Journal of Peace, Development and Communication



Volume 05, Issue 1, January-March 2021 pISSN: 2663-7898, eISSN: 2663-7901 Article DOI: <u>https://doi.org/10.36968/JPDC-V05-I01-15</u> Homepage: <u>https://pdfpk.net/pdf/</u> Email: <u>se.jpdc@pdfpk.net</u>

Article:	Measuring the Impact of Audio/Visual Aids on Learning Process: A Case Study of South Punjab		
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Published:	30 th March 2021		
Publisher Information:	Journal of Peace, Development and Communication (JPDC)		
To Cite this Article:	Tareen, Manan Khan, et al. (2021). "Measuring the Impact of Audio/Visual Aids on Learning Process: A Case Study of South Punjab" <i>Journal of Peace, Development and</i> <i>Communication</i> , vol. Volume 5, no. Issue 1, 2021, pp. 163-175, <u>https://doi.org/10.36968/JPDC-V05-I01-15</u>		
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Abstract

The present research was designed to evaluate the effects of audio visual aids on the learning process of student of Multan city in Punjab (Pakistan). This study employed field observation method as a research design of this research. For the purpose of measurement, the researcher has installed hidden cameras inside the classrooms and followed the covert observation for measuring the level of attention of the students through recoding during the lecture. The sample was drawn using convenient sampling techniques. For the purpose of investigation, 112 research subjects from Punjab government's registered school were selected for the purpose of data collection. The findings of the study revealed that the experimental group students got better grade than control group. 57.1% students secure A and 42.9% students secure b grade. Findings further explained that a majority of the students form experimental group have high and medium level of attention in multimedia lecture. The study concluded that education with the help of audio visual (A/V) aids is more beneficial for school going students.

Key Words: Audio/Visual Aids, Learning Process, Educational Institutions, Measurement of Academic Performance.

Introduction & Background:

Any gadget which by sight and sound boosts the individual's understanding is considered as audio visual aids (Singh 2005). A.V aids are those equipment, dealings devices, tools or machines which make the process of learning more effective, decent, and memorable or Audio visual technologies or helping materials for students are those devices which are used in classrooms to support & comfort learning activities and make it understandable and interesting (Shah 2015).

Media plays a vital role in education. It is very hard to ignore the importance of media technology in the classroom. A number of technological advanced countries have a believed in the enlightened and power of the media technology and that's why they are going to adopt such technologies in the classrooms so that students using audio visual aids may become highly qualified (Kurt and Ciftci, 2012). There were some barriers regarding adopting the multimedia in classroom as some teachers wouldn't allow these technologies. They believe that it makes a gape among teacher and student relationship (Kurt and Ciftci, 2012). Desiderious Erasmus told that students should learn through the help of pictures. John Comenius writes a book named "The World of Sense Organs", it contains 150 pictures which showed almost all aspect of everyday life. Rousseau critiques the use of stressed things just as words. Nelson I Green, 1926 firstly used the terminology 'visual education'. Eric Ashby, 1967 describes four revolutions in the education: home to school education, written words and sentences as a tool of education, use of books and printing material and lastly he declared electronic media as a revolution in the education system (Alsada, 2005). Generally speaking, coordinating innovation in instruction includes some commitment in teacher's work. A few teachers have the capacity to incorporate audio visual aids into the educational module while others don't be able to do it so (Hicks, 2011). Using technology in education maybe changes the environment of classroom. There are many types of gadgets which can make a positive contribution in learning process such as multimedia projectors, smart boards, laptops and tablets'. These all aids have multiple utilizations and also have some sort of drawbacks too (Kurt and Ciftci, 2012). Nowadays students are very proficient and active and they can also be known as "Net-generation" (Hicks, 2011). It may be the best times to implicate such technologies in the students' lives because they want to use it. It would be a booster for them and their performance will surely be increased (Singh 2005). Adopting most relevant technologies in classrooms could be a way to enhance the learning of students. And if they use it in a right way these gadgets would have a positive impact on them (Hicks, 2011).

Education leads to a successful life and it is an essential part of everybody life. There are two main elements in education; one is learning and the other is teaching. Teaching is a process and from teaching students always learns new things. And since new technology emerges relevant to the learning the educational institutes are adopting audio visual aids for better understanding of students (Rather, 2004).

As we know media has become one of the major pillar in any state. With the passage of time the technologies which has been used in media broadcasting has make their worth in other institute such as business conferences, culture representation and in educational sector. With the use of multimedia in Education sector; teaching and learning process has become very effective. Students can understand the educational content in an effective way. It has multiple advantages in the educational process (UK Essays, 2009). Technological innovation in education covers two angles in showing learning procedure i.e. audio visual aids as things and also as a social procedure. Instructive technology is art of showing and figuring out how to watch it for all intents and purposes in the classroom together with the helps and showing techniques created a response in its application (Singh, 2005).

These days' informational technologies build a powerful participation in almost every aspect of life. They are playing their role in training and education. The demand of such technologies has been increased and become stronger in learning process. Audio Visual equipments are those instructional gadgets which are utilized as a part of the classroom to empower learning and make it efficient. The gadgets like displaying maps, models, film strip, projectors radio, TV are the example of it (Rather, 2004). Audiovisual aids empower a teacher oral presentation while serving his students capture a definite message. If teacher uses easy, well-organized aids, they will improve their skills.

Training aids is in the shape of videos and these videos can be played through MP3 player laptop or CD player. Another type of audio visual aids is presentation slides which are consist of pictorial display, graphical representation and charts etc. Furthermore, digital projector has been used in the field of education; with the help of this technology the instructor can show a message to a larger number of viewers. A teacher includes an audio playing device for a lecture or a dialogue. Some time a number of devices are using in a same time by an individual, it includes almost all of the audio visual aids for learning. An instructor can use multiple audio visual aids for a session for better understanding of the students.mit may use websites, slides, TV, computer base training course and audio recordings. It offers make arrangement communication an instructor to an for tools (techcomputerscience.blogspot.com, 2011).

Statement of the Problem:

Audio visual aids are playing their significant role in the educational system around the globe. In the third world country the adoption level of new trends and new technologies in the field of education is lesser. Moreover, there is a big gap between the quality of education and understanding of private and public sector schools students in Pakistan. Beside, one of the reasons behind such differences is usage of audio visual technology for delivering lectures to strengthen the learning process. In addition to it, the efficient and effective communication can be done through the adoption of such technologies in public schools. Similarly, if the utilization of audio visual technology is used at public sector schools as well, definitely it would also increase the level and quality of education.

Significance of study:

This study would explore the importance of multimedia use in the primary level educational institutions. This study will ensure the significance of the technological equipment's in the process of learning. As in a third world country, through using such facilities of learning, students can better understand the concept of the lectures.

Objectives of the study:

- To explore the impact of Audio visual aids on primary school students.
- To investigate the level of attention and interest of students during Audio visual delivery method
- To measure the effectiveness of learning process through Audio visual teaching method.

Literature Review:

Saima and Shazia (2011) investigate the effectiveness of audio visual devises in learning process. This study took place in The Islamia University of Bahawalpur. Through survey methodology a research questionnaire is distributed among 150 students and 50 teachers. The finding of the study clearly represent that audio visual aids are playing an effective and significant role in learning process of both teachers and students. It also represent that with the help of these devices students gain detail and in-depth knowledge. The recommendations for the teachers are that there should be some training courses for them to handle these devices effectively and they also should have planning before they use such devices. Kishore (2003) determined that audio visual devices encouraged a person's thinking and understanding. These devices have significant effects in the process of learning new things. Use of such devices makes a strong correlation with better understanding.

Marzban (2011) focused on the effects of audio visual devices and for this purpose 68 intermediate students were selected through random sampling. The researcher makes controlled and experimental groups and through survey questionnaire technique collects data from the students. This study concluded that with the use of multimedia learning process become easy and understandable for the students.

Roby (1999) makes a comparison among the use of dictionary and computer based multimedia for better learning process. For this purpose he makes four following experimental groups; a: just dictionary and paper, b: dictionary paper and glosses, c: computer dictionary, d: glosses and computer dictionary. He investigates that there is no any sort of differences among the consumer in comprehension reading. Kunari (2006) confirmed that audio visual devices let an instructor for consistent and professional presentation. It enhances lesson strategies for teachers and greater subject information to students.

Hubackova (2011) explore in the Applied Linguistics Department of Hardec Karlove University. German language courses are teaching over there, for investigating the worth of multimedia devices, researcher divided class into two groups. One group is taught by teachers and other is taught with the help of multimedia. The results clearly depicts that the group which is taught by the multimedia have better understanding of the content.

Parreño (2013) investigated teacher's opinion on the use of audio visual aids in classrooms. For this purpose researcher investigates teachers of secondary level through survey questionnaire method. The teachers are of the view that these technologies are making a positive contribution in process of learning. They also suggest that these technologies must be used in classrooms and the instructor should mainly focus to improve intelligence of the students. This study concluded that use of audio visual devices in classrooms makes students more creative and thinkers.

Sharifi and Javadi (2011) aims to explore the question that new technologies in education system are motivating the students towards better understanding and learning process is affected by the new technologies? Are such technologies are becoming the shortcuts for changing this world towards a global world? The findings determine that new technologies in educational setting are determining their role very significantly.

Babaeer (2014) investigates an ethnographic case study of appropriate technologies for learning process of students. This study focuses on elementary school students and through sampling technique four elementary schools have been chosen for data collection. The researcher make covert participation and covert observation during data collection from students, furthermore conducted open-ended surveys to the teachers. The results shows that there were a large number of diversify technologies has been used in learning process of students. The most prevalent device was SMART boards.

Alsada and Sigal (2005) test audio visual aids for providing guidance to caregivers regarding infant oral health. They used DVDs videos consist of a comprehensive information regarding infant oral health care and prevention. The findings of the study indicated that there was a lack of knowledge about oral health of infant. The audio visual aids promise to be an effective tool in providing the guidance to caregivers in high risk population (Facebook message).

Kim and Gilman (2008) investigate the components of multimedia technologies in English vocabulary learning. 172 elementary schools students have been chosen as sample. Pre testing and post testing techniques are used for data collection. The results of the study concluded that the use of multimedia has a positive correlation with the better understanding and graphical representation of the English vocabulary leads towards good results. Gul and Kiyani, (2014) explore the cognitive effects of audio visual devices on secondary level students of Pakistan studies. Through pre test and post test techniques data has been collected. The findings of the research provide worthy knowledge for instructors to advance their teaching techniques.

Shah and Shahzad (2015) investigate 2002 learners and 336 teachers in elementary schools of District Bannu and explore the effects of the audio visual devices. The researcher concluded that these devises playing a vital role in shaping the personalities of the students but on the other hand the teachers are required to be more trained so that this process may become more effective.

Research Questions:

RQ1: What is the performance of experimental group subjects after exposure to multimedia lecture deliver to them?

RQ2: What is the performance of control group subjects after exposure to traditional lecture deliver to them?

RQ3: What is the level of attention/involvement of the students in multimedia lecture?

RQ4: What is the level of attention/involvement of the students in traditional lecture?

Research Hypothesis:

HI: There would be significant difference in student's performance after exposure to multimedia lecture.

H2: The level of involvement would be higher in experimental group as compared to control group with regard to multimedia lecture.

Theoretical Framework:

This study is theoretically linked with Social Learning and Media Dependency theory. **Social Learning Theory:**

Behavioral changes are come through the settings of environment and this process occurs during observational learning. If anyone purely observes the instructions from the environment it must reinforce the individual to do so. The researcher takes the example of commercials which suggest the consumer to do the action as model is doing in the commercials. Commercials make an attention and motivation to the consumers, suddenly their behavior changed and they buy the specific product and also try to do the same actions done in the commercials. The consumer tries to adopt the behavior of the model if the models have similar characteristics to the individual (Bandura, A. 1977).

The students mostly try to follow their teacher's behavior in early age. Teachers are the most respectable personality for them in childhood. Beside that if a teacher used advance technology like multimedia in classroom it would directly affect the behavior of the students. Firstly they learn the lesson efficiently and secondly it makes them confident and active. It will surely make the learning and understanding process very easy and comfortable. In this study the researcher wants to tell that audio visual aids which are situated in a classroom have an impact of social learning on the students. Furthermore, observational process increased for students when these audio visual aids are used in the classroom settings and they learn a lot of new things.

Media Dependency Theory:

According to Media Dependency Theory any media which is going to fulfilled the need and desires of an individual that particular media become more important for the person. That adopted media become more influential for the individual (Ball-Rokeach & DeFleur, 1976).

The importance of media in the field of education can be determined through the usage of multimedia technologies in the classrooms. The teachers are nowadays dependent on the multimedia as well as students. These audio visual aids make the learning process very easy for students. The students are becoming more dependent on the multimedia and these

audio visual aids are also ensuring the individual easiness and comfort. They claimed the education from these audio visual devices and as dependency theory explain more the use of a media become important for an individual. In this study the researcher argue that these audio visual aids have a solid impact on the individuals and this media has become very influential for the students and their dependency on these technologies has increased.

Research Methodology:

Participant:

All the Government schools students of the Multan are the population of the study and through convenient sampling technique the researcher has chosen Government Tibbi Wala Primary School for the experiment regarding impact of audio visual aids on learning of students. For this purpose the researcher has chosen 5th class students for sample through convenient sampling technique and after that the researcher has chosen 112 students equally from both genders through random sampling.

Instrument:

Evaluation test: For the purpose of measuring learning of the students the researcher manage a quiz/test ant it will distributed after the lecture to both groups of the students; experimental and control group. This test caries 10 questions and all the questions carry 2 marks each regarding the content delivers to them during lecture. The researcher has made four grades of the score; the students who took marks1-5 will be in the D Grade and who took 6-10 C Grade will be associated to them just like it the core 11-15 will be lei in B Grade and 16-20 score will be consider A Grade.

Observational method:

For measurement of attention regarding lecture deliver by multimedia and traditional method the researcher adjust a hidden cam in the classroom and follow the covert observation method; so that the researcher can calculate the actual attention level of the students through their recoding during lecture. The researcher designs three level of attention; the lower level is 4 or less than 4 score from total score of 10 in which the students does not take any sort of interest in the lecture deliver to them they are too lazy and were sleeping, second level of attention is consider as medium level which is between 5-7; in this level the students are not having full interest and involvement in the lecture they are doing whispering and watching here and there instead of lecture. Similarly in high level of attention the respondents take full interest in the lecture and their attention is of high level in it and this would have the score of 8-10.

Lecture Content:

A 10 minutes audio video clip regarding plants and photosynthesis has become the part of the research. It is in Urdu language so that the students can understand it easily. This content was exposed to the experimental group with the help of the multimedia (LED), and same content was also delivered without the help of multimedia in the classroom to the control group students via traditional method of teaching.

Marker variables:

The age of the students and the gender of the students are marker variables.

Independent variable:

Here the researcher want to check the impact of a/v aids on learning of students, so the Audio Visual (A/V) aids are independent variable. LED TV was used as Audio Visual (A/V) aid in the classroom which have the function of both audio and video.

Dependent variable:

Learning of students is considered as dependent variable in this research project which has been defined as the grades of the students from the test.

Data Interpretation Tool:

For interpretation of the collected data the researcher has used the SPSS for comprehensive understanding and with the help of cross tabulation the researcher has analyze the results.

Findings:

Table: 1

Gender & Experimental Group Score cross tabulation:

Gender	Experimental Group		
Genuer	Α	В	Total
Male	12	16	28
	42.9%	57.1%	100.0%
Female	20	8	28
	71.4%	28.6%	100.0%
Total	32	24	56
	57.1%	42.9%	100.0%

Table 1 explains the score of experimental group securing during experiment which concludes that 57.1% of total 56 students secure A grade while 42.9 secure B grade. In context of gender more female students get higher marks in comparison of male students. 71.4% female students secure A grade and 28.6% female students secure B grade. In perspective of male respondents 42.9% secure A grade and 57.1% have secure B. **Table: 2**

Gender & level of Attention Cross tabulation:

Gender	Level of At		
Genuel	High	Medium	Total
Male	8	20	28
	28.6%	71.4%	100.0%
Female	12	16	28
	42.9%	57.1%	100.0%
Total	20	36	56
	35.7%	64.3%	100.0%

Table 2 explains the level of attention of experimental group during experiment which concludes that 64.3% of total 56 students have medium level of attention while 35.7% respondents have higher level of attention. In context of gender more female students have high level of attention in comparison of male students. 71.4% female students have medium level of attention while 28.6 % female students have medium level of attention. In perspective of male respondents 57.1 % have medium level of attention while 42.9% have high level of attention.

Table: 3

Gender & Control Group Score Cross tabulation:

Gender	Control Group			
	Α	В	С	Total

170

Male	0	12	16	28
	.0%	42.9%	57.1%	100.0 %
Female	4 14.3%	4 14.3%	20 71.4%	28 100.0 %
Total	4 7.1%	16 28.6%	36 64.3%	56 100.0 %

The above table explains the score of control group securing during research which conclude that 64.3% of total 56 students score C grade while 28.6% secure B grade and 7.1% score A grade. In context of gender more female students get higher marks and also lower marks in comparison of male students. 71.4% female students' secure C grade, 14.3 % female students' secure B grade and 14.3% of female students score A grade from the test. In perspective of male respondents 57.1 % secure C grade, 42.9 % have secure B grade and 0% of male students score A grade.

Table: 4

Gender & level of Attention Cross tabulation:

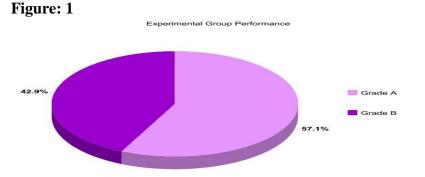
Gender	Level of Attention			
Genuer	High	High Medium		Total
Male	0	12	16	28
	.0%	42.9%	57.1%	100.0%
Female	8	0	20	28
	28.6%	.0%	71.4%	100.0%
Total	8	12	36	56
	14.3%	21.4%	64.3%	100.0%

Table 4 explains the level of attention of control group during research which concludes that 64.3% of total 56 students have low level of attention in lecture, 21.3% have medium level of attention while 14.3% respondents have higher level of attention. In context of gender more female students have high level and lower level of attention in comparison of male students. 71.4% female students have lower level of attention, 0% female respondents have medium level of attention while 28.6% female students have higher level of attention. In perspective of male respondents 57.1% have low level of attention, 42.9% have medium level of attention while 0% of male respondent have high level of attention. **Discussions:**

This study explores the learning level and level of attention of 112 students' boys and girls of Government Tibbi Wala Primary School of Multan. The total sample was 112 and according to the demand of study the researcher divided the sample in two groups, first group was experimental group and the second one was control group. For measuring the learning of the students through use of multimedia and without the use of multimedia in the class the researcher makes a multiple choice questionnaire for both groups. Same content has been exposed to both groups; the experimental group was exposed to the multimedia and the

control group receiving the lecture in traditional way. LED has been used as audio visual device. In the same time for checking the level of attention of the students the researcher uses observational method and for this purpose the researcher fixed a video camera in the both classes where the experiment has going on. The research concludes that the environmental changes in the setting of class are improving the learning of the students. Students are becoming dependent on audio visual aids because these gadgets are making their understanding about their lecture more effectively.

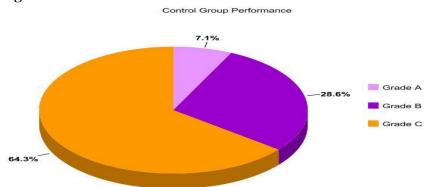
RQ1: What is the performance of experimental group subjects after exposure to multimedia lecture deliver to them?



The quiz result explains the score of experimental group securing during experiment which concludes that 57.1% of total 56 students secure A grade while 42.9% secure B grade, the figure 5.1 show the details. The figure clearly shows that the experimental group performance was greater than the performance of control group.

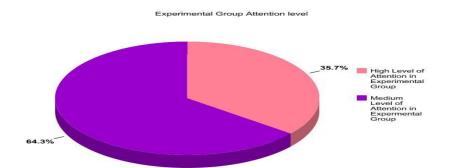
RQ2: What is the performance of control group subjects after exposure to traditional lecture deliver to them?

Figure: 2



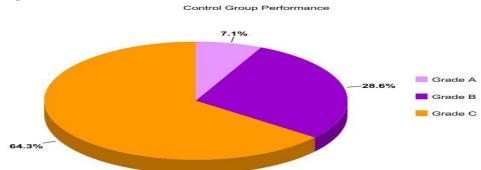
In terms of control group the results conclude that that 64.3% of total 56 students score C grade while 28.6% secure B grade and 7.1% score A grade, the figure 5.2 show the details. It clearly depicts that with the use of audio visual aids the students has performed well and their learning process improves in comparison of control group.

RQ3: What is the level of attention of the students in multimedia lecture? **Figure: 3**



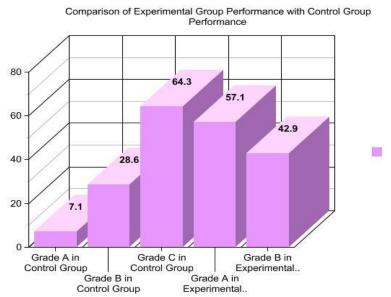
The above figure (3) tells the story that 64.3% of total 56 students have medium level of attention while 35.7% respondents have higher level of attention in experimental group. In context of attention level the level of attention of the experimental group is higher than the control group.

RQ4: What is the level of attention of the students in traditional lecture? **Figure: 4**



In term of control group the level of attention during research concludes that 64.3% of total 56 students have low level of attention in lecture, 21.3% have medium level of attention while 14.3% respondents have higher level of attention, the figure 4 shows the story. **HI:** There would be significant difference in student's performance after exposure to multimedia lecture.

Figure: 5



The above figure indicates that the experimental group get good grade than control group. 57.1% students secure A and 42.9% students secure b grade. In perspective of control

group just 7.1% students secure A grade, 28.6% students secure B grade and 64.3% students secure C grade in control group experiment.

Hence the above explanations prove that the hypothesis number 1 and it is accepted.

H2: The level of involvement would be higher in experimental group as compared to control group with regard to multimedia lecture.

Figure: 6

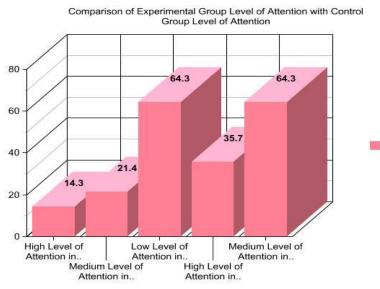


Figure 6 explains that 35.7% students in experimental group have high level of attention and 64.3% students have medium level of attention in multimedia lecture while just 14.3% of students of control group have high level of attention, 21.4% have medium level of attention and 64.3% having the lower level of attention during lecture.

Hence the above explanations prove that hypothesis number 2 and it is accepted.

The study concludes that environmental settings of the individuals in the classroom have a great impact on them furthermore it describes the dependency of the individual on the media in a positive manner. Such multimedia gadgets are playing a vital role all around the globe and this research project is an evidence to apply such settings in the classroom of the government schools of Pakistan so that the learning process may improve. Furthermore for competing the level of international standards of education sector these gadgets could play a tremendous part to make Pakistan a progressive country.

Suggestions:

It was a small study and that's why the sample size was not so large, there should be big sample size for the project to generalize the results. Meanwhile there should be comparison of private schools where such audio visual aids have been used to the government schools where the adoption of such devices is less. Furthermore there should be a study on the private schools where these devices are use to check out the output of these gadgets in term of learning. To find out the issues of teachers a researcher should be conducted on the teacher performance; is the teaching process improves with the help of audio visual aids?

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