



Assessing challenges in the integration of educational technologies for education quality assurance

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Abstract

The purpose of this study was to assess the challenges which affected the integration of educational technologies for education quality assurance. To his ends, mixed research approach was engaged and both qualitative and quantitative data were gathered from the participant of the study. Via Multi-stage sampling technique, 813 students and 36 teachers were selected through snowball sampling method. In addition to these, six directors of the sample schools were purposely selected. Using semi-structured questionnaires and semi-structured interview adequate data were collected from the participants. In addition to these tools, schools were observed and various documents were analyzed in order to see the gap between the educational policy and schools' trend of using educational technologies. The data which were collected through class room observations, Semi-Structured Interview and document analysis were analyzed and categorized into themes or presented in descriptive way. The data that which were collected using questionnaires were analyzed using table and percentage according to the issue rose in the questionnaires. The results obtained from the study proved that the IT industry is said to be at its indicial stage. In line with this, damages of various educational technologies, lack of budget for maintenance, the frequent electric power cut, and satellite disconnections are the problems which hinder the integration of educational technologies for the enhancement of quality of education.

Keywords: Educational technology, integration, challenges, assessing.

Introduction

The contemporary world could be better defined as the era of science and technology. It becomes impossible to survive for a day without using different products of science and technology. This is due to the fact that we are using variety products of science and technology in our everyday life for different purposes. If we closely realize the role of numbers of equipments which found in a given hospital, these materials are means to save the patients' life and to make an effective treatment. Electronics which are found in our homes are making things become easier than ever. Likewise, transportations and means of communications become faster, easier and cheaper than ever due to advancement in science and technology.

The products' of sciences and technologies are many in number and type. These products are complementing each other in certain ways to make things become better. Particularly the development in computer technology is bringing changes in many aspects. In line with this, if computer is used in classroom for teaching learning purposes, there are lots of benefits for both teachers and students. Technology based instruction is believed to enhance the quality of education there by providing the same contents that presented by model teachers to all students of a given country. In such ways uniform and quality education could be delivered in meaningful manner. In line with

researchers in the field of educations insist the integration of educational technologies. For instance, Fisseha¹ claims that

ICTs are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at schools. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is, forcing schools aptly respond to this technical innovation.

There are numerous types of educational technology or ICT that can be used at schools. These include media that deliver, audio, video, image, animation, satellite TV, computer based learning, and web based learning. These educational technologies can be used to enable students to get the best from their learning.

To support the traditional ways of teaching-learning process where the classroom teachers use only chalk and blackboard, the Ethiopian government equipped almost all secondary and preparatory schools with plasma televisions. It is believed that using plasma TV for teaching-learning process has a great role in providing the quality of education throughout the country. In contrast to this from the present researchers' previous teaching experiences and from their previous research findings most of high schools are not using educational technologies for teaching learning purposes. So the initiation behind this study is

assessing the challenges that affect the integration of educational technologies in some selected Ethiopian high schools.

Statement of the problem: The government of Ethiopia has been trying to provide educational access to all the citizens of the country. As a result of this, many schools have been built, a large numbers of students have attained various levels of educations, numbers of universities are launched and teachers and other professionals are being graduated. But following these changes, the question about the quality of education becomes the concern of the ministry of education. The following extract from Ethiopian national educational policy document strength this claim.

The low quality of outcomes and persistent high dropout and repetition rates identified above reflects low quality of educational inputs, i.e. skilled teachers, relevant teaching and learning materials etc. For every 1,000 children who begin school, around one-half will pass uninterrupted to Grade 5 and only one-fifth to completion of Grade 8. The failure of the education system to ensure student learning and acquisition of basic skills such as literacy and numeracy contributes to observed poor attainment and achievement².

In order to eradicate problems which had been affecting the quality of education Ethiopian ministry of education had to make a paradigm shift. To this ends, ministry of education planned and have been working so as to bring quality of education. The ministry in his plan ESDP IV³ stated that “it is necessary to shift attention to quality concerns in general and to those inputs and processes which translate more directly into improved student learning and which help change the school into a genuine learning environment.”

As means to ensure and enhance quality of education varieties of educational technologies have been utilized in almost all Ethiopian high schools for several years. MOE had been distributing educational technologies and still working to enable schools to use technologies by allocating a hug budget. To strength this claim, as it is stated in educational sector development program IV (2010) Ethiopian government is working on ITCs/ plasma TV by targeting following the points to be achieved.

% of secondary school teachers who are computer literate will increase by 100%...% of secondary school teachers who utilize the satellite TV programs will increase to 100%...% of secondary schools with internet connection will increase to 100%...% of secondary students who can utilize satellite TV programs will increase to 100%...% of secondary schools with complete broadcasting facilities will increase to 100%³.

Nonetheless MoE is committed to increase the utilization various kinds of educational technologies in all secondary schools, the technologies were not utilized as they are used to be. So this research was needed and it attempts to investigate the

challenges that affected the integration of educational technologies in some selected Buno Bedele and Ilu Abba Bor zone high schools.

General objective: The general objective of the present study is to investigating challenges which affected the integration of educational technologies in some selected high schools.

Specific objectives: In order to achieve the above stated general objective, here are the specific objectives of the study: i. Identify the hindrances that affected the utilization of educational technologies, ii. Investigate the types of educational technologies that were used in high schools, iii. Assess the students’ and teachers’ attitudes toward the utilizations of educational technologies.

Research Questions: For the attainment of the above stated objectives, the following questions are used: i. What are the hindrances that affected the utilization of educational technologies? ii. What types of educational technologies were used in high schools? iii. What is the students and teachers’ attitude toward the utilization of educational technologies?

Significance of the study: From the present researcher previous teaching experiences, schools were not using various educational technologies. The plasma TV, which is available in almost all secondary and preparatory schools, is not functioning because of unknown problems. In contrast, government had been distributing plasma TVs to high schools and preparatory schools. Furthermore, Ethiopian government is committed to enable high schools to utilize educational technologies. The government’s plane about integration of educational technologies and the current trends of high schools in using technologies inspired the researchers to make this investigation.

Delimitation of the study: The researchers believe that problems relating to the integration of educational technologies might exist in every corners of the country. So the researchers have great interests if this study is carried out at national level. But conducting this study at national level requires a huge budget, human powers and time. As results of this Denbi, Bedele, Chora, Yayo, Mettu and Gore high schools were the samples of the study. The data that gathered from these high schools are believed to revile challenges that affected the integration of educational technologies at Buno Bedele and Ilu Abba Bor zones high schools.

Scope of the Study: In order to assess challenge in the integration of educational technologies for duality education, the current study was carried out in Buno Bedele and Ilu Abba Bor Zones of Ormia regional state. From the two zones six schools were selected to be sample of the study. From the selected sample high schools the obstacles that hinder the effective integration of educational technologies were identified.

Operational definitions of terms used in the study: i. Educational Technology: In this study educational refers to technologies such as radio, tape recorder, Computer and plasma

TV. ii. Integration: It refers to assimilation of technologies in education and use these technologies accordingly. iii. Challenges: Challenge refers to theoretical or practical constraints/ hindrances or problems/limitations that affected the integration of educational technologies in Ethiopian high schools. iv. Assessing: It refers to the investigations of both theoretical and practical constraints/ hindrances or problems/ limitations that affected the integration of educational technologies in the selected high schools.

Methodology

This part of the study gives highlight on research design, participants of the study, sampling technique, sample size, data collection tools, data collection procedure, and lastly discussions about data analysis procedure made as the following.

Research Design: Mixed research approach was employed to carry out the present study. This is because mixed methods procedures employ aspects of both qualitative and quantitative procedures. There will be both qualitative and quantitative data that could be useful in making conclusions about the study⁴.

Participants of the study: From the total available numbers of Buno Bedele Zone high schools, Chora, Bedele, Denbi, and from Ilu Abba Bor high schools Yayo, Mettu and Gore high schools were the samples of the study. The data that gathered from these high schools are believed to revile challenges that affected the integration of educational technologies at Buno Bedele and Ilu Bor zones.

Sample Size and Sampling Technique: Form Yayo, Mettu, Gore, Chora, Bedele, and Denbi, high schools, following Simple Random Sampling Technique, six classes from each schools totally 36 classrooms where educational technologies used to be utilized were observed. In addition to this 10% of the total numbers of students from each classroom of each high school were selected to be the sample of the study through snowball sampling technique. So, multi-stage sampling techniques were used to collect all the needed data.

Data Collection Tools: In order to achieve the desired objectives various types of data gathering tools were used. These tools were adapted from scholars whom conducted their research around the topic areas. So document analysis, school observation and semi-structured questionnaires were the tools that were used to collect the relevant data.

Document Analysis: Available literatures and policy documents about the need of integration of educational technologies for quality education were assessed in order to come up with adequate information about the gap between the set policy about the integration of technologies in educational sector and the challenges that affected the integration of the technologies.

Schools Observation: Using structured observation, the working environment and the class room behavior of teaching-learning process in all the selected schools were observed. This was to look at the process of teaching-learning through the utilization of educational technologies. Through snowball sampling technique observations were made to one teacher from each TV based lessons (English, Mathematics, Biology, Chemistry, Physics, and Civics subjects).

During the observations, the researcher used observation checklist to observe the classroom activities of teachers and students concerning the challenges that could affected the utilization of educational technologies.

The observations were believed to help the researcher to come up with reliable data that could contribute great on the identifications of the types of educational technologies which were used in the selected schools. In addition to this, from the observations the researchers were able to get a chance to see the types of challenges which were affecting the integrations of educational technologies for teaching learning process. Moreover the observations provided the researcher with a chance to evaluate either the policy about the use of educational technology was implemented as it was set on the educational policy or not.

Semi-Structured Questionnaire: Using Semi-Structured Questionnaire, both students and teachers were asked to identify either they like to learn/teach using educational technologies or not. Data were also collected from the students and teachers regarding challenges that affected the integration of educational technologies. The 10% of the total population of the students and the 36 teachers were also selected through snowball sampling method.

Data Collection Procedure: First of all the directors willing were asked in order to conduct this study in their high schools. After getting permissions from each school, literatures and Ethiopian educational policy documents about the integration of technologies for teaching learning purpose were analyzed. Following document analysis, the sample schools were observed. Then students and teachers were required to complete the semi-structured questionnaires.

Data Analysis Procedure: The data which were collected through class room observations and document analysis were analyzed and categorized into themes or presented in descriptive way. The descriptions drawn from the data analysis indicate the types of educational technologies which were used in the sample schools. Challenges that affected the integration of educational technologies in the selected high schools were identified.

The data which were collected using questionnaires were analyzed using table and percentage according to the issue rose in the questionnaires. Finally, conclusions and recommendations made inductively.

Result and discussion

Document Analysis: Available literatures and policy documents about the need of integration of educational technologies for quality education were assessed in order to come up with adequate information about the gap between the set policy about the integration of technologies in educational sector and the challenges that affect the integration of the technologies.

From the document analyses, the rationale behind the integration of technology for educational purpose and the types of educational technologies was identified. In line with this, each of the selected school's challenges which hinder the utilization of the technologies was identified. To these end, from the document analysis the enquire about the benefits of educational technology, types of educational technologies, what has been done and what has been left since the integration of educational technologies for education purpose were assessed.

The need behind the integration of technology in education:

Due to various factors such as advancement in science, technology, economic, politics and globalization, countries are making all the necessary changes in various policies and also working to be competent enough in various aspects. The changes that have been taking places are being complementing each other in one way or the other ways. Supporting this, MoE⁵ discusses the relationship between the changes and developments. Education and development are closely related endeavors. This is the main reason why we always say education is the key instrument in Ethiopia's development. The world is being changed at a steady pace in all aspects. The change is quite conspicuous in the area of education particularly in information and communication albeit educational change has never been easy. The fast and globalised world we are in entails new knowledge, skills, attitudes and values from the part of the individual. It is therefore with this objective in view that the curriculum, which is a reflection of a given country's education system, must be responsive to these changing conditions.

Curriculum Framework for Ethiopian Education: It has now been fifteen years since Ethiopia launched and implemented the incumbent education and training policy. Since then our country has achieved remarkable progress in terms of access, equity and relevance. Vigorous efforts also have been made to improve the quality of education in the country. Following the implementation of the education and training Policy, several and cautious appraisals have been carried out on the existing curriculum⁷.

From the above extract it is obvious that due to great efforts have been made by Ethiopian ministry of education, it is possible to increase the access, quality and education relevance. These changes happened due to various paradigm shifts has been made. As it is stated in the above literature, the effective

implementation of 'curriculum framework for Ethiopian education' helped the country to achieve the desired objectives in educational sector. In line with this Ethiopian government encourages high schools to use various educational technologies for teaching-learning processes o as to enhance quality of education.

Education Sector Development Program IV: As it has been emphasized in various parts if this research report, Ethiopian ministry of education has been working to assure and enhance quality of education. As means for the enhancement of education quality, ministry of education set an action plan which described in the following extract.

...(ESDP IV) has been developed with huge involvement of participants from Regional Education Bureaus, universities, Sector Ministries, Development Partners, local and international NGOs, the Private Sector and the Civic Society. The participation ranged from direct involvement in identifying the core priorities, indicators and targets to be achieved within the coming five years to the provision of invaluable feedbacks through correspondence, regular meetings and attending a validation work shop....³.

MoE has been working with due attentions for the assurance of quality education. As means to improve quality of education, in line with several components of GEQIP, the use of ICT equally emphasized for general educational quality improvement. Even more specifically on the action plan it is emphasized that "quality of education improved through the implementation of all ICT components in secondary schools. Foundation for e-learning and broader e-culture strengthened through better connectivity of educational institutions to the global information sources and digitized Satellite TV – Programs disseminated online by DVD and CD" are seat as the outcomes for educational quality improvement. The following literature clearly state what has been done to improve quality of education in general.

The objectives and strategies for the quality improvement of general education during the forthcoming years have been clearly spelled out by the MoE in the General Education Quality Improvement Package (GEQIP). The package is composed of a number of components and sub-components which are complementary to each other and form part of an integrated school effectiveness model...[including] the development of teachers and leaders; curriculum, textbooks and assessment; planning of school improvement and of resource use by schools; the use of Information and Communications Technology (ICT)³.

Quality of education in Secondary schools: Ministry of education has been working for the assurance and enhancement of education quality. To this end the ministry provided a program entitled as 'General Education Quality Improvement Package (GEQIP)'. As it is stated in the document *ESDP IV*³, "... the development of teachers and leaders, curriculum,

textbooks and assessment, planning of school improvement and of resource used by schools, and the use of information communications technology” are the major focus areas for education quality assurance in secondary schools.

The use of information communication technology for education quality assurance: As ministry of education on way of boosting the quality education is through the use of information communication technology for education purposes. As result of this the almost all high schools are provided with plasma TV and various ICT infrastructures. The following citation shows the distributions of plasma TVs and internet access of secondary schools in Ethiopia as means to improve quality of education.

Currently 71.6% of secondary schools are equipped with plasma-TV and 26.1% have access to internet services. Some 3409 TV programs have been produced in nine subjects and consequently broadcasted through 12 satellite channels to secondary schools, while program utilization and plasma TV operational training has been given to secondary school teachers³.

In line with the above report, the researcher was able to identify that almost all secondary schools have plasma TVs. Nonetheless the presence of plasma TVs in each classroom of the observed six secondary schools plasma TVs were not giving services.

Schools observations: It was proposed that the working environment and the class room behavior of teaching-learning process in all the selected were observed via using structured observation checklist. This was to identify the types of educational technologies and it was to look at the process of teaching-learning through the utilization of educational technologies.

From the observations the researcher thought and believed to come up with reliable data that contribute great on the identifications of the types of educational technologies which are which were used in the selected schools. It was also the researcher’s expectations that the schools observations could provide a chance to see the types of challenges that affected the integrations of educational technologies for teaching learning process.



Figure-1: Photo A: By the researcher during the school observation.



Figure-2: Photo B: By the researcher during the school observation.

The above indicated Figure 1 and 2 (‘Photo A and B’ and other photos) were taken during schools observations.

Using semi-structured observation checklist all the selected schools were observed. The observation was mainly to identify the types of educational technologies which were used in each the selected school and to assess the challenges that schools encountered to use or while using the educational technologies. From the schools observations it was identified that there were plasma TVs in almost all each classrooms of the observed schools. In addition to this there is also one ICT room in all schools. From the six schools observations there researchers were able to identify that nonetheless of the availability of plasma TVs in each classrooms, all schools were not using the educational technologies as it used to be. One of the basic problems observed was disconnection of plasma TVs from the satellite. It also identified that there are several damages of educational technologies which might affected the integration of the technologies.

Semi-Structured Questionnaire and Interview: Using semi-structured questionnaire and through semi-structured interviews data were gathered from students, teachers, and directors respectively. To these end, 10% of each classroom students, six teachers from each school (English, Mathematics, Biology, Chemistry, Physics, and Civics subjects’ teachers) were purposely selected as these courses were offered through the support of using plasma TV. In addition to these six directors (one director from each of the selected school: one from Chora, Bedele, Denbi, and Yayo, Mettu and Gore) were interviewed. The students, teachers and the directors were believed to have lots of information about the challenges that affected the integration of educational technologies. The interviews were focused on the identification of the types educational technologies and challenges that affect the integration of educational technologies in the selected high schools. The data that gathered through the questionnaire and interviews presented as the followings.

Students’ Semi-Structured Questionnaire: The semi-structured questionnaire was developed to gather data from the students about the challenges that currently affecting the integration of educational technologies for quality education assurance. To this end 10% of each school’s students were required fill the questionnaire.

Students' attitude toward the utilization of education technologies: Have explaining the contents of the questionnaire, students were told to complete the questionnaire. The first question was 'Do you like to learn using educational technologies such as radio, plasma TV, computer and so on?'. As a response to this question students were provided with 'Yes' and 'No' choices. In assessing the challenges that affect the integration of educational technologies for quality education assurance, identifying the students' feeling about the use of educational technologies is believed to have great value.

Table-1: Number of students who like to learn using educational technologies.

Schools	Respondents	1. Do you like to learn using educational technologies such as radio, plasma TV, computer and so on?			
		Responses			
		Yes	%	No	%
A*	120	92	11.31	28	3.44
B*	165	120	14.76	45	5.33
C*	242	212	26.07	30	3.69
D*	88	73	8.97	15	1.84
E*	89	65	7.99	24	2.95
F*	109	89	10.94	20	1.23
TOTAL	813	651	80	162	19.9
Mean		108.5		19.92	

A*, B*, C*, D*, E* and F* are the six schools were the study was carried out.

Thus if students do not have positive attitude toward the utilization of educational technologies, this is believed to be one of the problematic which affect the integration of the technologies for educational purposes.

As it is shown in the above Table-1, all the participants of the study were required to give us information whether they like to learn using educational technologies. From the data which were collected from 813 students, 80% of the students mentioned that they like to learn using various educational technologies.

It was also identified that only about 20% of respondents indicate that they do not like learning using educational technologies.

Due to the fact that the majority of the respondents have positive attitude toward learning through the use of various educational technologies, one can deduce that it is not the

students' preference of learning that probably negatively affected the integration of technologies for educational purposes.

Types of educational technologies: After identifying the students' preference mode of learning, students were required to mention the common audio/visual materials that their teachers use during the teaching-learning process. Identifying all available types of educational technologies are believed to help the researchers to come up with various problems which are being affecting the integrations of various educational technologies.

Table-2: What are the common audio/visual materials that your teachers use?

Types of technologies	Responses	
	No.	%
A, Radio	-	-
B, Audio tapes	-	-
C, Overhead transparency (OHT)	-	-
D, Video	-	-
E, Computer	244	30.01
F. Plasma TV	506	62.23
F, Other? Please specify	63	7.74
TOTAL	813	100

Here it was to examine the types of problems that negatively affect each types of educational technology which are being used in the surveyed sample schools.

Regarding the types of educational technologies which are being used in the selected schools, about 30% and 62% our respondents said that the common audio/visual materials that their teachers use are computer and Plasma TVs respectively. During our observations we were also able to see that all the observed schools have plasma TVs in each classroom and there is a computer room in each school. In addition to these only about 7% of the students mentioned that their teachers' use flash disks to help their students' learning (Figure-4).

Table-3: Do you think that audio-visual aids help you to understand what you learn?

Valid responses	No. of Respondents	%
Yes	671	82.53
No	142	17.46
Total	813	100

The ultimate objective in using various audio-visual materials for teaching purpose is to help students understand which enable them to bring change in knowledge, skill and attitude. In line with this, to enhance the quality of education Ethiopian government already equipped almost all high schools with various educational technologies. Various scholars in the field of education also recommend the utilization of educational technologies. “Pedagogically, it is quite right and sometimes necessary to use teaching aids like “plasma” in the classroom so that abstract contents can be more clarified through it. Very expensive experiments which cannot be conducted in each classroom can also be demonstrated through such a mechanism⁶.” Moreover quoting the works of the other the above indicated researcher mentioned several benefits of using educational technologies as the following.

This is especially helpful for remote schools where they may have problems of obtaining well qualified teachers, lab equipment and the like (Evans, Stacey and Tregenza, 2003), as it is a case of many secondary schools in Ethiopia....In addition, when students have no opportunity to visit some places which are important for their lessons, TV can be a complement. Besides, since students use at least two of their senses in the “plasma” programs, seeing and listening, their attention span as well as the potential to memorize the contents will increase, compared to only attending a teacher’s lecture in a traditional classroom⁶.

In line with above discussions, as it I indicated in Table-3, about 82% of the respondents believe that audio-visual materials help them to understand what they learn. In contrary to this, only there are only about 17% the respondents don’t think that using educational technologies help them to understand what they learn. From these we can deduce that the great majority of the students know the advantages of using educational technologies.

This shows the positive attitude that students have toward the utilization of educational technologies.

Table-4: In which one of the following ways the use of audio-visual aids facilitate you in your learning?

Valid Responses	No. Respondents	%
Making what is being learned clear, simple to follow and to understand	388	47.72
Explain the subjects/lessons in better ways	321	39.62
It provide uniform and quality education throughout the country	104	12.79
Total	813	100

After identifying whether students like to learn using educational technologies or not, assessing the types of various types of technologies which are available in each school, the sample respondents were required to provide the researchers with information on the ways how educational technologies can support students’ day-to-day learning.

There are lots of benefits in the utilizations of educational technologies. Here it is not deniable that there are also some disadvantages in the utilization of the technologies. Regarding the advantages of audio-visuals materials for teaching learning purposes, about 47% of the respondents the utilization of educational technologies make what is being learned clear, simple to follow and to understand. While about 39% of the respondents believed that educational technologies have potential to explain the a given subjects in more better ways, the remaining respondents which count about 12% of our respondents think that through the utilization of various types of educational technologies there great chance of having uniform and quality education throughout the country.



Figure-3: Chora Secondary and Preparatory school, Computer Lab (photo by the researcher).

Table-5: How do visual aids motivate you?

Valid Responses	No. of Respondents	%
Lessons are animated and become attractive	198	24.35
By presenting abstract concepts more effectively	150	18.45
Sufficient teaching aids are presented	204	25.09
In all the above ways	256	31.48
Other, state that	5	0.61
Total	813	100

As it is stated in Table-5, 24% of the respondents claim that audio-visual materials based instructions are animated and become attractive as compared to the conventional method of teaching. In addition to this 18% mentioned that the greater advantages of using educational technology is the capability of the technologies to clarify abstract concepts more in better ways. In line with these, 25% accept that in the utilization of educational technologies sufficient teaching aids are presented so that it motivates their learning. Farther more, 31% of the respondents mentioned that media based lessons are animated and become attractive, abstract concepts are better clarified through the utilization of various teaching aids.

In addition to the above stated role of educational media, the respondents were required to list down how media based lessons their learning. As results of these, only 0.6% the respondents indicated that the pictures, graphs, and various teaching help to get more understanding and it helps students to become creative.

Problems in using educational technologies: As it is indicated in the above Table-6, students were required to mention problems that they face while using audio-visual aids. As responses to this question, 23% of the respondents stated that media based lessons are frequently interrupted as electricity go off. As there is no generator which automatically switch on as electric went off, the mode of lesson delivery will be changed to face -to- face mode of lesson presentation. So, teachers could be forced to finish their lesson without the use of teaching aids. About the same number of respondents indicated that one of the major problems in the utilization of educational technology is disconnection of the program from satellite.

Regarding the manner of media based instructions 12% of the respondents underlined that media based lessons are speedy presentations so that they faced difficulties to follow the lesson transmissions. Similarly 11% of the respondents indicated that it is too fast to take notes from media based lessons. In addition to this, 10% of the respondent students mentioned that during media instructions there is insufficient time allocation to

complete activities. Furthermore about 8% of the respondents mentioned that while media based lessons are running texts from screen disappeared within very short seconds/minutes. In addition to the above stated problems which students faced during the utilization of educational technologies, about 14% of the respondents stated that once a given lesson transmission missed there no other possibility of following the missed lesson topic. Furthermore the participant students mentioned that it is difficult to listen and understand media based lessons.

Table-6: Problems which might students face during media based lessons.

Valid Responses	No. Respondents	%
Texts from screen disappeared within very short seconds/ minutes	64	7.87
As there is insufficient time allocation to complete activities	83	10.20
As media based lessons are frequently interrupted as electricity go off	189	23.24
As there is disconnection of the program from satellite	172	21.15
As media based lessons are speedy presentations	102	12.54
As it is too fast to take notes from media based lessons	91	11.19
Other, please list here	112	13.77
Total	813	99.96

Teachers’ semi-structured Questionnaire: In addition to the students, 36 teachers from the six selected were the participants of the investigation of the study. The teachers were selected through Snowball sampling technique. Identifying the participant teachers, semi-structured questionnaire were distributed to them. The questionnaire was developed to identify challenges that affected the integration of educational technologies for quality education assurance. The data which were collected from the participant teachers presented and analyzed as the followings.

Teachers’ attitude toward the utilization of educational technologies: It was the researchers’ prediction that teachers’ preferences mode of teaching could affect the effective integrations of educational technologies for teaching learning purposes. If teachers do not have willing of using educational media, provision of smart board alone could not bring the desired effect. To strength this claim let us consider various research works which are quoted by Manizha K.⁷

A number of researchers interested in learners’ characteristics have explored the learning styles⁸. The term of learning styles has been defined as differences in individuals’ approaches toward understanding and processing new information Kolb⁹ cited in Csapo and Hayen¹⁰; Sternberg¹¹ and Grasha¹² cited in Amir et al.¹³. However, Litzinger et al¹⁴ stress that “learning

styles are characteristic preferences for alternative ways of taking in and processing information”. In addition, Pashler et al¹⁵ state that learning styles refer to individuals’ differences “...in regard to what mode of instruction or study is most effective for them”.

Table-7: Do you like to use audio-visual aids in your classroom?

Valid Responses	No. of respondents	%
Yes	21	58.33
No	15	41.66
Total	36	99.99

From the above extract one can deduce that the students’ preferred ways of learning and teachers’ preferred styles of teaching depend on their belief that a given mode of learning/teaching has a great benefit than the other. In line with this, if teachers have negative attitude toward the utilization of educational technologies, then it could be one of the factor that affected the integration of educational technologies for educational purposes.

As it is stated in Table-7, the participant teachers were required to indicate that whether they like to use audio-visual aids in their classrooms. As responses to this, about 58% of the respondents mentioned that they like to use various educational technologies. The respondents mentioned that through the use of educational technologies, students get opportunity see various teaching aids which might not be available to their locality. Students exposed to uniform education from model teacher of each media based education. Farther more they added that from media based lesson presenters’ classroom teachers could learn lots on the manner of lesson presentations.

In contrast to the above, about 46% of the respondents mentioned that they do not like to teach using audio-visual materials. Along with their preference mode of teaching, they mentioned various problems they encountered during media based instructions. Some teachers stated that there is frequent

electric power cut while the program is running and there is also disconnection of the program from satellite so that media based lessons could not proceed. The other respondents mentioned that there are several damages of parts/accessories of educational technologies. The respondents emphasized that there is no easy means of replacing or maintaining to the damages parts technologies and as result of this it affect the teaching learning process. Farther more considering their students’ English language proficiency, the participant teachers underlined that as the great majority of their students are from rural areas they do not have exposure of watching/listening various media. So they could not easily achieve the set objectives from media based lessons.

Due to the all the above stated challenges and problems related to the utilization of educational technologies, some of the respondents do not like to use various educational media. In opposite to this, however challenges and problems exist it was observed that some teachers add their creativity of using the damage media as it is indicated below.

From the data which were collected from the participant teachers, the researcher is able to see that about half of the respondents do not like to use educational technologies due to their preference mode of teaching. The respondent teachers also indicated that due to media based instruction contains several drawbacks teachers do not like to use it.

Types of educational technologies: As it is indicated in the above table, of the respondent teachers mentioned that they schools have various educational technologies in their schools. The respondents stated that Plasma TV, computer and radio are the educational technologies that available in their schools. During the schools observations the researchers were also able to see there is plasma TV in each class of the observed schools. Nonetheless the availability the devices they mentioned that plasma TV is not functioning. Considering the existing reality (based on the sample schools) in the utilization of educational technologies, there is a gap between plan of Ethiopian MoE and secondary schools on the integration of educational technologies for education quality assurance. This can be understood from the following extract.

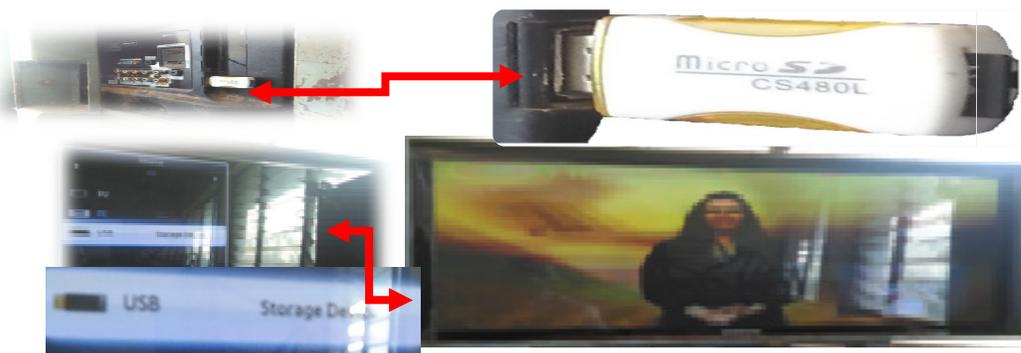


Figure-4: Lesson presentations through recorded materials (clipart by the researcher).

Table-8: Are there various educational technologies in our school?

Valid Responses	No. of respondents	%
Yes	36	100
No	-	-
Total	36	100

Concerning use of Information Communications Technology (ICT)... The Government has made considerable investment in ICT infrastructure, especially at secondary school level. Currently 71.6% of secondary schools are equipped with plasma-TV and 26.1% have access to internet services. Some 3409 TV programs have been produced in nine subjects and consequently broadcasted through 12 satellite channels to secondary schools, while program utilization and plasma TV operational training has been given to secondary school teachers. The development of curriculum materials on Information Technology (IT) education has been completed. As a result, preparation is being made to start delivery of this subject to grades 9-10 in addition to grades 11-12. Furthermore in expanding and improving plasma-TV lesson delivery, new specifications have been made for six previously and three newly considered subjects. In addition, Digitized Satellite TV lessons have been piloted and preparations are under way to broadcast these digitized education programs online, by DVD and CD³.

From the above literature one can image to what extent Ethiopian government is being working on the integration of educational technologies for education quality assurance. In contrast to the efforts of Ethiopian ministry of education, all the observed schools already stop using educational technologies.

The indicated Table-9, contains questions related to the accessibility of educational technologies and teachers' literacy of using the technologies. In line with this the participant teachers were required whether they have enough amounts of computers that all teachers can use for various purposes. As responses to this question, 25% of the respondents indicated that

that they have enough numbers of computers which they can for a variety of functions.

But in contrast to this, 75% of the respondents mentioned that they do not have enough numbers of computers that can be used various teaching-learning related purposes. They indicate that there is only one ICT room with only a few numbers of computers which found in their school.

As it is indicated in the Table-9, the participant teachers were asked if they their schools' have access to use internet. Regarding schools' internet access³ emphasized that "foundation for e-learning and broader e-culture strengthened through better connectivity of educational institutions to the global information sources." But in opposite to this from the data which were collected from participant teachers the researchers were able to conclude that almost the observed schools do not have internet connection.

The participant teachers were also asked either they have taken any training on the use of educational technologies. From the respondents' response the researcher were able to identify that teachers were not given trainings on effective utilization of various educational technologies. This also shows another mismatch between plan of MoE and actual action taking place in high schools.

Audio-visual materials as teaching aids: The participant teachers were asked to explain why they use additional audio-visual aids throughout their teaching. As response to this question most of the respondents mentioned that during the utilization of audio-visual materials the search for resources and time is reduced; so that using educational technologies is providing students have exposure to get variety of teaching aids. The other respondent teachers indicated that abstract concepts are better presented through the use of educational media. According to the respondents the graphics and various pictures help students to get detail understand of what is being learned. Furthermore the teachers mentioned that sample dialogue from media based lessons encourage students' learning. Beside these various studies already revealed that the multi-purposes of audio-visual materials for educational purposes.

Table-9: Accessibility and educational technology /computer literate.

Are there enough amounts of computers that all teachers can use for various purposes?			Does your school have internet access?			Have you taken any training on the use of educational technologies?		
Valid responses	No. of the respondent	%	Valid responses	No. of the respondents	%	Valid responses	No. of the respondents	%
Yes	9	25	Yes	1	2.77	Yes	-	-
No	27	75	No	35	97.22	No	36	100
Total	36		Total	36		Total	36	

One of [audio-visual material'] most obvious characteristics is its visual aspect. Humans intuitively grasp the power of images to convey meaning, as can be seen in the old adage that values a picture at a thousand times the value of a word. [Audio-visual material'], of course, offers information in multiple forms: not just images, but motion, sounds, and, at times, text¹⁶.

The role of educational media: During the investigation the researchers tried to assess the role of educational media for the teaching-learning purposes. In line with this the participant teachers were provided with a chance to state how educational technologies facilitate their teaching process. According to the responses of most of the teachers, the main advantage in utilization of educational technology is the exposure that educational media provide students with the opportunity that students are able to see, listen and imitate from the sample dialogues of media based lesson. In addition to this, in media based instructions all contents of a given subject can be covered with the set time schedule due to the fact that media based instruction proceed with predetermined time schedule. Furthermore, they added that educational technology supports the teachers' lesson delivery and in such way it facilitates the teaching-learning processes.

As it is stated in Table-10, question regarding the proper utilization of educational technologies were distributed to the participant teachers. As respond to these all the respondents mentioned that, believe that various educational media which found in their schools are not properly utilized. Damages, frequent electric power cut and disconnection of transmissions are the basic problems that affect the proper utilization of educational media.

According to the responses of the participants of the study, lessons are frequently interrupted due to power interruptions and transmission cut. If these occur, lessons presented by face to face mode of lesson delivery.

Table-10: Proper utilization of educational technologies.

	Responses	No. of Respondents	%
Do you think educational technologies are properly used in your school?	Yes	-	-
	No	36	100
Are there lessons interruptions due to various problems such as (power interruptions, transmission cut and etc.)?	Yes	36	100
	No	-	-
Are there any challenges that you faced while using audio-visual aids?	Yes	36	100
	No	-	-

Challenges teachers faced while using educational technologies: As it is stated in table 10, the participant teachers were required to indicate either they faced any challenges during the utilizations of various educational technologies. As responses to this question all the participant teachers indicated that there are several problems and challenges they faced during media based instructions. In line with this, the major problems that hinder the effective utilization of educational technologies for the teaching-learning process are identified. The damages of various parts of Plasma TVs and computers which require various parts to be replaced and maintained, the frequent electric power cut and satellite disconnections are among the major problems which are identified during the assessment. The respondents also indicated that there schools do not have internet connection. Furthermore the respondent teachers stated that mentioned that students face difficulties of understanding media based lessons due to students' poor English language proficiency.

Conclusion

This section summarizes the overall process of the study. It includes conclusions drawn from the findings of the study. Lastly recommendations forwarded to the concerned bodies.

Summery: Objective of the study is to assess challenges which affect the integration of educational technologies for the assurance of quality education in some selected high schools. To this ends, Form two Zones six high schools were selected. Form the total 8132 students 10% of the students and six media based instructions teachers were selected through Snow ball sampling technique.

While gathering data, various tools were used. Thus in document analyses, different literatures and policy documents were assessed in order to come up with adequate information about the gap between the set policy about the integration of technologies in educational sector and the challenges that affect the integration of the technologies. Using semi-structured questionnaires and interviews, data were collected from participant students, teachers and directors.

The results obtained from the study proved that both the students and teachers have positive attitudes toward the utilizations of educational technologies. In addition this, it was identified that computer and Plasma TV are the only types of educational technologies that currently found in all the observed schools. Furthermore, the results of the study show that the drawbacks and damages of educational technologies are among the major challenges which hinder the utilization of educational technologies in the sample schools where the investigations took place.

Conclusion: According to the findings and discussions made, it could be concluded that: there are numbers of challenges that affected the integrations of educational technologies for general education quality assurance as it is stated below.

It is believed that both students' and teachers' preferences mode of teaching could affect the effective integrations of educational technologies for teaching learning purposes. In this regard the finding of the present study showed that both the high schools students and teachers have positive attitude of using various educational technologies. It is inevitable that using various educational technologies enhance quality of educations. But the findings of the current study showed that all secondary schools have the same types of educational technologies i.e. plasma TVs and desktop computers.

In contrast to what has been stated in the ESDP IV (2010), high school teachers are not provided with various trainings which enable them to use various educational technologies effectively. This shows there is lack of trained human power in using educational technologies so that hinder the integration of educational technologies for enhancement of quality of education in secondary schools.

The current finding identified that numbers of computers and Plasma TVs, which are available in the schools, are not functioning due to various damages. It is also identified that schools have lack of budget for the maintenance of the damaged devices as a result of this schools cannot use educational technologies.

Thus the frequent electric power cut, damage of sockets and various cables, shortage of budget for maintaining the damage plasma TVs and computers, satellite disconnections are amongst the major challenges which affected utilization of the educational technologies which found in the observed schools. This shows in Ethiopia the utilization of educational technologies is at its initial stages that require lots of things to be done.

The findings of the present assessment showed that there are several mismatch between the action plan of MoE and the schools' actual performances on the utilization of educational technologies. MoE planed to increase the present numbers of secondary schools with internet connection to 100%. But in contrary, schools have Shortages of computer and inaccessibility of internet utilization. In line with this, the utilization of e-learning is not thinkable.

The above stated challenges/problems along with the drawbacks of educational technologies such as failure in considering various localities where most of rural area students do not have exposure to listen and understand media based education, the accent of the TV lessons' presenters, the speed of transmissions, affected the integration of educational technologies.

Recommendation: To boost quality of education the utilization of educational technologies is believed to play prominent roles. Without being restricted by schools' resources, having model teachers for each subjects, students get opportunities to follow uniform and quality education through the use of educational

media. In line with this, based the above stated conclusions, the researchers would like to state recommendations for successful integration of educational technologies for quality education enhancement. i. As it is pedagogically recommendable to use various types of educational technologies to help students' learning, schools must have various educational media. In addition to plasma TV and Computer schools have to use Tape-record and Radio to help their students learning. Teachers should not totally depend on the utilization of direct TV transmissions to deliver media based lessons. ii. In line with distribution of educational technologies, the concerned body should give trainings to teachers on the utilizations of educational technologies. iii. As schools have lack of budget for the maintenance of the damaged computers and Plasma TVs, the technologies are not functioning. So government has to provide schools with various infrastructures and sufficient budgets for the maintenance of educational technologies. iv. Ethiopian ministry of education has to reconsider his Education Sector Development action plan and work in accordance with the set plan such as increasing secondary school teachers' computer literacy, utilizing the satellite TV programs, secondary schools internet connection and complete broadcasting facilities to 100%.

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