



The Effectiveness of “Postgraduate Diploma in Teaching” Graduates in Utilizing Active Learning Methods: The Case of Preparatory Schools in Eastern Ethiopia

Anwar Ahmed, Yordanos Tekle and Melkamu Alemu
Lecturers in Haramaya University, Ethiopia.

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ABSTRACT

The main purpose of this study was to investigate the effectiveness of postgraduate diploma in teaching (PGDT) program graduates in utilizing various Active Learning Methods (ALMs) in their classroom instruction. Descriptive survey research design that involves both quantitative and qualitative data was employed. The participants of the study comprised 261 teachers, 21 principals & supervisors each which were selected using stratified, purposive and available sampling techniques respectively. Questionnaire, key informant interview, observation checklist and document analysis were the tools used to collecting data. The finding of the study revealed that, PGDT graduates were somewhat effective in utilizing various ALMs as the overall observed mean score of the respondents was 2.03 which was slightly above the expected mean value (2.0). Moreover, it was found out that; lecturing, group discussion, and questioning & answering techniques were the most frequently utilized ALMs with mean score 3.08, 2.90 and 2.89 respectively. Furthermore, the association between teaching experience of PGDT graduates and their level of utilizing different ALMs was not significant ($r = 0.06$, $p = 0.32$ which is > 0.05). T-test value $t(257) = 0.23$, $p = 0.07 > 0.05$ indicated that, there was no significant mean difference between male and female PGDT graduate teachers in utilizing ALMs in classroom though the observed mean score of male PGDT graduates (mean=40.9) was relatively higher than their female counterparts (mean=35.0).

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1. Introduction

1.1. Background of the Study

Education unlocks human potential, and help individuals to better understand the world in which they live, to address the complex and interconnected problems such as poverty, wasteful consumption, environmental degradation, urban decay, population growth, gender inequality, health problems, conflict, and the violation of human rights that threaten our future, and it is also used to empower people to assure responsibility for creating a sustainable future (Manas, 2013, Koye & Yonas, 2013). Hence, the role of modern education is highly indispensable and acknowledged by vast body of literatures (Psacharopoulos, 1985; Lockhead & Verspoor, 1991; GTE, 1994; UNESCO, 1997; UNESCO, 2005).

The introduction of modern Education in Ethiopia is traced back to the regime of Emperor Minilik II (1889-1930). However, slight development in education sector in general and teacher education in particular has been registered during the period of Emperor Haile Selassie I (1930-1974), and Derg regime (1974-1991) respectively (Manas, 2013; Demis, 2015; Sisay, 2016).

Above all, the most significant turn in education sector was realized in 1994 when the Federal Democratic Republic of Ethiopia introduced educational reform with the adoption of Ethiopian Education and Training Policy (ETP). From the time of formulating education and training policy in 1994, formidable successes have been registered at various levels of the education system.

Much of these successes are related to the most serious problems that characterized the education system for many years. These are access, equity, relevance, and efficiency of the education system (MoE, 2009). Since the introduction of the 1994 ETP, the present government has strived to improve teachers' professional development by introducing two different teacher development programs of which Teacher Education System Overhaul (TESO) is the first one. TESO was introduced as teacher education program in 2003. After 8 years of its implementation, a national task force was set up under the auspices of the Ministry of Education (MoE). The taskforce has attempted to address the needs of the country through analysis of policy and program documents that identified the problems in teacher education programs through discussions with teacher educators of various universities and reviewing empirical studies conducted on Ethiopian teacher education in such a way that benchmarks best practices through literature review and educational visits to some European and African countries.

Indeed, studies on the TESO program indicated that TESO's major problem was lack of a clear plainspoken philosophical orientation that transpired in the program document, curriculum organization and delivery, and evaluation. Moreover, the lack of pedagogical and social feasibility, lack of coherence among program elements, and simultaneous reforms/changes that cannot be dovetailed are indicated as the Achilles heels of TESO.

Notwithstanding these problems, TESO has planted very good culture of school and teacher education partnerships and the relevance of active learning and continuous assessment though the notions seem to be abused due to enculturation problems and misconceptions. The taskforce also recommended the existence of alternative models of teacher education programs in which secondary school pre-service teacher education is delivered mainly in a postgraduate certificate form in many countries. Based on this finding, the second type of teacher development program known as Postgraduate Diploma in Teaching (PGDT) was started to be implemented in 10 Ethiopian Universities since 2011. Though the curriculum frame work of PGDT program was initially designed for regular entry students, PGDT program was started in 2011 summer modality due to the urgent need of trained teachers in secondary schools of different regional states in the country. After three years of training teachers in summer program, PGDT program was also started in regular form in 2014. Since then, both summer and regular modalities have been continued side by side.

At present, MoE has changed this program to Bachelor of Education (BED) program and started to be implemented in four universities (Jimma, Bahir Dar, Mekele and Hawassa Universities) while PGDT program is still continuing in both summer and regular modalities.

2. Research Gap

Few researches conducted on the area of PGDT program highlighted its practices, perceptions of prospective students towards the program, challenges related to its implementations and mentoring process in practicum portfolio development were assessed. For instance, Adugna (2012) found out that the attitude of prospective teacher students towards PGDT program was moderately positive with mean score 3.55 out of 5. In opposite to this, Demis (2015) concluded that majority of PGDT trainee teachers joined the program due to lack of other job options which intern shows that prospective trainees do not have inherent interest towards the teaching profession. Koye and Yonas (2013) also found out that the practice of PGDT program was against the program guideline. They also concluded that lack of appropriate mentors, absence of organized teaching material, low motivation of students, lack of understanding between MoE and regional education bureaus were the main challenges on the implementation of the program. Furthermore, study conducted by Mohammed et al (2014) on mentoring process of PGDT program indicated that, large number of mentors have a teaching experience between 1-3 years and hence this experience is not sufficient enough to properly contribute to professional development of mentees. They also found out that, there is shortage of materials and facilities in schools to properly carry out practicum activities. Worku (2015) on mentoring process of PGDT program found out that, the mentoring process was not inline with the plan due to the fact that stakeholders had no clear understanding of the program like mentees were overloaded, appropriate mentors were not assigned, the role of mentors misunderstood by mentees, mentors themselves and educational officials, lack of commitment between mentors and other educational officials were the main ones.

However, all the above studies were unable to address the effectiveness of PGDT graduates even if the graduates of this program in both regular and in-out-in modalities are presently working in secondary schools of the country. Hence, the general objective of this study was to investigate

the effectiveness of PGDT graduates in utilizing various Active Learning Approaches (ALA) to enhance their students learning.

2.1. Specific Objectives of the Study

Specific objectives of this study were to;

1. Find out the extent to which PGDT graduates utilize ALMs in their classroom instruction
2. Examine the ALMs that are predominantly applied by PGDT graduates
3. Test whether association exists between service year of PGDT graduates and their extent of applying ALMs
4. Identify whether male and female PGDT graduates significantly differ each other in applying various ALMs

2.2. Significance of the Study

The present research aims at investigating the effectiveness of PGDT graduates in utilizing ALA to enhance their students learning in preparatory schools of eastern Ethiopia. Accordingly, the results of this study may help stakeholders (Teacher education universities, MoE, Region states and Woreda level education offices and schools) in creating awareness about the effectiveness of PGDT graduates and to take immediate interventions so that the graduates of the program will be supported to enhance their students learning. Furthermore, it will serve as a reference for other researchers in the area.

2.3. Delimitation of the Study

This study was conceptually delimited to the effectiveness of PGDT program graduates in utilizing ALMs for classroom instruction. That means, the present study did not include issues like the effectiveness of PGDT graduates in utilizing Continuous Assessment (CA) and Instructional planning. Geographically, it was delimited to two zones (East and West hararghe), one administrative city (Dire Dawa), and one national regional state (Harari). Moreover, the study was delimited to PGDT graduates working in second cycle secondary schools (preparatory schools) than first cycle secondary schools (grade 9 and 10). Furthermore, this study focused on BA/BSC plus PGDT program graduates by excluding other teacher training programs like BED or MED.

3. Method and Materials

3.1. Research Design

The purpose of present study was to look into the effectiveness of PGDT graduates on utilizing various ALA for classroom instruction in preparatory schools of eastern Ethiopia with particular emphasis in Dire Dawa City administration, Harari regional State, East Hararge zone and West Hararge zone. Therefore, survey research design that involves both qualitative and quantitative research approaches (mixed research methods) was employed as its goal is to learn about a large population by surveying representative sample, summarizing their responses in percentages, frequency, and more sophisticated statistical methods (Sarantakos, 2005). Survey helps to identify the major practice, opinions, suggestions and comments pertaining to the issue under study. Thus, survey is found to be the preferable approach for the present study.

3.2. Sources of Data

Teachers, Principals and Supervisors of both woreda and zonal level were used as primary sources of data. Additionally, secondary sources like lesson plan reports, Education Sector Development Program (ESDP) particularly ESDP V, Growth and Transformation Plan (GTP-II) of Ethiopia and other journal researches were considered.

Table 1. Sample size of schools from each study area.

No	Study Area	No of Schools	No of Sampled Schools	Sampling Technique
1	East Hararge Zone	24	12	Stratified Random
2	West Hararge Zone	15	7	Stratified Random
3	Dire Dawa City	2	1	Purposive
4	Harari Region	1	1	Available

Table 2. Sample size and sampling technique of the actual respondents from each study area.

No	Respondent		Study Area					Sampling Technique
			East Hararge	West Hararge	Dire Dawa	Harari	Total	
1	Teachers	Population	206	132	44	79	461	Purposive and Stratified Random
		Sample size	115	68	30	48	261	
2	Principals	Population	20	10	3	3	36	Purposive
		Sample size	12	7	1	1	21	
3	Supervisors	Population	12	7	1	1	21	Available
		Sample size	12	7	1	1	21	

3.3. Population, Sample Size and Sampling Techniques

The total population of this research was 975. Among these, the total number of teachers, principals and supervisors were 846, 88, and 41 respectively. As a result, multistage sampling technique was used to select the required respondents. Accordingly, schools were first selected by using different sampling techniques as indicated in table 1 below.

After selecting the required number of schools, selection of teachers was made through the combination of both purposive and simple random sampling techniques. That means, purposive sampling is used to involve experienced teachers that serve as mentors, department heads and unit leaders in to the sample. After that, less experienced teachers were included in the sample through stratified random sampling by using departments as strata. Additionally, principals were included in the sample through purposive sampling technique. That means only academic vice principals were taken as a sample because the purpose of this research was highly related to their responsibilities rather than the responsibilities of the main principal and administrative vice principal. Moreover, availability sampling was used to include all the supervisors. Table 2 shows the detail hereunder:

3.4. Tools of Data Collection

As a means of collecting data, questionnaires, semi-structured interviews, observation check list and document analysis were used.

3.4.1. Questionnaires

A questionnaire was utilized as a chief tool of collecting information from teachers. It was designed in a way that triggers respondents to give their bibliographic information as well as the actual data about the research. The first part of the questionnaire consisted of 6 items that focused on biographical information about respondents. The second part consisting of 17 items was framed to secure information about the effectiveness of PGDT graduates in using ALA for classroom instruction. Before dispatching the questionnaire a pilot test was conducted in Adele Preparatory School and the internal consistency of the items was calculated by using Cronbach's alpha and found to be 0.81 which is acceptable according to (Deniz & Alsaffar, 2013).

3.4.2. Interview

In addition to the questionnaire, interview guide was also considered as means for securing important data.

To get detailed information, 5 items of semi-structured interview guides were designed to supervisors. The main purpose of interview was to obtain detail information about

the effectiveness of PGDT graduates. This procedure helped the researchers to triangulate and strengthen the information obtained through the questionnaire.

3.4.3. Document Analysis

Documents prepared by PGDT graduates like annual and daily lesson plan were critically analyzed to see how much they used ALA in their classroom instruction.

3.4.4. Observation

To see whether teachers were utilizing varieties of assessment techniques and ALA, direct classroom observation was conducted for about 11 sections (4 west hararge, 3 east hararge, 2 dire Dawa and 2 Harari)

3.5. Method of Data Analysis

After collecting the necessary information, the data was tallied, tabulated and processed separately for each item in line with the basic research questions. Both quantitative and qualitative data analysis methods were used in this research. The data collected through close-ended questionnaire was analyzed quantitatively by using mean. The data secured through interview, was analyzed qualitatively by thematic description and narration. Moreover, correlation was employed to see the association between experience of PGDT graduates and their level of utilizing various ALA while t-test was used to see if male and female PGDT graduates were statistically different in applying ALA.

3.6. Ethical Considerations

Ethical guidelines were followed to ensure that all the participants of the study were treated with respect and consideration. Before proceeding with data collection and analysis, approval was sought from the University Research Vice-President for Research Affairs. Moreover, permission was obtained from the school principals of the sampled schools. The participants were informed about the nature and procedures of the study. They were informed that their participation is voluntary and they had the right to withdraw from the study at any time. Effort was made to ensure the confidentiality and anonymity of the participants, including removal of names and details from quotes and descriptions that might reveal the identity of an individual, and by using numeric labels when quoting the participants' statements. After the completion of the interviews, participants were given opportunity to review their responses and to make any changes to their statements.

Result and Discussion

Questionnaire consisting of 17 items on five likert scale: 0- never; 1-rarely; 2-sometimes, 3-Usually and 4-almost always were distributed to preparatory school teachers in order to determine the extent to which PGDT graduates

working in these schools utilized ALA in their classroom instruction. The data were analyzed using mean. According to Anderson 2003 as (cited in Gemechu et.al 2017), mean score (M) = 0.0 - 0.5 refers never; if M=0.5-1.5, it is rarely; if M=1.5-2.5, it refers sometimes; if M=2.5-3.5, it is usually; and if M=3.5 - 4, it is almost always were used as a cut point of interpretation. Moreover, the expected mean value (2) was used as a point of reference to judge the effectiveness of PGDT graduates. Hence, observed mean score above the expected mean value (2) was considered as effective while below was considered as ineffective. Table 3 below has more details.

Table 3. PGDT graduates extent of using ALA for their classroom instruction.

Descriptive Statistics				
It. No	Type of ALA	N	Mean	Std. Deviation
1.	Lecturing/oral explanation	261	3.0843	.96106
2.	Group discussions	261	2.9004	.93933
3.	Brainstorming	261	2.5594	1.09953
4.	Case studies	260	2.0269	1.18029
5.	Project work	261	1.7050	1.26838
6.	Field trip	261	1.1571	1.23188
7.	Pyramiding	261	1.0962	1.20452
8.	Cooperative learning	260	2.4654	1.11965
9.	Question and answer	261	2.8774	1.05261
10.	Think-pair-share	260	2.1885	1.17201
11.	Debates	260	1.8846	1.15671
12.	Demonstration	261	2.2490	1.20066
13.	Jigsaw	261	1.1284	1.28445
14.	Problem solving	261	2.4789	1.25443
15.	Role playing	260	2.0962	1.37910
16.	Micro-teaching	260	1.2769	1.31528
17.	Cross over	260	1.3850	1.27517

Scales of interpretation <0.5-almost never; 0.5-1.49-rarely; 1.5-2.49-sometimes 2.5-3.49-usually; 3.5-4-almost always

As depicted on table 3 above, the mean score of item number 1, 2, 3, and 9 are between 2.5 and 3.5. This indicates that; lecturing, group discussion, brainstorming and questioning & answering techniques were the usually used methods of teaching by PGDT graduates. In similar manner, Kassahun (2013) found out that, lecturing, individual work and questioning & answering were the most frequently used methods of teaching in Mathematics students of Jimma University. In slightly similar manner, Taye (2008) found out that, the practice of ALA in Dilla University was low as traditional lecture method was predominantly used by instructors. Moreover, Birhanu (2010) concluded that, lecturing method where lecturers talk and students only listen is the dominant means of instruction in most classrooms.

The mean score of item number 4, 5, 8, 10, 11, 12, 14, and 15 was between 1.5 and 2.5 indicating that; case studies, project works, cooperative learning, debates, demonstrations, problem solving and role playing methods were sometimes used by PGDT graduates. Similarly, Kassahun (2013) obtained that; group activity, group discussion and class room observation were sometimes used by instructors. In opposite to the present finding Kassahun also found out that, demonstration and project work were rarely used by instructors of Jimma University in Mathematics class.

Furthermore, table 3 above indicates that; field trip, pyramiding, jigsaw, microteaching and crossover methods were rarely used by PGDT graduates as the mean score of the respondents was below 1.5. Likewise, Birhanu (2010) found out that, little use is made of ALA such as inquiry based learning, discovery learning, problem based learning and discussion methods in universities in Oromiya. Furthermore, Wudu et al (2009) also found out that, 68.4% of the observed teachers were using Learner Centered Method (LCM) for 30% of their teaching time though the guideline developed by MoE expect 90% of the teachers will use LCM for 30% of their teaching time showing percentage value deficit of 21.6 in upper primary schools of Ethiopia.

Furthermore, the overall observed mean score of all items in table 3 above is 2.03. This indicates that, the overall mean is slightly above the expected mean score (2.0). This in turn indicates that, PGDT graduates are slightly effective in utilizing ALA for classroom instruction.

Correlation between teaching experience of PGDT graduates and utilization of ALA

In table 4 above, the sig value that corresponds academic level and teaching experience with the application of ALA was 0.24 and 0.32 respectively (greater than 0.05). This indicates that, the relationship of academic level and teaching experience of the PGDT graduates with the application of various ALA for classroom instruction was not significant. Moreover, the value of Pearson correlation coefficient that correspond academic level and teaching experience of PGDT graduates with the utilization of ALA is 0.074 and 0.062 respectively which are less than 0.3. This shows that, the correlation between the two identified variables with the application of ALA was negligible according to (Mukaka, 2012). Mukaka further stated that, correlation coefficient between 0.9-1.00 is very high, 0.7-0.9 is high, 0.5-0.7 is moderate, 0.3-0.5 is low and less than 0.3 is negligible. Thus, it is possible to conclude that the association between academic level and teaching experience of PGDT graduates with the utilization of ALA is not significant.

Table 4. Correlation test between academic level, teaching experience and ALA.

Correlations				
Applying Active Learning Approach	Pearson Correlation	1	.074	.062
	Sig. (2-tailed)		.236	.323
	N	260	260	260
Academic Level	Pearson Correlation	.074	1	.730**
	Sig. (2-tailed)	.236		.000
	N	260	265	265
Teaching Experience in School	Pearson Correlation	.062	.730**	1
	Sig. (2-tailed)	.323	.000	
	N	260	265	265

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

Table 5. T-test result.

Independent Samples Test					
		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	T	Df Sig. (2-tailed)
Applying	Equal variances assumed	1.449	.230	1.840	257 .067
Active Learning	Equal variances not assumed			2.086	25.010 .047

Is there significant mean difference between male and female PGDT graduates in applying ALA

As indicated in table 5 above, t-test value $p = 0.07 > 0.05$. This indicates that, there was no significant mean difference between male and female PGDT graduate teachers in utilizing various ALA in their classroom instruction. However, the mean score of male PGDT graduates in utilizing ALA was slightly higher than their female counterparts (male=40.9, female=35.0). In opposite to the present finding, Wudu et. al (2009) in upper primary schools of Ethiopia found out that, the difference between male and female teachers in using LCM of teaching was statistically significant with male teachers mean score 3.46 and females 4.2. In slightly similar manner, Adugna (2012) conducted research on PGDT graduates attitude towards teaching profession. He found out that, no evidence was shown to support the existence of statistical significant difference among prospective student teachers in their attitude towards teaching profession in terms of gender, family income and parent's education level.

Conclusions and Implications

The mean score of respondents for the extent of utilizing various ALMs such as lecturing, group discussion, questioning & answering techniques and brainstorming was 3.08, 2.90, 2.88 and 2.56 respectively. This indicates that, lecturing, group discussion, questioning & answering techniques and brainstorming were the predominant ALMs utilized by PGDT graduates in their respective order from first to fourth. On the other hand, it was found out that the mean score of respondents for the extent of utilizing ALMs such as case studies, project works, cooperative learning, debates, demonstrations, problem solving and role playing by PGDT graduates was between 1.5 and 2.5. This indicates that, these methods were sometimes used by PGDT graduates. Furthermore, ALMs like field trip, pyramiding, jigsaw, microteaching and crossover methods were rarely used by PGDT graduates as the mean score of the respondents was below 1.5. Hence, it is possible to conclude that verities of ALMs were not sufficiently used by PGDT graduates of the study area and they are slightly effective in utilizing ALMs as the observed mean score of the respondents was 2.03 which is slightly above the expected mean score (2.0). Therefore the following points are suggested to improve the effectiveness of PGDT graduates in utilizing ALMs for their class room instruction. These are;

- ❖ commitment of the teachers to improve their students learning, the community and the society in general is vital. Hence, allocating additional incentives like housing and others need to be provided to enhance PGDT graduates commitment in utilizing ALMs
- ❖ it is also important to provide further short term training opportunities to improve PGDT graduates understanding and skill of utilizing various ALMs.
- ❖ teacher education universities need to practice various ALMs at the time of training PGDT graduates and provide an opportunity for them to practice it.

❖ CPD strategies available in the schools need to be strengthened in a way that encourages PGDT graduates to further understand the importance of ALMs and apply them as per their importances.

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