
AN ANALYSIS TOWARDS IMPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY AT UNIVERSITY LEVEL

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ABSTRACT

Information and Communication Technologies (ICTs) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. This broad definition of ICT includes technologies as radio, television, video, DVD, telephone, satellite systems, computer and network hardware and software. ICT is a powerful tool for extending educational opportunities and can provide remote learning resources. The ICT Policy in higher education aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio- economic development of the nation and global competitiveness. The Population was comprised of students and faculty members of universities of Karachi (5 public and 5 private sector universities) two questionnaires were designed by Likert scale to collect data. The findings of the research showed that the overwhelming majority of respondents were willingness to use ICT in classroom teaching. However, teachers require more training on new ICT-integrated pedagogical approaches for the improvement of their ICT skills and showed the very low level of ICT-supported teaching due to lack of facilities and resources.

KEYWORDS

ICT, Remote learning, ELearning, IT, Social networking

INTRODUCTION

ICT stands for information and communication technology, it is the combination of different tools and technologies including computers, scanners, overhead projectors, speakers, light- pens, smart phones, tablet Pc's and laptops etc. It has completely turned all aspects of life on its head. Its impact is enormous if we look around our surroundings we find its interference more or less in every department in a positive way. Information and communication technology (ICT) is a force that has changed many aspects of the way we live. According to Baber Husain shah 2017) said that ICTs make educational process interesting by providing those unique features such as attractive interface, help wizard, and presentation of materials in an attractive manner etc. It is a well-established fact that the students with urban background have more interest in using ICT in their education.

The face of education has now completely changed. With the availability of ICT vast information is now available on a single click or some other means of communication. According to Stephenson (2001) "ICT provides the perfect launching pad towards the achievement of unconventional and more effective curriculum that will be based on performance rather than content based." Previously learners were limited to the text books and contents provided to them by their teachers. Most of the work was in continuation for years and there was little or no effort to change the contents of the studies. The problems in the conventional method of teaching are .

LITERATURE REVIEW

The importance and fast-growing intervention of ICT prompting many countries of the world to make ICT a part of their educational policies, they incorporate ICT in their syllabus so that their students are level headed with the world. Man is a social animal and he always strives to learn new things whether they are in the form of practical or in any form. He is also keen to pass this knowledge to his surroundings. Student teacher relationship plays a key role in the objective of education it is the most fascinating thing while working in a university is the construction of strong bond between teachers and student it is like a challenge that requires dedication and top level skills. Baber hussain 2017 ICT emergence enables the students to access various channels to clarify their concepts which were difficult if not impossible in the limited time period of the conventional class moreover if they get absent for some reason or being ill and unable to attend the class it was impossible for him to get levelheaded with the class, lesson plan and other activities has to be done at specific time so if the class was missed there is no way they can restore the knowledge on that specific time. ICT helps in this regard it is the binding force of students and teachers not only during study hours but after

university gets over. It provides opportunities for the teachers to assess help and evaluate student's progress. ICT has now become the integral part of academic policies it has unlimited benefits as it is free of time-bound periods and has vast unlimited information it enables even the slow learners to get a head start and overcome their lack of ability to absorb lectures. The impact and value of ICT for teachers are remarkable it provides the teachers the opportunities to design their lesson plans in such a way that the students are bound to give their 100% attention and learning objectives can be achieved in a jiffy as compared to the conventional style of teaching. According to Watkin, the field of education had greatly impacted by ICT many opportunities had been created to counter challenges of educational objectives.

The modern age is the age of computer it has turns the world upside down in every walk of life. Education is no exception now instructors, teachers and other concern personnel must be fluent in using ICT in order to deliver the education old-style teaching has now replaced by online education, use of search engines and E-commerce has now become the necessity. The rise of ICT has rapid progress in the last decade through online universities in the world. Allama Iqbal Open University and virtual university are the prime examples. Such initiatives enable the students to continue with their education along with their jobs, family responsibilities, and vice versa. The invention of ICT has changed the world into a global village, the effect is seen in every walk of life whether it belongs to finance, health, economic, trade or everything that comes into the mind.

The advent of ICT has changed the concepts and ways by which education was imparted previously. It has taken the education to a whole new level that was unimaginable in the past. If we compare modern age with the era of 90's the world of learning is upside down, In the past students were limited to the materials that were provided to them by their books or to the lectures delivered by their instructor, but now after the invention of the internet they have no boundaries, no restrictions they can serve as much time as they want in search of their knowledge and it is all on their fingertips. Reliance on Electronic learning has now become a necessary factor for students as well as teachers, educators, and instructors. Virtual reality is another giant step in ICT having opened a new door of innovation and education.

Many institutes are now in pursuit to collaborate ICT in their curriculum as ICT tools enhance student's performance without any doubt now they are more independent in their studies. Vajargah, & Jahani (2010) addressed the issue of ICT integration in higher education and suggested, they considered teachers and curricula designer as an integral factor in imparting education with the combination of conventional lessons and ICT's. As far as making ICT a part of the curriculum it is impossible without them, they have to rethink the ongoing system and re module the education, the teachers are

ones who fulfill the initiative by investing their energies in teaching the students.

ICT's role in education

ICT is a collective term, it includes all the available tools and gadgets that can be used to communicate or to collect and spread information. It has completely revolutionized the standards of living. It is a set of hardware, application software, telephone or other networks including internet, media channels and any other means to collect information as well as to store it and transmit it to the different levels of society in audio, visual or printed form.

According to Adeya (2002) Communication can be done far more effectively with the indulgence of ICT, knowledge can be transmitted more efficiently, more rapidly and more vastly through a series of network and different channels like media and social networking. He said that ICT is undoubtedly the most convenient and effective means of communication opportunities have been provided by it in sharing knowledge via different means like social networks and various media.

ICT promotes enhancement in the learning & teaching process

The enhancements in teaching and learning process by the incorporation of ICT is immense, According to Yusuf (2005) ICT's affected education in such a way that it turned teaching and learning on its head, besides education research has come into a whole new dimension. He further added after citation of the work of Davis and Tearle (1998) the skills had been accelerated and enriched by the ICT, it has the potential to motivate and students can be engaged to enhance their learning experience. It has the power and capacity to change the dynamics of the schools and produce individual who can change the economic feasibility for future.

The world is changing at a rapid pace and now it is necessary to avail basic education in order to access the knowledge and application of information is possible only if one includes ICT in the world which is now turned into a global village. Oliver (2001) stated that importance of ICT in the following words old method teaching revolves around textbooks it was based on content rather than indulging students into knowledge, teachers had to design lesson plans in the limited resources which the book provided to them, This lesson plans were delivered through a series of lectures and old fashioned activities. These activities were short impacted they induce learner only for a shorter period of time, this miserable approach has horribly failed to influence the learner's mind. The ICT is the perfect answer to this, strong support can be provided to accomplish the teaching objectives in a convenient manner which was unimaginable once.

According to Zhao and Cziko (2001) for them, teachers and students can be revitalized

themselves by utilizing and incorporating ICT. It also improves the quality of education if it is integrated into curricula as it provides strong support to the existing subject material especially the subjects which are difficult for students to understand. Teachers need to collaborate their lesson in line with the utilization of ICT. Necessary Conditions to introduce ICT in the classroom:

In order to take full advantage of incorporation of ICT in the class following three conditions are necessary they are.

1. Trust in the efficacy of the technology by the teachers.
2. Trust by the teachers that use of technology will not affect education in a negative way.
3. The self-belief of teachers in control over the use of technology

Smeets (2005) gave his views about the integration of ICT in the classroom he commented in the following words various research results suggest that majority of the teachers failed to capitalize the immense potential of ICT in education besides the acceptance of the value of ICT. In a case study conducted in 2002 by Harris in six schools. Three of them were of primary sectors and others were secondary. The focus of the study was on pioneering instructive practices involving ICT, the objectives will be fulfilled only when the teachers indulge with confidence willing to investigate and incorporate newly created opportunities to change the environment of their class. If they succeed in doing so they not only augment the environment of erudition. It also organizes the coming generation for coming time and professions.

Wheeler (2001) emphasized the need for the teacher to learn ICT's in order to make themselves capable to handle the future educational challenges based on ICT. According to Cabero (2011), with rapid innovations and inventions in ICT, it is essential to re module the teaching it must be designed in a way that it can absorb the fast flowing fall of information. Such demanding situation requires that new communication model is established and teaching methodologies used by teachers and has the capacity to give way to new features that is favorable for both teachers and learners. ICT must be used in such a way that it acts like a catalyst for accomplishment of objects Muhammad Tariq sammad (2016) information seekers. Due to its unique feature like ease of access, multi-formats, fast access, multi user access, easily accessible at any place, quick retrieve ability, updates resources, mostly resources are freely accessible, full text searching, indexing and abstracting services, links to other resources, environment friendliness mean saving paper, Multimodality mean available in text, audio and visual, readable on mobile /portable devices like smart phones, e-readers, i-pads, e-tabs etc. less space issues and many more. Internet provides facility to teach its users with itself.

“Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student centered settings and by enabling learning to be related to context and to practice.” J. Augustus Richard (2015) People have to access knowledge via ICT to keep pace with the latest developments ICT can be used to remove communication barriers such as that of space and time ICTs also allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place any time. ICTs tools are emerging rapidly in the field of education, it effectively influences the students not only to acquire knowledge but also incorporate it in their lives. Teachers are now more capable of improvising their teaching and explaining the lessons and related content with the use of multimedia tools such as overhead projectors, speakers power-point presentations etc. The concept of education is also changing for students they now enjoy their studies with a wide variety of contents related to their topics. The importance of ICTs is so much that they are now making themselves to learn the ICTs skills as it is the most effective tool of learning in the present.

Needs to implement ICT in education

In a developing country like Pakistan ICT can fill the gap between urban and rural education but in order to accomplish it effectively basic training especially in rural areas needed to be provided. In this way, it can bridge the divide by the virtue of digital technology. According to Amutabi and Oketch,(2003) 3rd world countries have an enormous population and most of them are young the demand for education is on the high rise as education is considered as the pathway of socio-economic and opinionated mobility.

There are many barriers stood in the way for those people who want to get educated these barriers may be in the form of poor infrastructure, lack of financial support, generation gap or social status indifferences. The solution for above problems as follows the growing demand for education can be fulfilled by the integration of ICT after basic orientation people in search of education can get command over the use of the internet and fulfill their desire of getting education. He further stated barriers can be removed by the use of ICT as it has the potential to do so. To overcome the cost issues, an insufficient number of teachers, lack of schools and quality education can be resolved without making huge investments.

The accessibility of ICT was stated by Bhattacharya and Sharma (2014) in the following words the creation of digital wherewithal such as libraries that totally computer-based and their access by students and teachers alike is the name of ICT this provision is free from boundaries like time and space the user can access the resources form anywhere at any time. Cholin (2005) explained the benefit of ICT as follows the

duplication of work make the task of researchers and academics doubly difficult before the inclusion of ICT precious time and effort was wasted as a result of lack of communication now with the integration of ICT the sharing of research work and related materials is as easy as ABC.

The worldwide accessibility of ICT is free from geographical borders as published in a report of UNESCO and research work of Mooij(2007) “The elimination of hurdles like time and geographical borders has turned into a reality because of wonderful technology called ICT. Now learner and teachers can connect to the digital world any time any place. New educational gateways are now available with the verge of ICT. It is playing a vital role in imparting education to the less privileged group of people at a very rapid rate.” UNESCO reports further torches light on the positive impacts of ICT in the following words the utilization of ICT is not limited to just education it can also be used for imparting informal education like campaigns to promote health awareness or for literacy drive.

The all-round ability of ICT is illustrated by Bhattacharya and Sharma (2014) as follows the solution of problems that are very complex and lengthy is never as easy as it is now with the intrusion of ICT. Kozma (2005) stated the advantages of ICT he said the improvement in the perception and concepts of the students is now a very simplified process the establishment of the workforce for the global economy and information society is one of the amazing effects ICT can provide.

The motivation provided by ICT was explained by Plomp(1997) according to him it is the motivating force that has the ability to make teachers and students to strive more and more in their related fields. In the words of Yuen et al,(2003) stated, everything related to educational institutions like learning, administrative issues, and teaching techniques can be improvised by the integration of ICT, it can also go outside the boundaries of the institutions for disadvantaged group. Real-time student-teacher interaction, problem-solving, self-learning are some of the many benefits provided by this wonderful technology.

In the words of Al-Ansari (2006). A lot more research is going on with ease as compared to past and it directly enhances the educational quality. According to Rehbein and Laval (2004) they stated that a massive quantity of uncorroborated literature is the proof of the immense potential of ICT in improving quality of education.

Benefits of ICT's in imparting education

As discussed earlier ICT turned the educational world on its head in a positive manner, it freed the students from the contents that they made to learn forcefully with the

clearance of concept, the advantages are enormous as it provides the opportunities to the students to search the content that they failed to understand during their class lecture. Moreover, it is free of time and space limits. ICT opens the gateway for the students to get whatever help they needed, students have been supported through speedy ICT advancements, resources can be found easily and learning objectives can be fulfilled in accordance to their needs. Social networking and invention of smart phones is a giant step in the spreading of knowledge the communication is never as easy as it is now, many opportunities for the sharing of information have been provided through the easily accessible tools however to accomplish this professional expertise is required a careful and well-trained approach is what required if one desired to incorporate ICT in education.

Mvududu & Burgess (2012) The modern age is the digital age. It greatly influences every field and education is no exception it made imparting of education much more convenient as compared to the past and it is directly proportional to the effectiveness of education. Technology based class room environment is much more effective than that of conventional ones. Teachers are now becoming instrumental they have to mold themselves to adopt changing technological trades so that they transfer the knowledge to their students more effectively. The real meaning of education is to clear the concepts and ICT provided the perfect platform to clarify the common conceptual issues with student's perspectives. The process is made more convenient with the invention of revolutionary devices like a flash drive, micro SD cards, and other such gadgets. In order to fully incorporate ICT, it is required that both attitude and educational, as well as cultural, have to be re module. This could also be done voluntarily by the stake holders and the policy makers. With technologies and ICT, innovations have prompted the teachers that they made the environment in such a way that it supports development in education at a sustainable limit.

Enhancement of the quality and openness of education and the role of ICT

Information and communication technology is a student-centered technology, so it enhances the quality of education as the students are now directly involved in the learning. They now can search and learn the topic at their own pace, they can review the contents at their will when they want and as they want without the hassle of class discipline and teacher intervention. The conventional style of teaching leaves many stones unturned and it is time bounded it is very dependent on many factors if the student missed the class it will be very difficult for him to compensate his lost time, moreover the availability of the teacher and emotions of the teacher highly affect the learning process. The ICT is the answer to all the problems it cannot tire out by telling the same thing again and again as a human does. The students can repeat the whole lesson as many times as they require.

Role of ict in teaching strategy

The power of computers to master the art of writing made the students adopt them at any cost as writing is the prime objective of the academic process. One of the astonishing benefits of ICT is it's imparting of education without the formalities of classes and campuses in the form of distance education, E-learning not only eliminates the need of classes and campus but it also reduces the cost of learning. In Pakistan, we have AIOU and VU specially established to fulfill the purpose.

Goals of ICT

- Imparting of education, getting in touch with the latest research and effective communication.
- To collaborate conventional education with ICT based curriculum.
- To adjust the learning with real life context.
- To make an assessment of students more effective via computer based multiple choice questions.
- To transform the conventional class room environment into a more attractive and learning base.
- To provide students teachers assistance after school.
- To make students more active in the learning process.
- To make students more independent.
- To create self-belief in the Students

According to Owen (2004) In the near future we will be witnessing the education based on digital advancement the prediction is not a mere dream the bases is the rapid advancement in ICT and ever-changing world. Results will also be seen on the performance of teachers. Willingly or unwillingly they have to improvise themselves in their field as the technology will be available to everyone they definitely will not portray themselves wanting in front of their students.

Ram (2007) illustrated that learning from teacher and self-learning is two different scenarios, the later one is a far greater advantage than that of earlier one. In order to stay in competition teachers must orient themselves with the help of a well-trained teachers, he can use different tools to get himself well equipped to stand tall in front of students. Kalogiannakis (2010) pointed out that a really positive attitude has been shown by the teachers in acquiring ICT based knowledge and it is obvious that they are not only participating in the occasional use but getting a step forward in the creative use of the technology. They are willing to change the conventional environment of the class.

Further training material can be modified with the aid of tools related to ICT, in order to collaborate it with the need of the students and the class. In a joint study conducted

by Plomp, Brummelhuis, & Pelgrum, (1997) on innovative and versatile latest trends in imparting education particularly ICT. as a tool of teaching is a process of learning and teaching itself it has many different forms but different patterns lead to a common destination, these routes may be in the form of graphic simulations, education through social networks, internet video channels, drill and do program, or any other form of communication-related to internet all of them are meant to support teaching and learning process.

Augustus Richard (2015) students are also free to search related information and the points they failed to understand during class lectures. Many renowned researcher and educationist are so impressed by the unlimited potential of ICT that they demanded to make it a part of the curriculum. According to Beauchamp (2006) the rapid growth of ICT and students and teachers dependability on it demanded that it must be the part of education and learning process I would like to go one step forward that it should be a compulsory part of any curricula The process of education in remote areas or for those who did not enroll themselves in institutions due to lack of facilities or due to insufficient financial resources is possible now with the widespread availability of ICT. Education is the most important factor in making up a nation's foundation. It decides the future of a nation. The contribution of ICT in imparting education is undeniable it covers the whole system of education from early childhood to graduation and masters to Ph.D.

Adeel, (2005) Education is the backbone of economy of the nation, it improves socio-moral values as well, ICT can help education sector in spreading it to all corners of a country. It can also improve the quality of education as the users have unlimited access to education portals and teachers as well. Khan (2007) "The doors of the country had been knocked at by the need f tools related to ICT, it is because of the failure of the conventional system of education which failed to produce and supply skilled professionals and unable to achieve the beleaguered evolution."

Siddiqui (2016) conducted a research in which he highlighted the points he observed during his experience he gained during his research work, the summary of his points are as under. Abdon and Raab(2001) in order to cultivate and educate people of Pakistan in E-learning and ICT what is needed is a good old fashioned encouragement, a powerful interaction between learner and teacher and creation of the sense of enjoyment in using ICT.

Ict's role in the enhancement of motivation

Motivation is an essential element in the process of learning without its presence it is very hard to achieve desired objectives. In this regard, ICT can play a vital role as it provides a change approach in comparison of the conventional route of learning. The

increment in learner motivation can be achieved by the inclusion of ICTs as it is capable to engage the learner by providing attractive and colorful presentations in audio, visual or written format. New and innovative ways of teaching can be seen copied and recorded to incorporate teachers to make their lessons and activities more student-centered and in such a way that they attract the attention of their students. If use appropriately these tools are able to promote students based paradigm. Tools like the computer, internet, smartphones and tablet PC's promotes new and dynamic ways of teaching. These technologies made teachers to change their way of teaching is also helpful in transcribing the fact that how the studies can be done and how the objectives can be accomplished. It has changed the way of teaching from content based to competency based

Research & ICT

The function and application of ICT's are undoubtedly a revolutionary aid for the researchers. The ease which it provides is unmatched and unimaginable. Smith & Caruso (2010) stated that ICT enables research teams from across the world to communicate with each other they are now free to work more independently than ever in the past they were limited to a single institution, now researcher can carry their work more effectively. Moreover, complex statistical data can be handled in such a convenient way that was unimaginable in the past.

One of the common beliefs is that in order to accomplish their research, research students have to use ICT throughout their research process. With the readily available latest research and related material, their research can be carried out easily as they are now very well equipped to benefit themselves by taking advantage of ICT in order to carry out their educational exploration effectively. The availability of facilities and resources of IT in remote areas are especially helpful in remote areas where students have insufficient education and institutions in their area is failed to provide them with the opportunity to be level headed with their counter fellows in big cities. In order to achieve that goal, these areas must be provided to the facilities of the internet and communication channels. In the last decade, the role of ICT has significantly increased in academic research and it is very clear that those countries are way ahead that have the most advanced and well-spread ICT infrastructure.

Data processing is a prime example of facilitation in research work. Researchers at any level had to deal with a large amount of statistical data and ICT make it a piece of cake for them to handle complex data, facts, and figures. They can calculate complex data within a matter of seconds with the help of ICT which otherwise takes months to complete and still, errors can occur their authenticity may have a big question mark. The availability of digital libraries and online resources are another milestone of ICT, researchers do not only have access to them but they can review it any time without

the hassle of time and space they can approach the contents when and where they want. These contents otherwise need a huge amount of space and their management will be a troublesome task that needs awful time and money.

ICT is also helpful in connecting industries and universities together. Industries are taking advantage of the research work while students also have the chances to get hired by the industry. In the words of Dange and George et al (2010) highlighted the importance of ICT for different level students according them Ph.D. students use it for the purpose of assistance in their research, the help they got from it cannot be described in words they were able to complete their work in weeks which otherwise spread on the span of months but it was unfortunate that this magnificent contribution was discussed rarely, while if we talk about graduate students they can't live without ICT they can be describe as spree users the E-journals were their favourite binge it seemed that they can't even breath without it.

Application software like SPSS and NVIVO and many others make it easy for the researcher to handle complex data of national and international level, this data otherwise took months or even years to summarize and presented in a meaningful form. This is a prime example of how much ease ICT provides at higher education.

RESEARCH OBJECTIVES

1. To investigate the availability of ICT tools in the universities.
2. To identify the cognizance of students using different ICT tools.
3. To highlight teachers perfection about the concept of E learning and E mailing.
4. To investigate students perfection about the concept of E learning and E mailing.

RESEARCH METHODOLOGY

The study was adopted as a quantitative research design and survey method for the sake for the data collection. The population of the study were comprised of 150 students and 50 teachers. Teachers were associated with faculty of science, social sciences and management and administrative science of public and private sector universities. Two Questionnaires based on Likert scale were used as tools of research for the purpose of the study. The validity and reliability of the research were based on quantitative approach. The accuracy of data based on carefully designed formation and tools of the study to attain important information. Validity of the tools was ensured during pilot testing, impartiality and neutral tactics at every stage of the study.

RESULTS

Courses attended by students

17% of the students were engaged in DIT, while 40% completed basic computer software like windows and Ms Office, 3.33% engaged in CIT while 39.3% were not

engaged in any of the computer orientation.

Courses attended by teachers

50 % teachers completed short courses comprised of MS office and other packages, 10% didn't participate in any of the computer related course while 20% were enrolled themselves in diploma in information and communication technology and diploma in computer.

Teachers experience in their related field

Only 1% teachers had experience of above 26 years, 30% had less than 3 years of experience, 20% teachers had experience of 5 years, 15% teachers had 6 to 10 year experience. 10% had 15 years, while 2% teachers had 16 to 25 years of experience.

Results of students

1. Do the facility of the internet available for usage?

64% of the students strongly agreed in response, 26% agreed, 3.33% were indecisive, 4% disagreed while 2.67% strongly disagreed.

2. Do well -Equipped IT labs available in university?

The investigation revealed that 31.33% of the students strongly agreed in response, 16.67% agreed, 0.67% were indecisive, 22.67% disagreed while 28.67% strongly disagreed.

3. Do you have computer section in your library?

The investigation revealed that 72% of the students strongly agreed in response, 18% agreed, 1.33% were indecisive, 3.33% disagreed while 5.33% strongly disagreed.

4. Do you have multimedia in your classroom?

The investigation revealed that 42% of the students strongly agreed in response, 9.33% agreed, 6.67% were indecisive, 29.33% disagreed while 12.67% strongly disagreed.

5. Do you have over- head projector in your classroom?

The investigation revealed that 43.33% of the students strongly agreed in response, 16.67% agreed, 8% were indecisive, 24.67% disagreed while 7.33% strongly disagreed.

Supporting environment & attitude towards use of ICT's tools in learning process:

1. Teachers are well aware and trained in the ICT use.

28% of the students strongly agreed in response, 34% agreed, 6.67% were undecided,

18% disagreed while 13.33% strongly disagreed.

2. I find time to incorporate ICT in the preparation of my assignments.
25.33% of the students strongly agreed in response, 36.66% agreed, 12% were undecided, 16% disagreed while 10% strongly disagreed.

3. Facilitation and utilization of ICT is on my disposal at the time convenient to me
16.66% of the students strongly agreed in response, 18% agreed, 15.33% were undecided, 23.33% disagreed while 26.66% strongly disagreed.

4. I can understand lesson more effectively when ICT is incorporated.
38% of the students strongly agreed in response, 38.67% agreed, 8% were undecided, 6% disagreed while 9.33% strongly disagreed.

5. Lessons are more vibrant when Multimedia is used.
36% of the students strongly agreed in response, 18% agreed, 12.66% were undecided, 12% disagreed while 21.33% strongly disagreed.

6. I regularly use computer at home
The investigation revealed that 56% of the students strongly agreed in response, 20% agreed, 2% were undecided, 5.33% disagreed while 36.67% strongly disagreed.

7. ICT assist students better in learning
50.67% of the students strongly agreed in response, 40% agreed, 2.67% were undecided, 2.67% disagreed while 4% strongly disagreed.

8. Students are more involved when ICT is incorporated
46% of the students strongly agreed in response, 36% agreed, 1.33% were undecided, 8% disagreed while 8.67% strongly disagreed.

Results of teachers

1. Do you have full time internet access in teacher's room?
30% of the teachers strongly agreed in response, 42% agreed, 4% were unsure, 18% disagreed while 6% strongly disagreed.

2. Do you have fully functional IT labs for your use?
52% of the teachers strongly agreed in response, 22% agreed, 4% were unsure, 6% disagreed while 16% strongly disagreed.

3. Do you have computer section in library for your use?
54% of the teachers strongly agreed in response, 20% agreed, 6% were unsure, 10%

disagreed while 10% strongly disagreed.

4. Do you use multimedia in your classroom?

56% of the teachers strongly agreed in response, 20% agreed, 8% were unsure, 4% disagreed while 12% strongly disagreed.

5. Do you use Overhead projector in your class room?

52% of the teachers strongly agreed in response, 34% agreed, 2% were unsure, 8% disagreed while 4% strongly disagreed.

FINDINGS

Replying to the question about the availability of the internet facility 64% of the students strongly agreed in response, 26% agreed, 3.33% were indecisive, 4% disagreed while 2.67% strongly disagreed. Regarding teachers 30% of them strongly agreed in response, 42% agreed, 4% were unsure, 18% disagreed while 6% strongly disagreed.

Replying to the question about well- equipped IT labs 31.33% of the students strongly agreed in response, 16.67% agreed, 0.67% were indecisive, 22.67% disagreed while 28.67% strongly disagreed. 52% of the teachers strongly agreed in response, 22% agreed, 4% were unsure, 6% disagreed while 16% strongly disagreed.

Replying to the question about the availability of computer section in library 72% of the students strongly agreed in response, 18% agreed, 1.33% were indecisive, 3.33% disagreed while 5.33% strongly disagreed. 54% of the teachers strongly agreed in response, 20% agreed, 6% were unsure, 10% disagreed while 10% strongly disagreed.

Regarding the availability of multimedia in the class room 42% of the students strongly agreed in response, 9.33% agreed, 6.67% were indecisive, 29.33% disagreed while 12.67% strongly disagreed. 56% of the teachers strongly agreed in response, 20% agreed, 8% were unsure, 4% disagreed while 12% strongly disagreed.

Results about the availability of overhead projectors in the class room 43.33% of the students strongly agreed in response, 16.67% agreed, 8% were indecisive, 24.67% disagreed while 7.33% strongly disagreed. 56% of the teachers strongly agreed in response, 20% agreed, 8% were unsure, 4% disagreed while 12% strongly disagreed.

Availability of computer section in library revealed that 83% students responded positively while 16.67% denied it. 78% teachers confirmed the availability and 22% denied it.

Availability of overhead projectors in class rooms were confirmed by 57.33% students, 42.66% students replied negatively. 52% teachers confirmed its availability in the class room, while 30% responded negatively.

DISCUSSION

This study was conducted on perceptions of ICT, its integration and impact in teaching and learning process. The problems and challenges for the teachers were to implement ICT in their classroom teaching. In addition, It was explored the issues and barriers which created hindrance in using ICT in teaching and learning process. The research study proposed ICT-supported teacher as well as investigated to answer the question about the perceptions of teachers, and students. The results of quantitative cum qualitative analysis showed positive perceptions by overwhelming majority of the participants to use ICT in teaching. The perceptions were derived from the teacher's attitude towards use of ICT in teaching and learning process and their acceptability for ICT as an effective and efficient tool to achieve the goals of education. The study identified that respondents considered ICT as time saving and knowledge- enriched tool supporting teaching and learning process more effectively and efficiently which were key influencing factors for participants of study to use ICT at university level. However, the results explored that teachers require more training on new ICT integrated approaches for the improvement and enhancement their ICT skills. The result also investigated pedagogical ICT skills and competency deficiencies among teachers; therefore, teacher recognized training as barrier in implementation of ICT in instruction. The result of this study found lack of infrastructure, facilities and resources for ICT supported environment as a major hurdle for the implementation of ICT in the universities. The study carried out on ICTs in learning and it was concluded that shortage of skilled staff, ineffective examination system, slow internet connections, unproductive curriculum, excessive failures of electricity, lack of motivation, confidence and competence by the teachers and time shortage, lack of training were the major problems.

RECOMMENDATIONS

1. With the aim to develop ICT in the country, the suggestions and recommendations were as below.
2. It is the need of time to incorporate ICT in existing educational system.
3. The existing curriculum was needed to be collaborated with the latest on- going development.
4. The assistance of ICT in teaching and learning process was immense if proper orientation and facilities were provided.
5. The facilities needed revisiting by concerned authorities.
6. ICT tools enabled students to be more vibrant, more creative, more knowledgeable, and more aware and informative.

7. CT had made this world a global village in research and exchanging the views in a cheap way.
8. Use of ICT and implementation in the universities is to recruit competent staff or to arrange orientation programs for them so that they will be able to cope with the challenges in the future.
9. Policy should be designed to make sure that it will enhance the compatibility among students and teachers.
10. A fully functional task force should be established to ensure that standards recommended by the HEC are to be followed by the universities.
11. Students and teachers must be oriented about plagiarism and ensure proper training in the use of latest software designed for the specific purpose.
12. Developments of a complete committed procedures are to use and implement energetic, well-organized, and goal-oriented ICTs strategy.
13. Sufficient condition of technical assets should be affordable and speedy internet affinity and accessibility of ICTs in higher education.
14. Modification should be made in university curriculum in order to ensure practical ability and theoretical uses of ICT.
15. Making sure and watchful inspection is must in order to ensure that conditions imposed by HEC are followed by institutions.
16. It is further suggested that higher education establishment should take hold of available ICT resources and distribute them among the public sector universities.
17. To ensure easy access to internet HEC must provide ICT tools laptops, among brilliant students of universities, technical support system, genuine software, cost effective digital library and access for Internet

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