

ICTs in Learning: Multimedia Learning in Classroom

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Abstract

ICTS can be described as information communication technologies that provide access to information through telecom. It further includes communication technologies which focus on the internet, wireless technologies, laptops, smartphones, tablets and other communication devices. The development of technology has changed our lives and brought drastic changes in human lives. Technological advancements have revolutionized our perspectives of the world. The use of different communication technologies such as print, radio, TV broadcast and internet are used for demonstration and presentation purposes. The use of different educational technologies become important part of the learning process for students. Learning is to bring change in behavior and attitude through practice. Multimedia learning occurs when student develops mental presentations with words and pictures. Multimedia tools are effectively used in classroom. These tools included power points, still pictures, diagrams, animations, flowcharts, videos and sound. Multimedia can be defined as combination of audio and visual sensory data. Words alone are not enough, when learning is presented with visuals it enhances students' understanding and they can retain and recall information for long time. Previous researches in the area of ICTS in learning highlighted the use of multimedia tools improved students' skills and produced effective results. Multimedia learning provides great opportunities for learners to fulfill their educational needs. Multimedia tools are offering variety of ways for learners to learn and interact with technologies. The purpose of this research is to find out students' practical experiences with the usage of multimedia tools in classroom. Semi-structured interviews of 30 medical students are conducted to know their practical experiences with multimedia learning. Results show that multimedia learning helps in cognition, concept clarity and active mode of learning. It produce meaningful learning. Findings suggest that multimedia instruction tools facilitated a lot in learning process.

Keywords: ICTs, technology, learning, multimedia, audio and visual, classroom

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Introduction

The term “information technology” developed in 1970s. Its basic concept can be traced back to the World War II alliance of military and industry in the development of computer, electronic and information theory. Since 1950, four generations of computer were introduced. In 1975, Massachusetts Institute of Technology designed microcomputers. Tandy Corporation's first Radio Shack microcomputer was introduced in 1976. An Apple microcomputer was developed in 1977. IBM introduced the first personal computer in 1981. Computers are speedy and affordable as information-processing tools History of ICT (2008).

Desai (2010) defined Information communication technology (ICT) is a set of different technological tools included technologies such as desktop, laptop, computer, hardware appliances and software applications with the internet. There is another definition given by UNESCO (2008), ICTS can be described as the combination of information technologies with other technologies which are used for the purpose of communication. Information Communication Technology (ICTS) can be described as incorporation of information, broadcast media, audiovisual processing and communication technologies. ICTS are changing the means we learn, live and interact with in society. ICTS have great contribution in many fields like health, education, economics, engineering, medicine and business. ICTS are successfully organized to communicate, disseminate, store, and manage information in to learning. Lachman (1997) defined learning as a practice or experience and it brings change in behavior with the help of practice or experience. ICT has also become fundamental in the teaching-learning interaction.

These powerful technologies are the part of the future. The traditional textbook cannot fulfill the changing needs of students' needs and the information-explosion world. ICTS have major contributions in technology. Globally, everyone is practicing modern tools and methods in teaching and for effective learning. These technologies allow us to access, create, organize, control and communicate locally and globally with the help of digital media.

ICTS in Learning

The usage of Information and Communication Technologies (ICTS) have great importance in the country's development. The widespread and fastest growth of information communication technologies (ICTS) had transformed human society in to technology based societies (Simuforosa, 2013). ICTS were providing independent learning and more useful in getting and transforming knowledge effectively.

Desai (2010) concluded the usage of ICTS in the learning process by university students that they can better cope up with society at technological pace and to develop skills which fulfil the needs of the 21st century. She further concluded that there was a great need to improve ICTS in the learning process. There should be the proper national educational policy for the integration of educational technologies. These technologies fostered students' learning and enable students to perform collaborative learning. ICTS enabled students to become efficient in learning. Traditional teaching revolves around the teacher, but these technologies made possible student centered learning. These technological advancements have the strong foundation in academics. These modern technologies became building blocks of modern digital societies. These technology based tools motivate students to learn and participate in the learning process effectively. These technologies are used to produce deeper understanding of technological tools, cognitive learning, improve vocabulary and concrete concepts.

ICTS and New Directions of Learning.

Technological advancements are considered as fundamental requirements in academics. The traditional lectures are replaced by new interactive digital learning. Conventional teaching put great stress on content. ICTS provided digital platform to students and enhanced their learning skills. Effective skills of learning made possible independent learning. (Oliver, 2000 as cited in Noor-Ul-Amin, 2013). The most important contribution of ICTS in the field of education has provided great and easy access to learning. Digital technologies helped students to access e-books, research articles, essays and information. This flexibility was not possible in traditional ways of learning systems (Young, 2002). ICTS also provide learner centric environment in which learners can learn digital skills. Now teachers and learners don't rely on just printed material but they get access to visual and digital communication. These technologies have removed time and space traditional hurdles.

This new technology can be fruitful in students' active learning and facilitate with the new online interactive environment. Teachers use digital technologies such as videos, television and multimedia, app, software that combine text, sound, and colorful moving images to make learning effective. Digital learning motivate them towards collaborative learning. It develops problem solving, self-management and critical thinking.

Learning

Sequeira (2012) explained that learning is a vast concept. Learning is an active and constructive process. It means to bring change in behavior through developing a new skill, practicing and changing an attitude. Learning can happen anytime. Learning is not stagnant but dynamic in nature. Learning

cannot be poured in to students' brain but they learn it from different experiences. Different Learning models are used in education. There are mainly two types of models pedagogical approach deals in which teacher has dominant role and students are passive and other approach is anagogical approach in which there is main focus on learner.

Multimedia learning

The term multimedia was given by singer and artist BOB GOLDSTEIN (1996). He explains that multimedia is combination of hardware and software and allow to integrate in form of audio, visual, graphics, animations and video.

Multimedia is a type of learning which is based on two channels audio and visual. It can be defined as the use of different forms of media in a presentation (Schwartz & Beichner, 1999, p. 8) as cited in Gilakjani (2012). Multimedia involves our two sensory channels audio and visual. Students can learn better through watching content with spoken text. Multimedia learning has become an important phenomena in teaching learning process. Larkin and Simon (1987) mentioned that diagrammatic representations are extremely better than words. The visuals remain in our memory for a long time and if visuals are supported with words the students can better understand the concept. Technology based learning made learner independent on learning. It is time saving method without time and space barriers.

Multimedia revolves around the powerful learning. The main aim of this learning is to present words and pictures together to establish meaningful learning. There are two approaches which are find out in this learning, a technology-centered approach and a learner-centered approach. These technologies facilitated a lot in learning process (Mayer, 2005).

Educational Technology

Educational technology is an act of facilitating learning with the help of technology in learning. It is defined as the use of learning technology in the process of teaching and learning. These latest tools included laptops, interactive whiteboards, smart phones; internet, Wi-Fi, and YouTube (Prensky, 2008). Multimedia technology is an eminent part of education and it bring new paradigm in education and this modern learning is based on using different technologies in teaching learning process. It is problem solving, collaborative and cooperative strategy. Medical procedures, first-aid training and instruction of paramedics and surgeons made interesting through the use of multimedia technology because visual learning is the requirement of medical profession (Almara'beh, Amer, & Sulieman 2015).

Joshi (2012) analyzed that educational technology became an integrated part of curriculum. This article describes the English learning students to develop their skills in English through multimedia: print text, film, video, radio,

computer, and Internet. With the help of multimedia, the students feel great improvement in vocabulary, spellings and writing. Multimedia provide opportunities to students that they connect with internet and solve their queries.

Multimedia as an Effective Tool of Learning

Multimedia is part of digital learning. Multimedia tools efficiently improve the concept building, analytical reasoning, creative and critical thinking. Learners are more comfortable in an environment which reflects their learning needs. Learning strategy should be according to learners' requirements which should fulfil their educational needs (Sankey, 2006). Multimedia can be used to develop a more appropriate strategy that appeals to visual, aural and kinesthetic learners to overcome individual differences in students. When teacher present content in different ways which help students to develop a more flexible approach towards learning. When text is presented with visuals, it is more appealing as compared to text alone (Morrison, Sweeney, & Heffernan, 2003) as cited in Gilakjani (2012). With multimedia approach in learning, the instructional material can be delivered effectively with the help of technology. It facilitates students in learning process and present important points in more précised form. It is interactive mode of learning. Multi- sensory experience gives more practical exposure to learners. Multimedia learning helps to retain and recall information for long time (Ng and Komiya, 2000; Hofstetter, 1995) as cited in Neo (2001).

Multimedia in classrooms

Multimedia in classrooms have changed teaching learning strategies in education. These tools have great impact on content, development and instructional method. It bring innovations in teaching and learning process. Neo and Neo (2001) stated that multimedia is part of an educational technology. Multimedia provide technology based environment in which students learning is happening with the help of multimedia tools such as power points, graphs, pictures, animations, graphics and videos. Multimedia tools provide opportunities to students so that they can solve problems, develop their analytical and creative skills.

Multimedia provides constructivist based learning, it can be seen that students experienced high levels of motivation and self-esteem when doing the multimedia projects as shown in their comments and survey results and regarding with Reeves' (1998) perspective that "multimedia can arouse more than one sense at a time and these tools are more attention grabbing and attention taking." These tools enhance the students' creativity skills so they can reuse these by consulting the slides, listening the audio, watching the video and reading the material.

The interactive nature of multimedia replaced traditional mode of learning which was based on chalk and talk method. In current scenario, teaching learning process is not effective without usage of technology. It enhances individual creativity and innovation in learning process (Neo, 2007).

Malik and Agarwal (2012) highlighted that multimedia is used in universities with the help of two approaches. One is that multimedia help students to create content and use software and secondly multimedia content move towards engaged learning. The multi-disciplinary nature of multimedia promoted multi modal learning. Multimedia technology provides constructive learning environment and it helpful in problem solving and develop analytical abilities. It enable students to explore, enhance creative skills and self-exploratory. The forms of multimedia tools such as graphics, charts, flow chart, animations, presentations, audio and video and visuals support the learning process.

Multimedia technologies have many great advantages such as availability, multimedia decrease dependence on lecture only, facilitates learning, time saving and better individual student engagement. Multimedia is an active strategy which motivates students to learn from audio and visual (Repman, 1993; West, 2006) as cited in Ekinci et al., (2009).

Multimedia technology is frequently using in social sciences, medical, basic and applied sciences. Multimedia helps in cognition, affective and psychomotor skills. These tools help to discover, explore and experience different learning situations. It is an active mode of learning because it involves audio and visual medium. This approach is more participatory and it is more flexible in time and space (Young, 2006) as cited in Ekinci, et al., (2009). Mayer (2009) reminds us that multimedia can be as simple as image with words and that it is the instructional method and not the technology that matters. Multimedia learning enables that content is present in schemas which organize information for long term memory and individuals can easily recall it.

There is the little research on students' experiences regarding multimedia instructional tools and explore their learning. This research will fulfil this gap by addressing how medical students are learning through multimedia.

Information communication technologies are the part of an effective learning system. These electronic mediated forms of communication are changing the ways of communication. Multimedia learning is based on modern strategy which fulfills the needs of 21st century students. It makes students aware about different kinds of tools which are incorporated in learning system. It replaced traditional chalk and talk method. In this learning, students can reuse information with the help of slides. Educational Technology is greatly facilitated in the learning process.

This research will focus on medical students' experiences that how they use multimedia for enhancing learning skills in the classroom environment.

Literature Review

ICTS are successfully organized to communicate, create, disseminate, store, and manage information in to learning. Lachman (1997) defined learning as a practice or experience, and it brings change in behavior with the help of practice or experience. ICT has also become fundamental to the teaching-learning interaction. Darling-Hammond, Zielezinski, and Goldman (2014) from Stanford University conducted their study in 2014 on at-risk students' learning with technology mentioned that learning cannot be successful only with information communication technologies (ICTS) but it needed involvement of teachers and support of other students. The combination of technology uses, strategic teacher support and social interaction among learners can make learning effective. All these technology driven factors with in learning environment can support collaborative and active learning.

Learning with Multimedia

Multimedia has many forms included graphs, pictures, animations, power point slides, written text, visuals and videos. Multimedia has great potential to introduce modern trends in learning. It gives multiple learning styles and exposures in learning environment. Sloan, Stratford & Gregor (2006) mentioned that multimedia tools are effectively used in classes. The combination of audio and visual data combines and integrates in learning. These multimedia tools effectively combine information in many ways, pictures, diagrams, animations, video clips, audio recordings are far effective in conveying information and experiences. It helps to visualize the concepts and it helps to retain and recall information. Visual displayed data helps in concept building. Multimedia make learning focused, goal oriented, more participatory and flexible in time and space.

Multimedia is using as a teaching tool in classrooms. It depends upon the skills of teacher how they are using in learning environment to maximize its benefits. PowerPoint presentations are combined with words, graphs and visuals. It facilitated teaching and learning process. Teacher can deliver lecture with the help of slides and visual material is displayed on screen. At the same time, students are involving with two channels audio and visual.

Multimedia learning is based on modality principle because it involves audio and visual sensory data. Seeing is believing. When they see information they can easily remember the information. It is effective for long term memory (Penny, 1989) as cited in Gunawardhana (2016). On the other hand, Mousavi et al. (nd)

as cited in Gunawardhana (2016) highlighted that short-term memory and modality effects are greatly related to multimedia learning. Their findings suggested that multimedia even activate short term memory and people can retain and recall information.

Role of Multimedia in different disciplines

Multimedia tools are frequently using in medical education. Their leaning is based on learning by doing. Multimedia combine many senses together and it help in knowledge retention. When they visualize different surgery cases they are able to perform it practically. In teaching dental anatomy, multimedia presentations and pictures are very effective in giving the visual description of every tooth. They used web based tutorials effectively (Adarve, (2011) as cited in ARULSAM Y (2012). This multimedia learning is very helpful in cosmetic surgery and dermatology. The videos are showed through multimedia presentations, these animations and videos are very helpful because they demonstrate the whole procedure (Stein, et al., (2010) as cited in ARULSAM Y (2012).

Multimedia tools are effectively applying in other academic disciplines. It is applying in engineering design education. Interactive software programs, tutors, learning software and multimedia presentations are using in this field Höhne, & Henkel (2004).

Role of teacher in multimedia teaching

Multimedia teaching has used in schools, institutions and universities. Multimedia tools facilitated teaching process. Xu (2017) stated that many teachers depend on these technological tools and many issues arises such as they are not well prepared, poor quality of delivering lecture, less control over class and totally dependent on slides. In this regard, it seemed that teachers did not select quality content they just picked it from internet and fixed it. There are some technical problems on usage of multimedia such as colors, font size, sound, electricity issue and these all effect on the learning of students. Teacher should have professional knowledge to handle these technological tools in classroom. Multimedia teaching demands that teachers should have expertise in handling these hardware and software devices.

On the other hand, it is also fact that technology itself is not enough but teacher's participation is also important for meaningful learning. Multimedia technology cannot replace teachers. Teacher's role is to assist students to fulfill their learning needs. It enables teachers to combine many elements like audio, visual and spoken text (Lambert & Cuper 2008).

During the whole teaching process, the teacher role is to prepare presentations and effectively use them in learning process. The teacher acts as a skillful

moderator and people learn from it. The combination of audio and visual effects makes learning more interactive and interesting.

Multimedia and Students Learning

Multimedia promotes active strategy in which students are active users of technology. There are two directions of using multimedia that these tools facilitated the learning process and easy availability of textual and audio, visual content. Akinoso (2018) stated multimedia is concerned with the text, graphics, drawings, animations, moving images (video) audio and any other media which can be operated digitally. He evaluated that multimedia moves towards constructivist learning in which students can play an active role and it play significant role towards students' achievement.

Learners become active participants in the learning process instead of being passive learners. Multimedia tools develop knowledge, skills, creativity, analytical skills and adoption of technology. The use of animations, text, sound, spoken text, music, sound effects, motion pictures, video and audio clips makes the lessons affective. Technology based learning became the need of students. This study reported that there were significant differences found the students who read from traditional mode as compared to multimedia instructions (Sharma & Saarsar, 2017).

Another study conducted by Oshinaike & Adekunmisi (2012) explained that multimedia promotes effective learning. Multimedia is helpful for students in learning and assist teachers in teaching process. It is multi-sensory and makes teaching learning process interactive. Multimedia technology presents précised form of learning and it gives bullet points and gist of learning. Students can retain and recall information with long term memory and vision (Ng and Komiya, 2000 as cited in Oshinaike & Adekunmisi, 2012).

In supporting these claims, previous studies highlighted the results of the use of videos as an educational tool (Bravo et al., 2011). These videos have two purposes that they are added for an additional learning and they are created for entertainment so that students' interest could be maintained. Supplement video clips motivate students towards learning. These videos help students to release their anxiety and visual images retain in memory. Film can be used to provide as a visual source. According to Kasper and Singer (1997) as cited in Joshi (2012) films are very necessary medium to clarify the concept of students. Visualization helps to remember the concepts. Visual and verbal comprehension brings meaningful learning.

In most research studies, experimental method was used to investigate the effectiveness of traditional and multimedia instructions on students' learning. In some studies, qualitative semi-structured and in-depth interviews were used. Semi-structured interviews are also useful to gather personal experiences. Patton

(2002) claims that interview method is used to find out those elements that we cannot directly observe which included thoughts, intentions and feelings. This study will conduct semi-structure interviews from students to know their experiences regarding usage of smartphones in classroom. Creswell (2007) claims qualitative research is essential when there is a complex and detailed understanding of an issue, which can be achieved directly talking and involving people and allowing them to narrate their experiences.

Theoretical Perspective

It is also very important to understand that what is the role of multimedia in learning environment is. Cognitive theory of multimedia learning was proposed by Richard E. Mayer. Mayer (2002) explains how brain processes information and how it is presented. In this process, there are two sensory channels involved audio and visual. When a learner is presented visual information the brain processes visual information. When a learner receives audio information including verbal and spoken words the brain processes it separately. Multimedia learning is deep learning because it involves audio and visual models. Learning becomes more effective because there are two senses involved in it. He explains in theory that words and visuals are more effective in learning.

There are important principles of multimedia learning. Multimedia learning is effective when words and visuals are presented together as compared to words alone. Students can better understand the explanation when words and pictures are presented at the same time. Words should be presented auditory rather than visually. Students who have great background knowledge they tend to develop their own meaning while listening and watching a presentation. It is an important principle that use précised form of learning as compared to long summaries. The précised form of written version helps them to memorize the points Mayer & Moreno. (1998).

People learn more deeply from words and pictures than from words alone. This is multimedia principle. Relevant graphics promote active learning and it helps in concept building. The learner tries to establish the relationship between words and graphics. This theory establishes point that meaningful learning happens when individuals learn with the help of visuals (Mayer 2005). Modern learning is greatly influenced by these ICTS. The use of ICTS has greatly affected in all walks of life. Therefore, **the research question** arises that how do medical students experience multimedia tools in the classroom?

Method

This study is based on qualitative research and conducted semi-structured interviews. Interviews are one of the most commonly used method of data collection in qualitative research and they are more helpful to know people experiences (DiCicco-Bloom and Crabtree 2006 as cited in L.S. (2008).

The study has an aim of exploring medical students' experiences regarding multimedia learning in the class room. The questions which are asked in semi-structured interviews attached in appendix. Cook (2008) and Kvale (1996) mentioned that the semi-structured interview is not a structured "questionnaire" or nor an unstructured conversation but it is a conversation where the interviewee shares his experiences regarding topic or problem. These experiences are based on practical learning. It is based on open-ended questions in which participants can freely express their ideas and opinions. They are also based on probing questions to collect the respondents' deep responses.

Participants

The participants selected from Islamic International Medical College. They were final year medical students and multimedia teaching is using frequently in their classrooms. There were total ten participants in the study. These female students shared their experiences about learning from multimedia. The criteria for the selection of the participants were their willingness to participate in this research procedure and share their experiences through interviews. The reason of selecting medical students as a sample because there is a great exposure of multimedia learning in their classrooms. This technique ensures the researcher to discuss deeply and freely about their experiences. The researcher also use probing questions such as "Can you mention some more examples?" or "What does it mean?" were asked to improve the depth of data collection and to dig out more experiences . All interviews were recorded and transcribed and converted in to themes. Audio recorders, developing notes in the field and video cameras are the most common tools of recording interview data which are frequently used in research procedure (Rubin and Rubin 2005).

Data Analysis

In this study, different themes were developed to analyze the data. Cook (2008) and Kvale (1996) conclude that the semi-structured interview is neither a structured "questionnaire" with preconceived questions nor an unstructured conversation with no prescribed topics; it is a conversation where the interviewee makes account of his/her subjective experiences related to the theme introduced by the researcher, and the interviewer attempts to explore these experiences for further details worth of analysis.

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Thematic Analysis

Thematic analysis can be described as extremely flexible method which can be modified for the needs of many studies, providing a rich and detailed amount of data. It is useful to discuss different perspectives of participants in research ([Braun & Clarke, 2006](#); [King, 2004](#) as cited in Nowell et al., (2017).

Different themes were emerged from the research data.

Mental representations

Multimedia learning helps the learner in order to gain thinking skills. It help students to absorb mental representations from words and pictures. It gives them mental images in forms of visuals. Printed text, animations and pictures help them to retain information in their mind. Our brain processes information with the help of two channels—visual and auditory.

Multimedia helps in concept building

Multimedia help the students to meet the requirements of modern learning. Multimedia learning help students to develop their concepts correctly when they watch visual presentations. It gives students to meaningful learning and establish their concepts. When concept is played with visuals it help them to strengthen their concepts.

Combination of audio and visual

Multimedia learning is a combination of audio and visual text. Students learn deeply from multimedia presentations which is combination of text and visual as compared to text alone. Power point slides, highlighted text, flow charts, pictures and graphs help students to grab the attention. Audio, music and sounds also makes learning more interesting. Multimedia can be described as printed text and pictures (such as illustrations, photos, animation, or video). It is also supported with the spoken text.

Multimedia is Passive strategy

Multimedia learning is passive strategy in which power point slides are presented in which teacher role is active and students are passive. Students just have to hear and visualize the content and often they focus out from the content.

Motivational Learning

Multimedia learning contains motivational features. Meaningful learning is linked with motivation. Motivation helps a lot in the learning process and help to achieve educational aims and objectives. The purpose of using multimedia tools in the classroom to motivate students towards learning through audio and visual because traditional methods create boredom in studies

Power Point is Précised Form of Learning

The power point slides play an effective role and present all the bullet points in précised form. It help students to remember all points and retain in memory.

Develops Recall Ability

Multimedia tools enhance attention, retention and recall abilities. It help students to grab the attention, to retain in mind and even recall information when needed. It helps to retain information in long term memory.

Active form of learning

Multimedia learning is an active form of learning. It involves our two senses hearing and seeing. We listen the lecture and at the same time we are visualizing the content with the help of visuals, graphs, still pictures and charts we remain active and our interest develops a lot.

Affective learning

Multimedia learning is an active form of learning. If students are focused towards learning, this effective learning help when individual attention is focused not split.

Discussion

In this study, the medical students' experiences are discussed, which are related to multimedia learning in classroom. The experiences were recorded through semi-structured interviews. The themes which were developed in the study, multimedia bring features of concept building, mental representations, audio and visual strategy, active form of learning, affective, motivational, recall ability and précised form of learning.

According to our findings, many students mentioned their experiences in interviews. Many students discussed that multimedia tools has great role in subject matter. If these multimedia tools are properly utilized they prove fruitful in learning process. Lecture separate is not enough by instructor but when it is combined with multimedia tools such as graphics, still pictures, flow charts and

visuals they make learning more effective, interesting and meaningful. The medical students mentioned that their learning is incomplete without multimedia strategy. PowerPoint provide key words, concepts, brief points and images to enhance your presentation.

Students mentioned that it is difficult to read from book but multimedia tools help to concentrate and remember points for long time. They also focused on visuals which are more appealing than textbooks. Some medical students put great importance on that videos are more supporting feature in anatomy. The example was given “fetus development” it cannot understand without visual aspects. Nervous system and digestive system can better understand with visuals. Videos give them a very practical feature in their learning. The students highlighted their experiences they cannot understand their medical issues without watching videos and pictures. They provided many examples that videos are very helpful in diagnosis of diseases. They cannot discuss many issues on the bed side of patient but with the help of videos they are able to present their cases and helpful in the clinical studies. They also highlighted that power point slides, graphs, pictures, flowcharts, diagrams, animations and watching videos are part of their learning content. In their profession, visualization is an important phenomena.

Another important finding of this study showed that few students mentioned that multimedia learning is passive strategy. They mentioned that teacher is dependent on slides and these slides are supportive for teachers. The use of slides make students dull and less interactive with teacher. Students are passive and wait when these lengthy slides are going to finish. Some students also expressed their views that technology make us dependent on these slides. The habit of making notes is almost finishing and students are dependent on bullet points.

Another finding of this study showed that multimedia tools are an effective mode of learning. It gives meaningful and motivational learning. One of the important aspect of multimedia learning is that it involves audio and visual senses so it helps to focus on content. Many students prefer that multimedia tools are more effective than traditional mode of instruction. Books contain black and white text but on the other hand power point slides contain audio, visuals, graphics, colored text and videos. Multimedia learning actively engages learner through text and visuals.

One of the limitations of this study is the lack of the generalization of our findings due to its qualitative nature. It is a pilot study and based on small sample because of time and resources constraints. This study was conducted with a sample of medical sciences’ students in Islamic International medical college therefore our findings may not apply to other students. Future studies are

required to conduct similar studies with non-medical sciences' students. Sample can be increased in future studies.

Conclusion

The students presented their viewpoints that modern technology is part of learning. Effective learning cannot be done without technology. Technology help students to engage and it promotes the attitude of problem solving and recall ability. It enhances cognition, creative skills and motivate students to incorporate technology in their learning process. Multimedia is technology based learning and establish interaction between human and machine.

Recommendations

The lack of technology, knowledge and skills is hindrance in the way of multimedia learning. There should have professional training of teachers so they can integrate technology in classrooms. Teachers' attitude toward technology also matters a lot. Educational Institutions should promote learner centered activities as compared to traditional mode of instruction. Further study should conduct on teachers' experiences with multimedia technology in classrooms.

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