92</i>	<i>3.21</i>
<i>Social Science Vs Engineering</i>	<i>1.16</i>	<i>7.86*</i>
<i>BE Vs Engineering</i>	<i>1.04</i>	<i>5.46*</i>

$P^* < 0.05$ ($Q\text{-critical} = 4.03$ for $r=6$ and $df=298$)

Among the six faculties, in order to identify the faculty that highly employed active learning strategies, post HoC Test (PHT) was used. As it is indicated in post HoC Test, Table 3, Q- calculated values (5.31, 6.24, 4.87, 6.43, 6.04, 5.26, 4.85, 7.86 and 5.46) are greater than Q- critical value (4.03) at $r=6$, $df=298$ and $P<0.05$. The result depicted that engineering faculty teachers were relatively best of all other faculty teachers in utilizing active learning strategies followed by natural science teachers. On the other hand, there was no significant difference among the teachers who taught in education,

business and economics, humanities and social science faculties in utilizing active learning strategies.

Conversely, responses of engineering and natural science faculty members for the interview and open-ended items revealed that active learning strategy was considered to be unsuitable strategy for their disciplines/courses. For instance, a respondent from engineering faculty said, "Active learning is suitable for subjects like social sciences, language and education." Another respondent also supported this, "it is difficult and time consuming to attempt using active learning strategies in hard science subjects." Moreover, the responses of the University's officers and HDP tutors and leaders tend to strengthen this. They reflected that "now the trend of utilizing active learning strategies is relatively better in social science and education departments than in engineering and natural science departments." This fact is reported by the social science, language and education faculty teachers too.

For the open-ended questionnaire items that asked to indicate and explain about the major dilemmas surrounding and in active learning strategies, most of the respondents reported the following dilemmas.

- Equating some teaching methods (for example, Variety of discussion methods and students' presentation) to active learning strategies.
- Trying to impose teachers, without their initiation and readiness, to utilize some active learning strategies regardless of examining the other contexts to use them.
- Assuming that active learning strategies are best fit for social science and related subjects and less-fit to hard science subjects. This is not in line with the result of the present study as well as previous theories of active learning strategies that claim hard science subjects are the origin of active learning strategies (Robert and Tag, 1995; Haward, 1985).
- Introducing paradox programs/directions (eg. centralized testing institutions, allowing to teach large number of students and promoting competency based learning) with principles of active learning strategies.

Discussions

As it is shown in the statistical analysis, there is significant difference on active learning strategies utilization among teachers as a function of the experience of the university. Teachers from high experienced universities tend to implement active learning strategies in a better way than teachers from less experienced universities. The experience of the university plays a lot to determine teachers' activities including the utilization of active learning strategies. Less experienced educational institutions may give more attention to side issues than the actual practicality of the teaching learning processes (Haddawy and Igel, 2006). The possible reason could be that less experienced institutions have lot of challenges in fulfilling infrastructures, educational furniture, proper human resources and other basic inputs.

High experienced universities, on the other hand, have relatively well qualified and experienced teachers and better resources. Therefore, teachers in high experienced universities have more skills of designing learning tasks that demand students' higher thought effort than less experienced university teachers. The later has run in shortage of senior professors that serve as teaching and research advisory. For example, an experienced HDP leader responded that less experienced institutions were stricter on the agenda such as controlling attendance in HDP training, celebrating HDP graduation, developing well prepared reports, etc. than focusing on actual matters. Another HDP leader mentioned that these institutions (less experienced universities), however, seemed weak to practise and realize some innovations in instruction, which are incorporated in the HDP, which include active learning strategies.

According to the result of the questionnaire data, engineering and science teachers practised active learning strategies very well than business and economics, social science, education and language teachers did. The nature of the content, students over all background, teachers' skill in that specific teaching alternative and availability of resources are considered as important determinants to select one teaching alternative over the other (Cruickshank,

et al., 1995; Copper, 1996). Of these, the nature of the course (content) is the most decisive one (Copper, 1996). This is because, according to Howard (1985), contents are the issue /substance that mainly have a power to move students' behavior from one level to the other. Selecting and using best fit instructional alternatives for a given content, therefore, must be accomplished wisely. The result of this study, therefore, might be realized this theoretical explanations. In other words, it is possible to conclude that the contents (educational experiences) in engineering and science faculty, according to the quantitative data result of this study, may encourage or force teachers and students to use active learning strategy, even without teachers' minimum know how to it. In this regard, Kelly (2004) indicated that the natures of school contents by themselves have a power to call students either for active involvement in the teaching-learning practices or the other way round.

Moreover, according to Prince (2004), inquiry learning, problem-based learning, project-based learning and case-based teachings are relevant for most of the contents in science and engineering. The reason why, according to Prince, is that the contents in science and engineering faculties demand students' independent and deep thinking and hard working which are highly favorable for using active learning strategies. That is why the history of active learning strategy tells us it was introduced first in the hard science subjects such as mathematics, physics, engineering (Robert and Tag, 1995; Haward, 1985).

Education, language, social science and business and economics faculty teachers' active learning strategies utilization is in its minimal position when it compares to engineering and science faculty teachers (as Post Hoc result in Table 3 indicated). The followings might be considered as possible justifications of this finding. The nature of courses in these faculties, when compared to science and engineering, may need deep thought and careful designing from the teacher, to make them initiative, innovative, thought full, challenging and demanding for the learner (Copper, 1996).

Teachers from education, language, social science and business may lack attention and skills on task /problem designing that initiates deep thinking, strong learning engagement and high mental thought effort which are the main features of active learning strategies implementation. Rather, those teachers from education, language, social science and business may focus more on supportive issues of active learning such as forming different types and sizes of groups, arranging peer teaching, giving individual and group presentation, etc. than working in its true features; facing the learner with challenging and problematic situations. This will be actualized via designing relevant problems that enable to engage students in hard working and thinking in order to escape from that problematic situation (Prince and Felder, 2006).

Teachers' professional course dosage level, during their training for certain qualification, and HDP training status, which assume to have significant contribution in facilitating teachers' professional development, do not make any differences on the utilization of active learning strategies (ANOVA results, Table 2). No doubt that those teachers who took professional courses and who trained HDP had better theoretical information about active learning strategies and its implementation than teachers who did not (Wossenu, 2009; Arrends, 1994). However, this investigation found that there are no variations among the teachers in practicing active learning strategies either they completed, on the training or not yet started HDP. The same is true for professional course dosage levels of teachers. This is to mean that it does not matter teacher's active learning implementation behavior either he/she took high, intermediate, low or no dosage of professional courses during his/her training for any kind of qualification.

The response of one of the HDP leaders seems to support this. He said that:

Those HDP trainees who have more professional course dosage are smart in discussing theoretical issues of active learning, continuous assessment and the like but they are not encouraging in practicing those innovations in their class. On the contrary, teachers with less or no professional course dosage are poor in discussing theoretical issues but they are trying to implement the innovations in their class in line with the HDP guide line.

Another HDP tutor also reported that trainees of HDP did not take the training seriously as part of (and/or support of) their professional development rather they considered it as mandatory to exist in the profession. Therefore, he said "I have observed problem of artificiality and just looking for the diploma of the program." This clearly showed that both professional course deliveries and HDP training seemed to fail in equipping the trainees with the required skills for practicing active learning strategy rather more focus was given for theoretical information.

Training schemes whether they are short term or long term one's, as it was explained by Schon (1991), should not talk only the theoretical frame work of a given instructional methodology. Theoretical frame work of teaching methodologies, according to Lott (1983), is important simply for justifying and empowering teachers' selection and practicing of certain instructional methodology over the other. Otherwise knowing theory of education in general and theory of teaching methodology in particular by itself might not be an end for teachers to be a competent practitioner of teaching. That is why the result of the present study showed that level of professional course offerings and HDP training statuses have nothing to do with the utilizations of active learning strategies. Therefore, as it was remarked by Arrends (1994), we teacher trainers have to incorporate and show how the trainees start actual practices with a given teaching methodology by taking particular contents from different fields of studies.

Conclusion and Recommendations

Based from the analysis and discussions made above, it can be concluded that:

- Generally, utilizations of active learning strategies among public university teachers seemed to be below the expected standard /or weak/.
- Teachers' utilization of active learning strategies seems encouraging in engineering faculty which was followed by science faculty.
- Teachers from education, language, social science and business and economics faculty have no significant differences in their active learning strategies utilization.
- Utilizations of active learning strategies showed statistically insignificant differences of teachers with respect to their HDP training status and professional course dosage level.
- Teachers from high experienced universities tended to implement active learning strategies more than teachers from less experienced university.
- Equating active learning strategies with some teaching methods, imposing teachers to utilize some active learning strategies over the other, assuming active learning strategies are best fit for social science and related subjects but not for hard science subjects, and introducing paradox practices with that of active learning strategies implementation were reported as some of the dilemmas observed in active learning strategies conceptualizations and utilizations.

In line with the major findings of the study, the following recommendations were made.

- University teachers have to think and work about initiative, dependent, demanding and thought full task/problem/ designing than exhausting their capacity and time in arranging other situations for active learning strategies.

- Tasks /lessons for active learning have to be designed in such a way that the task/lesson/ has to have certain problems/doubts, of course with reasonable hints that make the task neither too easy nor too solid. This scenario demands practitioners' high mental effort to investigate the main issue of the lesson. Therefore, these demanding tasks by themselves attract the practitioners (both the teachers and students) for utilizing active learning strategies.
- To make their practice more successful, engineering and science faculty teachers have to develop more knowledge and skill in utilizing active learning strategies through reading about teaching and learning. Moreover, it will be facilitated via workshops and seminars that deal about education in general and active learning strategies in particular. By doing so, instead of practicing active learning strategies unintentionally (because of the nature of the courses' that they have), they can do it more effectively, efficiently and deliberately than they are doing it now.
- Facilitators of HDP and other related trainings/workshops and professional course teachers have to give more emphasis on proper and demanding task designing frameworks and skills in providing practical examples on how trainees design tasks or problems. It also advisable that trainees have to start exercising different teaching methods including active learning strategies at the training stage. So that different short and long term trainings in active learning and professional course offerings will be successful in promoting the knowledge and skills of instructional methodology among the trainees.
- Different level officers, starting from department level to ministry of education, should try to introduce congruent and supportive programs, policies and directions to the implementation of active learning strategies. If this is the case, the programs and the policies will be supporting to each other and then practitioners develop clear vision about their practices.
- Through the realizations of the aforementioned recommendations, simultaneously it is possible to clear out the dilemmas that this investigation observed in and surrounding of active learning strategies utilization.

References

- Akalewold Eshete (2005). *The State of Problem Solving Skills in General Secondary biology Laboratory Activities*. **The Ethiopian Journal of Education**, 24 (2), 87-118.
- Amare Asgedom (2000). *An androgenic Approach to Teaching and Learning*. **IER Flambeau**, 8(1), 73-88.
- Ambaye Tesehay (1999). *Curriculum Evaluation: Monitoring the Harmony of TTI syllabuses with the New Primary Level Curriculum Vis-à-vis Standard Models and New Education and Training Policy*. **The Ethiopian Journal of Education**, 19 (1), 1 - 28.
- Amera Seifu (2003). *Distance Education and its Relation with Media*. **IER Flambeau**, 11(1), 75-8.
- Arrends, R.I. (1994). **Learning to Teach**. (3rd ed). New York: Mcgraw-Hill Inc.
- Ayalew Shibesh, Dawit Mekonen, Tesfaye Semela and Yalew Endawoke (2009). *Assessment of Science Education Quality Indicators in Addis Ababa, Bahir Dar and Hawassa Universities*. In Forum for Social Studies (eds.). **Quality of Higher Education in Ethiopian Public Institutions**. Addis Ababa: Forum for Social Studies.
- Biggs, J. (1996). **Teaching for Quality Learning**. Buckingham: Open University Press.
- Brown, N.R., Oke, E.R. and Brown, P.D. (1982). **Curriculum and Instruction: An Introduction to methods of Teaching**. London: Macmillan Publisher.

- Cohen, L. Manion, L. and Morrison, K. (2004). **A Guide to Teaching Practice.** (5th ed). New York: Printice Hall.
- Copper, p. (1996). **Effective Teaching and Learning: Teachers and Students Perspective.** England: Open University press.
- Collis, M. and Lacy, p. (1996). **Interactive Approaches to Teaching a Framework for INSENT.** London: David Fulton Press.
- Colliver, J. (2000). Effectiveness of Problem-Based Learning Curricula. **Academic Medicine**, Vol. 75, 259-272.
- Cruickshank, et al. (1995). **The Act of Teaching.** New York: McGraw-Hill, Ink.
- Dahlstrom, L. (1999). Towards Learner-Centered and Democratic Teacher Education. In Zeichner, K. and Dahlstrom, L. (Eds). **Democratic Teacher Education in Africa: The Case of Namibia.** USA: Westview Press.
- Doll, R.C. (1989). **Curriculum Improvement: Decision Making and Process** (7th ed). Boston: Allyn and Bacon.
- Donald, N. L. (1971). **Wax and Gold: Traditional and Innovation in Ethiopian Culture.** Chigago: University of Chigago Press.
- Duke, D.L. (1990). **Teaching an Introduction.** New York: McGraw Hill Pub. Comp.
- Friere, P. (1972). **Pedagogy of the Oppressed.** New York: Herder and Herder.
- Girma Amare (1967). *The Aims and Purposes of Church Education.* **The Ethiopian Journal of Education**, 1 (1), 1-28.

- Girma Amare. (1963). *Memorization in Ethiopian Schools*. **Journal of Ethiopian Studies**, (1), 27- 35.
- Haddway, P. and Igel, B. (2006). **Fostering Innovation in Higher Education**. Thailand: Asian Institute of Technology.
- Haftu Hindya (2008). *Teachers' Problem Solving Conceptions and Classroom Practices*. Bahir Dar: Bahir Dar university (MA Thesis).
- Haileyesus Wudu (2007). *Constructivist Approach to Teaching: The Efforts and Challenges of Second Cycle Primary School Teachers of Bahir Dar*. Bahir Dar: University (MA Thesis).
- Hall, K. (1995). *Learning modes: An Investigation of Perceptions in Five Kent Classrooms*. **Educational Research**. 37(1), 21-32.
- Howard, G. (1985). **Frames of Mind**. New York: Basic Books.
- Inbakon Kalewold (1970). **Traditional Ethiopian Church Education**. New York: Teachers' College Press.
- Johnston, S. (1994). *Experience is the Best Teacher, or is it? An Analysis of the Role of Experience in Learning to Teach*. **Journal of Teacher Education**, 45(3). 199-208.
- Kelly, A.V. (2004). **The Curriculum Theory and Practice** (5th eds). London: Sage Publications).
- Lott, G. (1983). *The Effect of Inquiry Teaching and Advance Organizers upon Student Outcomes in Science Education*. **Journal of Research in Science Teaching**, Vol. 20, 437-453.

Mayer, R.E. (1994). *Problem Solving and Thinking, Developing of Learning Skills Programs*. In the T. Hussen and N.T. Postlethwaite (eds) **International Encyclopedia of Education**.

MoE (1994). **The New Education and Training Policy**. Addis Ababa: MoE.

MoE (2004). **Higher Diploma Program for Teacher Educators Hand Book**. Addis Ababa: MoE.

Norman, G. and. Schmidt, H. (1993). The Psychological Basis of Problem-Based Learning: A Review of Evidence. **Academic Medicine**, 67 (2), 557–565.

Prince, M.J. (2004). *Does Active Learning Work? A Review of the Research*. **Journal of Engineering Education**, 93(3), 223-231.

Prince, M.J. Felder R.M. (2006). *Inductive Teaching and Learning Methods: Definitions, Comparisons and Research Bases*. **Journal of Engineering Education**, 95(2), 123-138.

Rand Ayn (1991). **Objectivism: The Philosophy of Ayn Rand**. New York: Leonard Peikoff.

Reda Darge (2001). *Conception of Constructivist Teaching Approach in Higher Education: A case Study*. **IER Flambeau**, 12(1), 57-62.

Robert B. and Tagg J. (1995). *From Teaching to Learning: A New Paradigm for Undergraduate Education*. **Journal of Change**, 27(6): 12-25.

Schon, D.A. (1991). **The Reflective Practitioner: How Professionals Think in Action**. (2nd ed) London: Temple Smith.

Silbrman, M. (1996). **Active Learning 101 Strategies to Teach any Subject**. USA: Allyn and Bacon.

- Teheranian, M. et. al. (1997). **Communications Policy for National Development**. London: Rouedge and Kegan Paul Publication.
- Vygotsky, L. (1978). **Mind in Society: The Development of Higher Psychological Process**. Cambridge: Harvard University Press.
- Wollffe, J. and McMullen, F. (1996). *The Constructivist Connection: Linking Theory, Best Practice and Technology*. **Journal of Computing in Teacher Education**, 12(2), 25-28.
- Wondimagegnehu Tuji (2006). *Upper Primary Students' Engagement in Active Learning: The case in Butajira Town Primary Schools*. **The Ethiopian Journal of Education** 26(1), 1-30.
- Wossenu Yimam (2009). *Higher Education Institution Teachers' Pedagogical Training, Work Load, and performance Evaluation*. In Forum for Social Studies (eds.) **Quality of Higher Education in Ethiopian Public Institutions**. Addis Ababa: Forum for Social Studies.
- Yalew Endawoke (2004). *Teachers' Beliefs, Knowledge and Practice of learner- centered Approach in School of Ethiopia*. **The Ethiopian Journal of Education**, 24(2) 17-42.