

**Perception of e-learning: Study on non-CSE major  
students**

**of**

**BRAC University**

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**Perception of e-learning:  
Study on non-CSE major students of  
BRAC University**

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Again, I am grateful for Mr. ASM Zillur Rahman for providing this unique and great opportunity.

## DECLARATION

In accordance with the requirements of the degree of Bachelor of Computer Science in the division of Computer Science and Engineering, I present the following thesis entitled: “**Perception of e-learning: Study on non-CSE major students of BRAC University**”. This work was performed under the supervision of Mr. ASM Zillur Rahman.

I hereby declare that the work submitted in this thesis is my own and based on the results found by myself. Materials of work found by other researcher are mentioned by reference. This thesis, neither in whole nor in part, has been previously submitted for any degree.

Signature of  
Supervisor

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ASM Zillur Rahman

Signature of  
Author

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Md.Sayed Hossan Parvez

## **ABSTRACT**

In the field of education the last decade is characterized by a growing interest in e-learning with a recognizable trend of enhanced application of e-learning technologies. e-learning ensures access to information about education, training and lifelong learning through the use of multimedia technologies. The use of network technologies to create fosters, deliver, and facilitate learning, anytime and anywhere. The beauty of e-learning is anyone can avail himself of the service i.e. learning/teaching aid from anywhere, as there is no geographic barrier among the learners. So, a global participation can be ensured through the system. Internet has made the process much easier and comfortable.

The e-learning scenario in developing countries like Bangladesh is still a new era for both the learners and the e-learning content developer community. One of the significant limitations of educational framework in countries like Bangladesh is the lack of awareness about what actually e-learning is and what the prospects of e-learning are. Content developer community of e-learning services must be aware of the learners' perception of e-learning to make the outcome of the effort to be useful.

This exploratory study was done on non-CSE-major students of BRAC University in TARC, Savar, using primary data collected through Focus Group Discussion (FGD). The study aims to explore the student's of non-CSE perceptions about e-learning in terms of attitude and knowledge. While selecting the respondents, due care was taken to include varied departments like BBA, LLB, Architecture, Economics, Physics and English. The focus group students were from a mix of levels study. While selecting the respondents, due care was taken on behalf of male and female to get the different perception

The findings of the study are supposed to be very helpful for the developers/designers to create acceptance of the e-learning system they develop among the prospective learners.

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## **1. Introduction**

In the field of education the last decade is characterized by a growing interest in e-learning with a recognizable trend of enhanced application of e-learning technologies. e-learning ensures access to information about education, training and lifelong learning through the use of multimedia technologies. The use of network technologies to create fosters, deliver, and facilitate learning, anytime and anywhere. The beauty of e-learning is anyone can avail himself of the service i.e. learning/teaching aid from anywhere, as there is no geographic barrier among the learners. So, a global participation can be ensured through the system. Internet has made the process much easier and comfortable. e-learning is a result of the historical progression of distance education where new technology is used in teaching and learning process.

The e-learning scenario in developing countries like Bangladesh is still a new era for both the learners and the e-learning content developer community. One of the significant limitations of educational framework in countries like Bangladesh is the lack of awareness about what actually e-learning is and what the prospects of e-learning are. Content developer community of e-learning services must be aware of the learners' perception of e-learning to make the outcome of the effort to be useful. Due to clear observation, reverse economic and social conditions of developed countries, like Bangladesh could not yet establish a reliable e-learning system or institution. The acceptance of such learning facilities is not yet accredited or even accepted by the authorities in most of the times. Few initiatives like Open University and National University, is trying to create the e-learning program as a widely



accepted tool for learning for wide varieties of community. Simultaneously, the local communities of country can obtain the e-learning facilities from their existing locations.

e-learning is expanding at an extremely rapid rate. Too often, instructional designers and curriculum developers have become enamored of the latest technologies without dealing with the underlying issues of learner characteristics and needs, the influence of media upon the instructional process, equity of access to interactive delivery systems, and the new roles of teacher, site facilitator, and student in the distance learning process. This research describes the observation of e-learning framework in non-CSE students of BRAC University, Bangladesh and evaluates the performance of the students.

## **2. Literature Preview**

### **2.1 A Scenario on global viewpoint**

Michele was very upset when she first learned that she would not be able to attend school for several months due to her illness. She dreaded the isolation of being at home, and she wanted desperately to keep up with her peers so that she could graduate from high school on schedule.

Luckily, Michele's teachers and parents worked out a plan that incorporated distance learning. With a computer, a telephone line, and a television at home, she was able to keep pace with her peers. Michele took Algebra from a Virtual High School on the Internet; she continued to study History with her classmates through a speakerphone and e-mail; and she sent audiotapes and videotapes back and forth

to her Spanish teacher to practice her dialogs. She even managed to see and hear her classmates through scheduled videoconferences on the Internet.

Although the distance learning techniques enabled Michele to keep up with her class, the implementation was challenging for all involved. The principal and counselor had to devote the time and energy necessary to locate courses in the Virtual High School that would meet the district's requirements. Her teachers were required to adapt some of their materials for individualized learning, and her parents had to spend extra time helping Michele schedule her studies and her medical appointments. They all agreed, however, that the results were well worth the efforts - - Michele was back at school now and would graduate on schedule with her classmates!

## **2.2 Operational Definition of e-learning**

There are many synonyms used for e-learning, such as Distance Learning, Distance Education, Distributed Learning, or Remote Education. What is e-learning? The answer that comes to mind is learning with a computer and via the Internet. While this is true, E-Learning does not have to be constraint to having a computer and an internet connection. Although this is the usual method of delivery, there is a wider scope of the concept and the process of E-Learning. These are a few of the e-learning definitions I've found on the web:

“(Electronic learning) Term covering a wide set of applications and processes, such as Web-based learning, computer-based, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, CD-ROM, and more.”

“ The process of extending learning, or delivering instructional resource-sharing opportunities, to locations away from a classroom, building or site, to another classroom, building or site by using video, audio, computer, multimedia communications, or some combination of these with other traditional delivery methods.”

“Education offered using electronic methods such as CD-ROMs, video conferencing, websites and email. “

After reading the definitions and further delving into the methods of the delivery, the approaches and the processes, I have developed my own understanding of the concept of e-learning.

e-learning is a form of learning that can be delivered either online (with connection to one or more networks, whether it is the Internet, intranet or extranet) or offline (without any connection). The learning experience can be enhanced by using various tools that can deliver the learning synchronously (dependent of time, the delivery and interaction are live and take place in real time, learning has to be scheduled) or asynchronously (independent of time, delivery and interaction are not live, anyone can access the learning material at anytime and as many times they wish).

e-learning can be roughly divided into synchronous or asynchronous delivery types.

Synchronous means that the teacher and the student interact with each other in "real time." For example, with two-way videoconferences, students interact with "live" video of an instructor. Less complex technologies, such as telephone conversations are also synchronous.

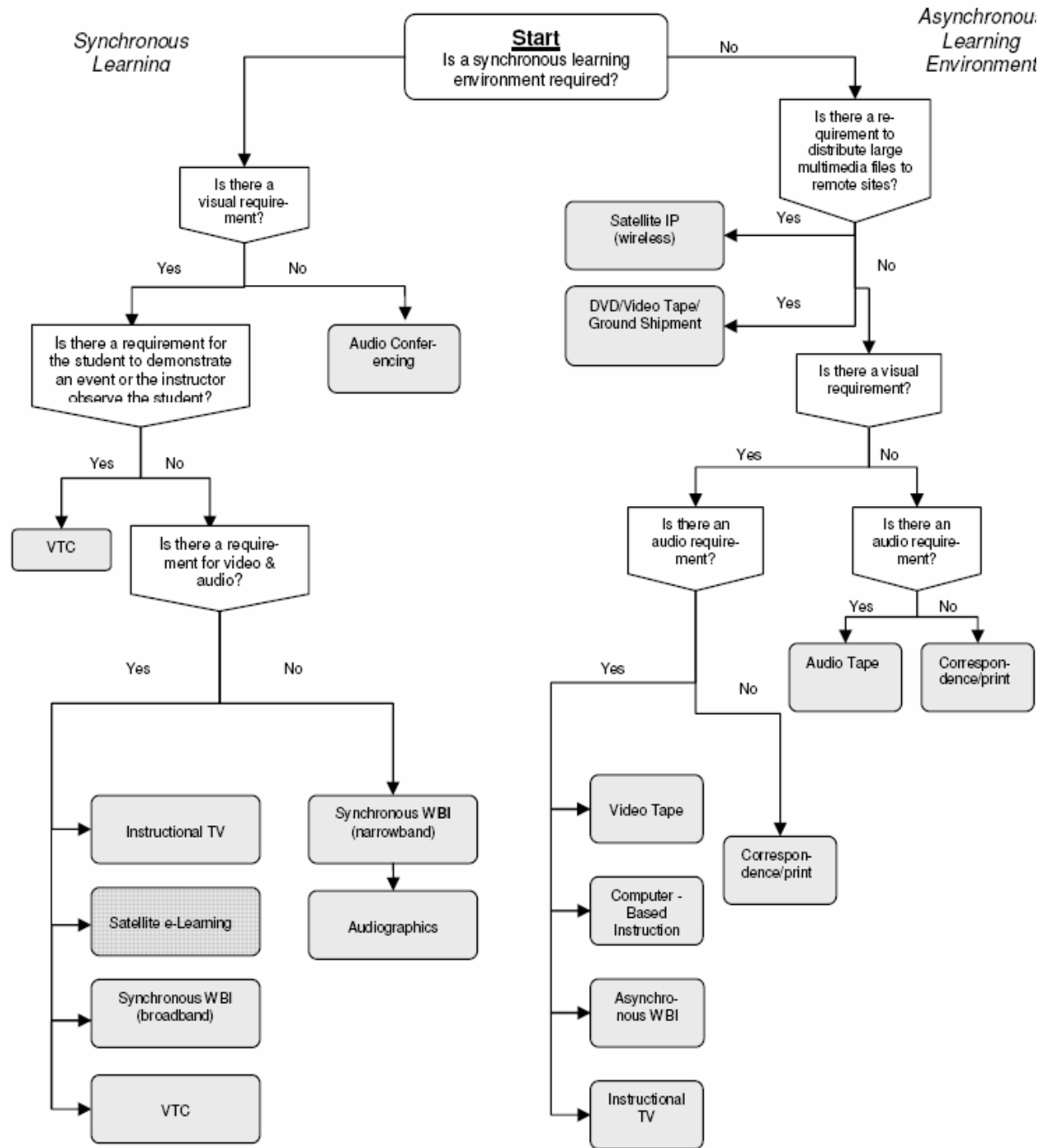
Asynchronous delivery does not take place simultaneously. In this case, the teacher may deliver the instruction via video, computer, or other means, and the students respond at a later time. For example, instruction may be delivered via the Web or videotapes, and the feedback could be sent via e-mail messages.

Common synchronous and asynchronous technologies are outlined in the following table.

	Online	Offline
Asynchronous	Web-based E-mails Discussion Boards	CD-ROMs Audio and Video Tapes
Synchronous	Virtual Classrooms Video Conferences Chat Rooms	Education TV programs

**Table 1.** e-learning delivery methods





**Figure 1.** Distance Learning Instructional Media Selection Matrix

## **3. Historical Background**

### **3.1 Global perspective**

We find a rich history as each form of instructional media evolved, from print, to instructional television, to current interactive technologies. The earliest form of E-Learning took place through correspondence courses in Europe. This was the accepted norm until the middle of this century, when instructional radio and television became popular.

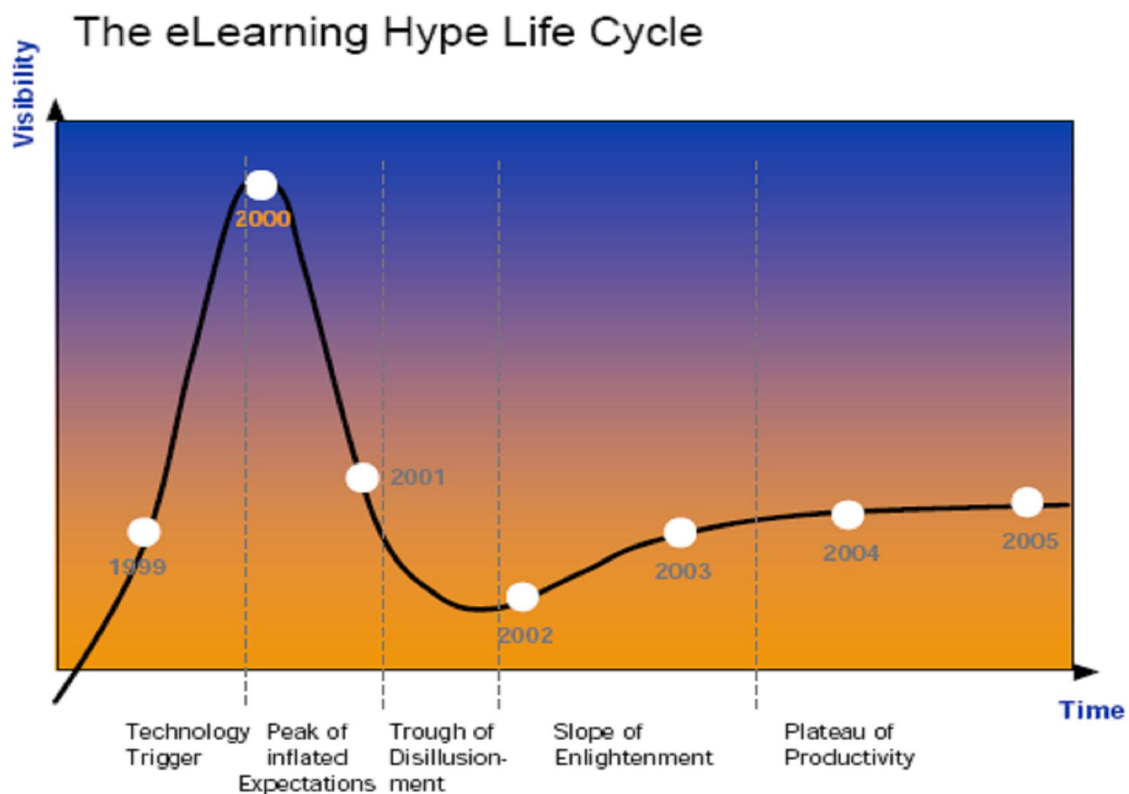
According to Margaret Cambre, in the late 1950's and early 1960's, television production technology was largely confined to studios and live broadcasts, in which master teachers conducted widely broadcast classes. Unfortunately, teachers who were expert in the subject matter were not necessarily the best and most captivating television talent, nor were the dull "talking head" medium the best production method for holding the interest of the audience. In the early 1970's, the emphasis turned from bringing master teachers into the classroom to taking children out of the classroom into the outside world. This had the negative effect of relegating television to the position of enrichment, which was not perceived as really related to schoolwork. This trend was reversed later in the 1970's, as professionally designed and produced television series introduced students to new subject matter that was not being currently taught, yet was considered to be an important complement to the classroom curriculum. Then, in the 1980's, the pendulum swung back to the basics. The most recent trend has been one of multiculturalism, humanities, and world affairs.

The major drawback of radio and broadcast television for instruction was the lack of a 2-way communications channel between teacher and student. As increasingly sophisticated interactive communications technologies became available, however,

distance educators adopted them. Currently, the most popular media are computer-based communication including electronic mail (E-mail), bulletin board systems (BBSs), and Internet; telephone-based audio conferencing; and videoconferencing with 1- or 2-way video and 2-way audio via broadcast, cable, telephone, fiber optics, satellite, microwave, closed-circuit or low power television. Audio graphic teleconferencing using slow scan or compressed video and FAX is a low-cost solution for transmitting visuals as well as audio. Variety, a graphical interface to the World Wide Web, has become popular in parts of Canada, Europe, and Australia over the past year.

Today, political and public interest in distance education is especially high in areas where the student population is widely distributed. Each region has developed its own form of distance education in accordance with local resources, target audience, and philosophy of the organizations, which provide the instruction. Many institutions, both public and private, offer university courses for self-motivated individuals through independent study programs. Students work on their own, with supplied course materials, print-based media and postal communication, some form of teleconferencing and/or electronic networking, and learner support from tutors and mentors via telephone or E-mail.





**Figure 2.** The e-learning hype life cycle

### 3.2 Bangladesh perspective

In Bangladesh, e-learning was first introduced as early as 1960s as a Radiobroadcast followed by a pilot project School Broadcasting Program (SBP) in 1980s and then expanded by the establishment of the National Institute of Educational Media and Technology (NIEMT), which was later transformed into Bangladesh Institute of Distance Education (BIDE) in 1985. The significant progress has been done after the establishment of the Bangladesh Open University (BOU) in 1992 as the first and only national distance learning University. Within a decade of its establishment, enrollments of BOU students have reached nearly 400 thousands,

and thus enlisted it as one of the mega-universities. BOU has been offering a variety of formal and non-formal academic programs from certificate to Masters levels using print, TV and radio broadcasts, audiocassettes and face-to-face tutorials as the media of delivering its academic courses. Considering the rapid expansion of computer and internet in Bangladesh after 1998s, it is now appropriate time to consider inclusion of some interactive E-Learning in delivering course materials of BOU or other institutes to promote distance education in Bangladesh.

## **4. Objectives**

### **4.1 General Objective**

The general objective of this study is to explore the student's of non-CSE perceptions about E-Learning in terms of attitude and knowledge. One of the significant limitations of educational framework in countries like Bangladesh is the lack of awareness about what actually E-Learning is and what the prospects of E-Learning are. Content developer community of E-Learning services must be aware of the learners' perception of E-Learning to make the outcome of the effort to be useful.



**Figure 3.** Participants

## **4.2 Specific Objectives**

The specific objectives of this study are:

- To explore the perception among adolescent boys about male and female puberty.
- To explore their understanding of e-learning.
- To understand their practice of e-media and the perceived consequences.
- To explore their sources of information and knowledge regarding e-learning

## **5. Methodology**

This exploratory study was done on non-CSE-major students of BRAC University in TARC, Savar, and using primary data collected through Focus Group Discussion (FGD). The study explores the student's of non-CSE perceptions about e-learning in terms of attitude and knowledge.

### **5.1 Conduct a focus group discussion**

A focus group discussion (FGD) is a group discussion of approximately 6 - 12 persons guided by a facilitator, during which group members talk freely and spontaneously about a certain topic.

A FGD is a qualitative method. Its purpose is to obtain in-depth information on concepts, perceptions and ideas of a group. A FGD aims to be more than a question-answer interaction. The idea is that group members discuss the topic among themselves, with guidance from the facilitator.

FGD techniques can be used to:

1. Focus research and develop relevant research hypotheses by exploring in greater depth the problem to be investigated and its possible causes.
2. Formulate appropriate questions for more structured, larger scale surveys.
3. Help understand and solve unexpected problems in interventions
4. Explore controversial topics

### **5.1.1 Site Selection and Location for FGD**

It is need to build FGD, Visit the project site(s) together with the field team and locate a place for the group meeting some days before the scheduled time. This was enabling me to familiarize myself with available logistics.

The site for the discussion must be easily accessible to participants and convenient to the field team. The selected site must also be neutral (usually not a health facility) and large enough to accommodate all the participants and the field team. For this reason I select the place in TARC which fulfilled all the criteria for site selection and location.

### **5.1.2 Date and Time**

For most focus groups in communities the ideal time is evening, while for those involving health staff late afternoon is often the best time, when the daily office routine is over. For this I make a timetable for evening. A total of Nine (9) students attended focus groups held on the evenings of 2nd March 2007.

### 5.1.3 FGD Checklist

For arranging a FGD it is need to ensure that all equipment is ready before the fieldwork. A checklist was used which include the following:

(a) <u>Arrange</u> Chairs Table Paper Other incentives
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### 5.2 Publicity

The Focus groups were publicized in an operative way. An announcement was posted on the Notice board in TARC; a message giving details was circulated to departmental students for onward to relevant student friends.

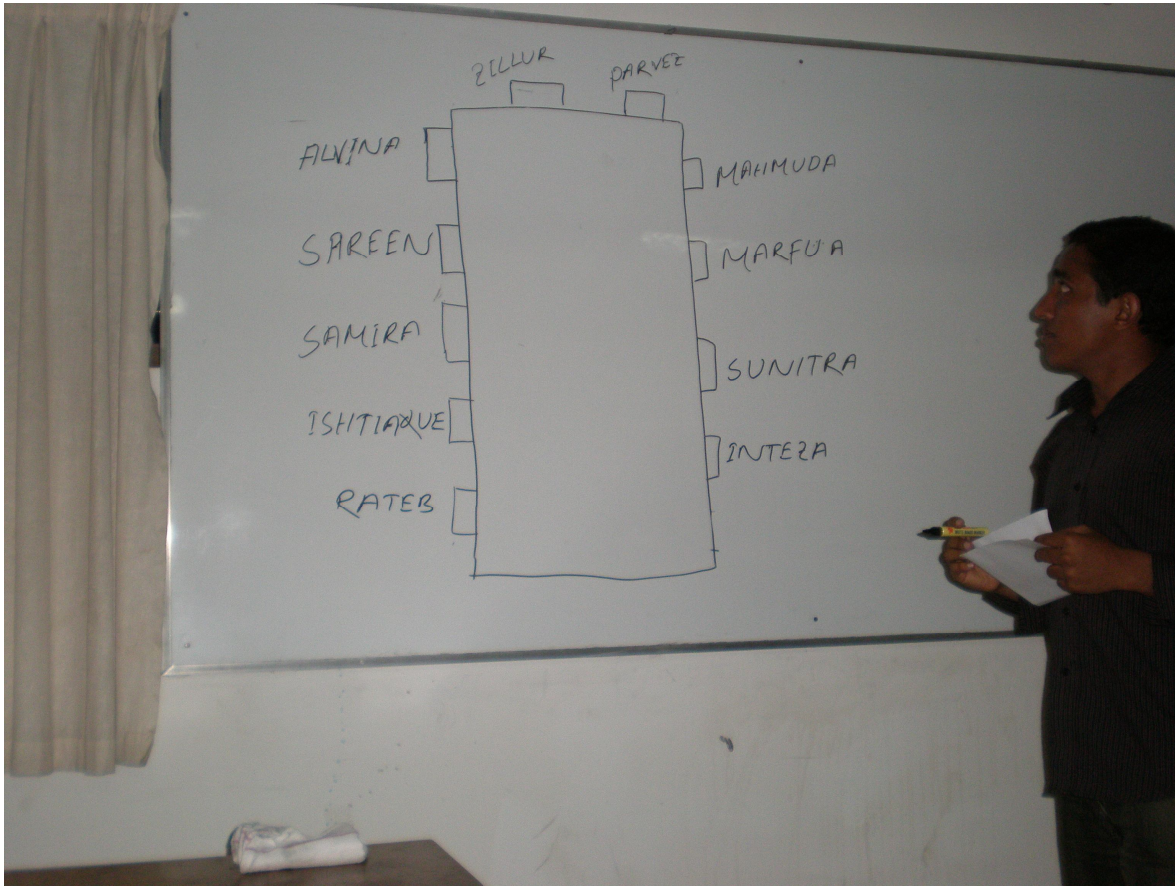
### 5.3 Demography of respondents and focus group members

A total of Nine (9) students attended focus groups held on the evenings of 2nd March 2007. The department origins and name of respondents to focus group are shown in Table. Focus group members were selected subsequently on their availability for the meetings. The department origins of these students were: BBA, LLB, Architecture, Economics, Physics and English. The focus group students were from a mix of levels of study. While selecting the respondents, due care was taken

on behalf of male and female to get the perception. The majority of participants schooling background were English medium and the reminders were bangla medium Focus group discussions were also being conducted with the mentioned groups separately. Total number of respondents was kept limited to 9 so that ‘lot about little’ approach is justified.

Serial No.	Name	Department	College
1	Alvina Zafar	ECO	Ispahani College
2	Sareen Kabir	LLB	Scholastica
3	Lulu Mahzabin Samira	BBA	Shahid Anowara
4	Ishtiaque Hossain	ECO	Manarat Intl.
5	Rateb Ahmed	ECO	Aga Khan
6	Mohammed Inteza Shahariar	ARCH	
7	Sunitra Howlader	PHY	Master Mind
8	Jannatul Marufa	BBA	Vicarunnesa
9	Mahmuda Akhter	ENG	Vicarunnesa

**Table 2.** Participant’s details



**Figure 4.** Participant's seat map

## **6. Findings**

The analysis involved a subjective categorization based on a preliminary analysis of the responses. Where a student provided several comments in one answer, these were treated as independent answers for the purpose of analysis. Sample comments were been selected to highlight points of interest - these are not intended to be fully representative, although efforts have been made roughly to balance comments according to the proportion of responses in different categories.

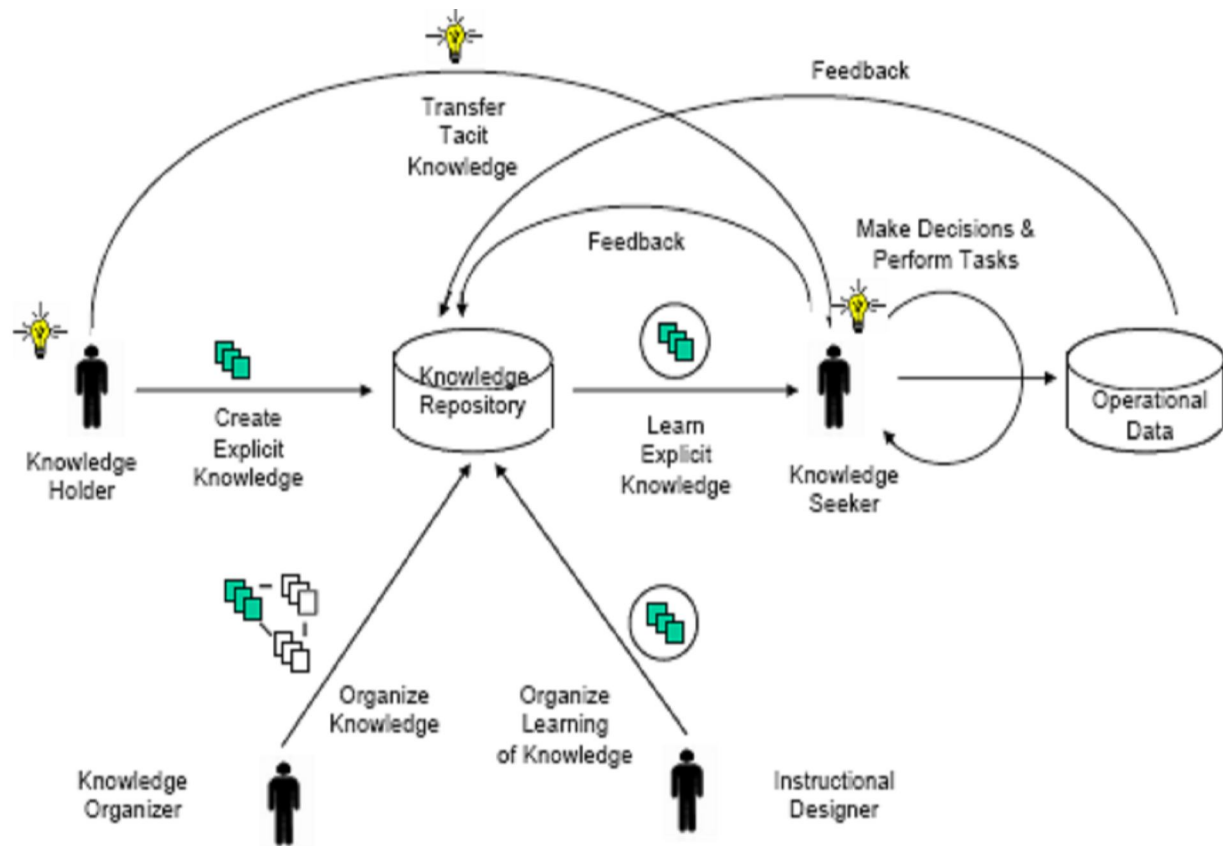


## 6.1 Knowledge and perceptions of e-learning

The term e-learning is, as one can see, not very precise, and it should be pointed out that learning is just one element of education. So, the term online education should cover a much broader range of services than the term e-learning. A consequence of this term from the participants is different indication. A selection of student comments regarding perceptions and knowledge of e-learning

Participants	Comment/Statement
Sareen	e-learning is a form of learning. It may be formal or informal learning. But I think it's informal learning
Alvina	I think e-learning is the Internet education
Samira	The term comes from the key word electronic "e" that is like e-business, e-media, e-mail, e-ticket etc. So, e-learning is something like that.
Inteza	I am completed my O/A level without attending any institution. This is one type of e-learning
Sunitra	e-learning is a distance educational system. Distance education takes place when a teacher and a student are separated by physical meet.
Marufa	Teachers' and learners' separated position, which distinguishes it from face-to-face education
Ishtiaque	A process of education that connects both student and teacher who are in different locations

**Table 3.** A selection of student comments regarding perception of e-learning



**Figure 5.** Knowledge management Phase with e-learning

More than half of all participants concept was clear that what does it meant by e-learning (Table 2). However, only three (3) of participants stated that they had used more or less e-learning modalities for educational purposes by their own initiatives. Four (4) of participants admitted that they had not used e-learning modalities but they are familiar with e-learning while two (2) participants heard this term in the discussion.

## 6.2 Source

Information related to the knowledge and skills of the participants in source of information was also gathered. The results of the investigation showed that, they are familiar with the term E-Learning by extraneous source. They admitted that access to computers and the Internet can very effective method for this. Only a very small number of students had perfect source. Some of the participants are familiar with this by there CSE-101 course.



**Figure 6.** Discussion session

Some selected student's comments regarding the source of e-learning.

Participants	Comment/Statement
Alvina	I know the terms e-learning from my CSE-101 course, which I completed in the last semester as my graduation course.
Sareen	My Uncle participate with a working team where they implementing a project regarding the E-Learning
Samira	I also know about E-Learning from my CSE-101 course
Inteza	I am familiar with this using the Internet in googles site
Sunitra	Specifically I never heard E-Learning. I guess it may come from e-book, e-commerce, e-mail etc
Marufa	I heard about E-Learning from television
Ishtiaque	I am slightly familiar with the term E-Learning from newspaper. Since I read one of famous writer's articles from a newspaper
Rateb	I also know E-Learning from newspaper

**Table 4.** A selection of student comments regarding source of e-learning

## 4.3 SWOT analysis of E-Learning

### 6.3.1. Strength

In listening throughout the focus group discussion, the following recompense and challenges are identified. Both categories of comments mirror what national and state studies reflect about e-learning? While this listing is anecdotal and not scientifically gathered, it provides insight into the challenges and policy makers will face as quality e-learning in Bangladesh is expanded. e-learning is accessible to anyone and everyone, anywhere and at anytime they wish. e-learning provide interactivity for the learners. As stated other one, learners can follow through the learning materials at their own pace, and develop their own learning styles. The strength of the e-learning that student thinks, some selected students statements are given bellow

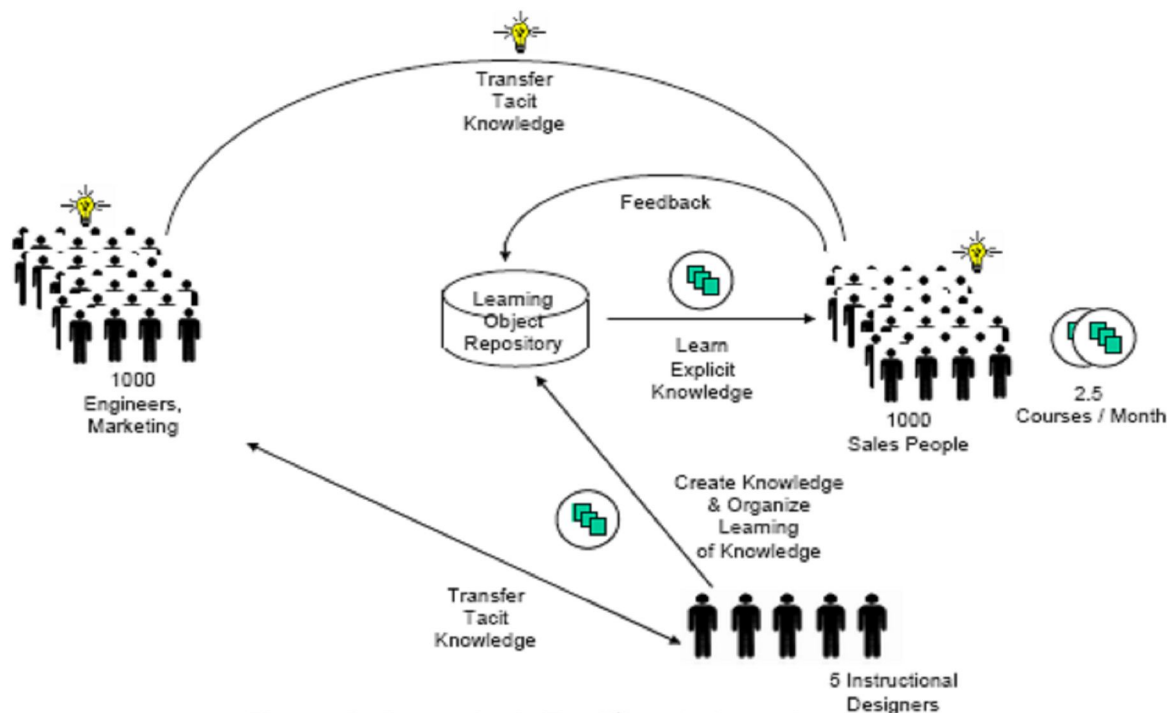


Figure 7. Traditional e-learning

Participants	Aspect	Comment
Sunitra	Cost effective	e-learning has saved costs for both the providers and the learners. Students could save travel expenses by not attending lectures on a regular basis. Companies that use e-learning as a form of staff training would save money by not having to hold workshops
Alvina	More resource	We can get lots of resource about specific topics from the Internet; on the other hand in traditional education system we only read the chosen books. In that case we just know briefly as a subject manner
Sareen	Access to all	e-learning is accessible to anyone and everyone, anywhere and at anytime they wish. Everyone can access the e-Learning programme or materials provided they have a computer and a connection to the internet. Although in some cases where the learning is delivered offline, via cd-rom for example, a connection to the internet is not even necessary. A student in Bangladesh could study for a degree in a university in USA from the comfort of his or her own home

Inteza	Interactive	e-learning provide interactivity for the learners. As stated other one, learners can follow through the learning materials at their own pace, and develop their own learning styles. They can also undertake self-assessment quizzes where they can get immediate feedback. This will enhance the motivation and encourage learners to finish the course.
Mahmuda	Independent learning	e-learning promote learning independently. The students are self-directed; they could finish the course at their own pace, learn with their own style and follow their own technique. As with any other distance learning courses, learners can develop a sense of discipline to follow the course through. They would be encouraged to take their own initiative in learning, finding own knowledge and additional information
Rateb	Consistent learning	As e-learning materials created are the same, everyone gets consistent learning. Where traditional classroom learning depends on the ability of the tutor to convey the material, e-learning conveys the material straight to the learner. This would avoid scenarios where students with different lectures get different results.

**Table 5.** A selection of student comments regarding strength of e-learning

### 6.3.2. Weaknesses

Although the premise of e-learning is to be accessible to all, differences in technology might complicate this effort. Problems such as hardware and bandwidth differences are the common reason for the e-learning not accessible. Computers with more RAM, faster processors and latest software's can handle the e-Learning programme better. Higher bandwidth could also help accessing the programme quicker and shorten download time. Unfortunately, not everyone is equipped with this new technology due to finance or the unavailability of service in the country. Some time students may feel that they are alone, and cut off from the rest of the world. In that case e-learning providers may fail to provide the necessary means of interaction between both students and tutors.



**Figure 8.** Discussion session

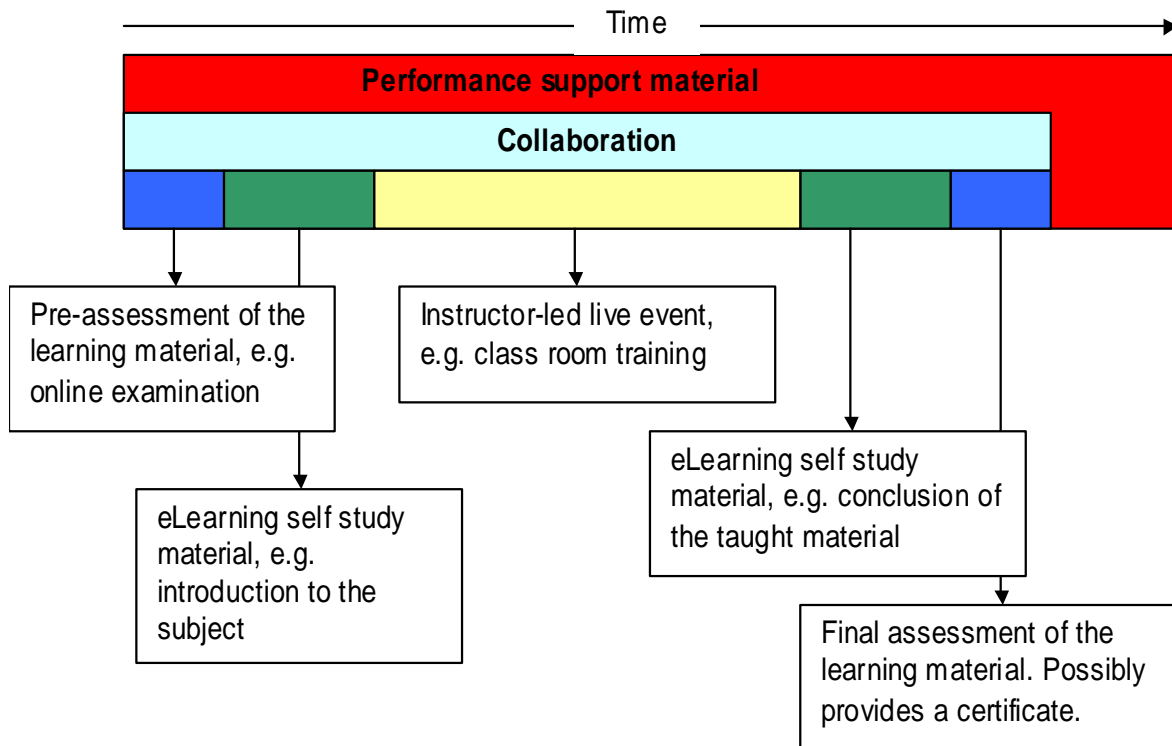


Participants	Aspect	Comment
Ishtiaque	Finance	Although most E-Learning courses are generally cost-efficient, not everyone can afford to enroll in one. In our country additional costs such as getting computers and installing the internet connection are really hard for major people. There have been initiatives by the government towards E-Learning.
Sareen	The peoples perception	Not many people are ready for this new learning method. Common views are learning should be in a classroom with a teacher and learning would not be genuine without attending formal lectures. Some are still worried over the creditability of the E-Learning courses. Some who are computer illiterate feel that they are too old or too shy to start learning how to use the computers. This would put them off from enrolling in e-learning courses.
Alvina	Infrastructure	The situation of our country is not suitable for e-learning because the infrastructure is not good.
Rateb	Planning time	The planning time is insufficient for the distance educators and learners. So there have a huge time gap

**Table 6.** A selection of student comments regarding weakness of e-learning

### 6.3.3 Opportunities

A successful e-learning system involves a systematic process of planning, design, development, evaluation, and implementation to create an online environment where learning is actively fostered and supported. Students think, Great strides have been made over the past few years in enhancing the capacity for e-learning and finding ways to broaden its exposure.



**Figure 9.** An example of e-learning

The move to e-learning has been assisted on the demand side by high access levels to computers and the internet in many other countries such as Australia, UK and USA.

Participants	Aspect	Comment
Samira	Advancement in technology	I think it will improve the ways to deliver courses, online or offline. Many people could access their learning materials and enjoy a full user experience
Marufa	Medium use	In our country Personal media player (PMP) user is increasing day by day. So PMP can one of the medium of E-Learning

**Table 7.** A selection of student comments regarding opportunities of e-learning

#### **6.3.4. Threats**

Internet is flat to hackers, which would deter some people from using and making transaction over the web. Most people are exhausted to enroll in online courses because they fear the hackers might get hold of their personal information, such as credit card numbers. There is also the fear of virus spreading over the internet. There is evidence of concern from some school based users of leadership development program developed for a business context that they represent a model of the world and a value system that may be incompatible with the ethics of education. An example of this is the privileging of the quantifiable above the qualitative when it comes to monitoring success. The availability of e-learning from both private and public sector providers is leading to increasing market competition in this sector of national economies. In the UK some commentators argue that this places higher education institutions (HEIs) in competition not only with one another, but also with business enterprises. Others propose that this is not the case and that the business market and the HEI market are distinct. However, the modelling of the education and professional development sectors as businesses, with e-learning promoted as cost-effective for distance and distributed learning, carries with it a particular set of ethical and moral perspectives. Some selected comments are given below from the participant's observation.

Participants	Aspect	Comment
Mahmuda	Cheating	In E-Learning system there must have a chance to cheating on examination. One person's exam can give another person
Sunitra	Scams of course taking	There have been cases where people enrolled in false e-Learning courses. The courses offered were genuine, however the e-Learning institutions were fakes. People would lose their money by paying the fees. This would bring serious threats to other legal e-Learning institutions, as it would undermine their authenticity.
Inteza	Accreditation	There have been problems with certain learning institutions or government that don't accept or recognize the qualification of a student.
Alvina	Mix-up	While there are institutes that successfully implement E-Learning into their existing structure, there are some that do not obtain the same fate. Then the question will arise about the quality of E-Learning

**Table 8.** A selection of student comments regarding threats of e-learning

## 7. Further discussions with focus groups

Where relevant, we have referred to discussions with focus groups above. However, the focus groups provided extra comments and also carried out an exercise in identifying key aspects of good E-Learning with e-teaching which are discussed below.



**Figure 10.** Discussion session

### **7.1. Students' opinions on traditional learning and e-learning**

The groups' opinions and language differed about the comparison on traditional learning and E-Learning. One student pointed in traditional learning students and teachers are more serious on their course. But in E-Learning system students are not on time for this number of drop outs' possibility is enlarge. Another said we can give the quizzes/class test on every chapter/topics in regularly. For this prior to final exam the groundwork have little pressure. But in E-Learning system there need to read hard for attending the exam. One of student is worry about sincerity of the student. Because he felt, in normal study there have no scope for cheating in the exam in front of invigilator but in E-Learning system there must have a great chance to cheating. One person's exam can give another person

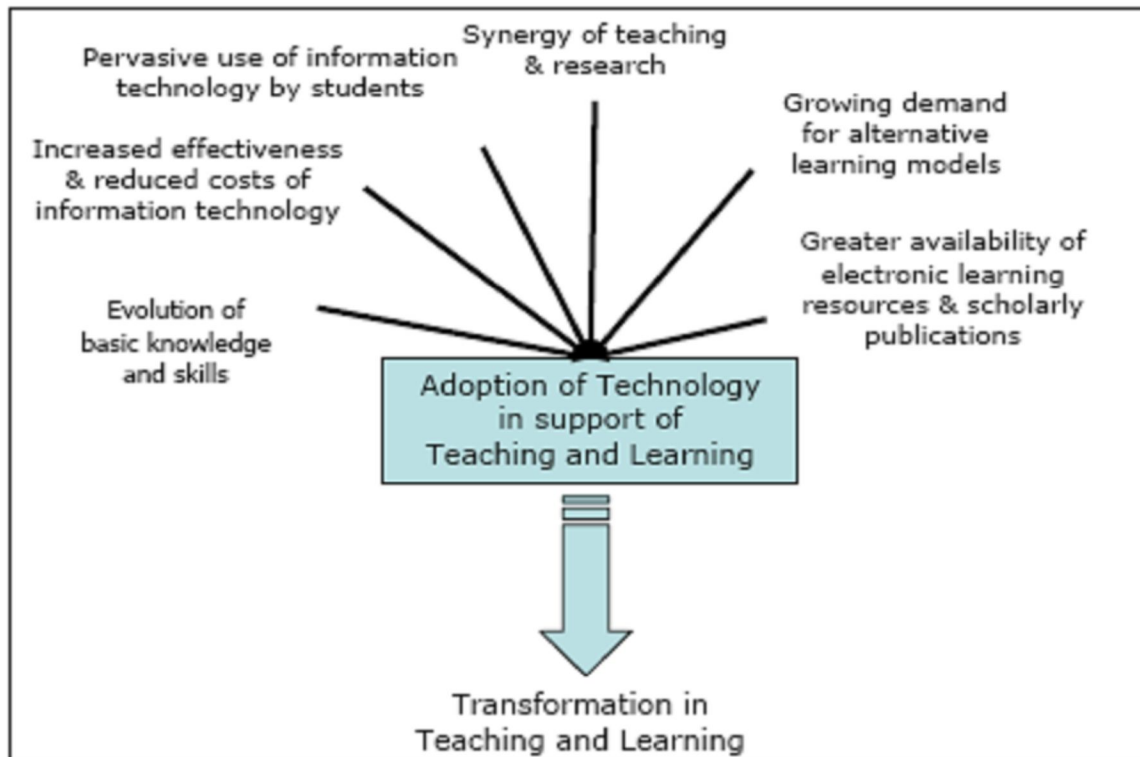
### **7.2. Students' opinions on excellence in traditional teaching and e-teaching**

As an initial exercise, we give the point to focus groups consider what made effective learning and teaching in both traditional modes of delivery and with e-Learning. The groups' opinions and language differed, so it has been difficult to extract and report a consensus view. In general, and unsurprisingly, matters to the fore in traditional teaching were 'human and social' elements of teaching, such as good planning, clarity of delivery, completeness of notes, participation, enthusiasm and entertainment; while for e-learning, the students tended to highlight 'technical' aspects – well-trained staff and students, inclusion of learning materials access to IT facilities. It is unclear whether this different emphasis was a reflection of how students felt about these learning modes; whether they resulted from intrinsic properties of the media; or whether they reflected the immaturity of e-learning in

terms of the methods used by lecturers. We asked the focus groups how effective they can feel for learning. 'Effective' was defined as helping them to learn faster, clearer, deeper, more easily, more flexibly and/or more conveniently, than traditional methods. The group felt that when used well, the system will effective. One student quoted seeing some visual components (a 3-D representation of a molecule) had helped her understanding. The convenience aspect was important in facilitating learning. They felt that depth was more likely to come from other studies such as reading books We asked what would make them, as students, engage more with e-learning. In summary, they replied as follows:

- If the material would more integrated with other teaching;
- If there would be more online tasks and assessments (with marks);
- If there were more computers on campus to allow better access;
- If educators incorporated question papers, model answers and opportunities to practice exams;



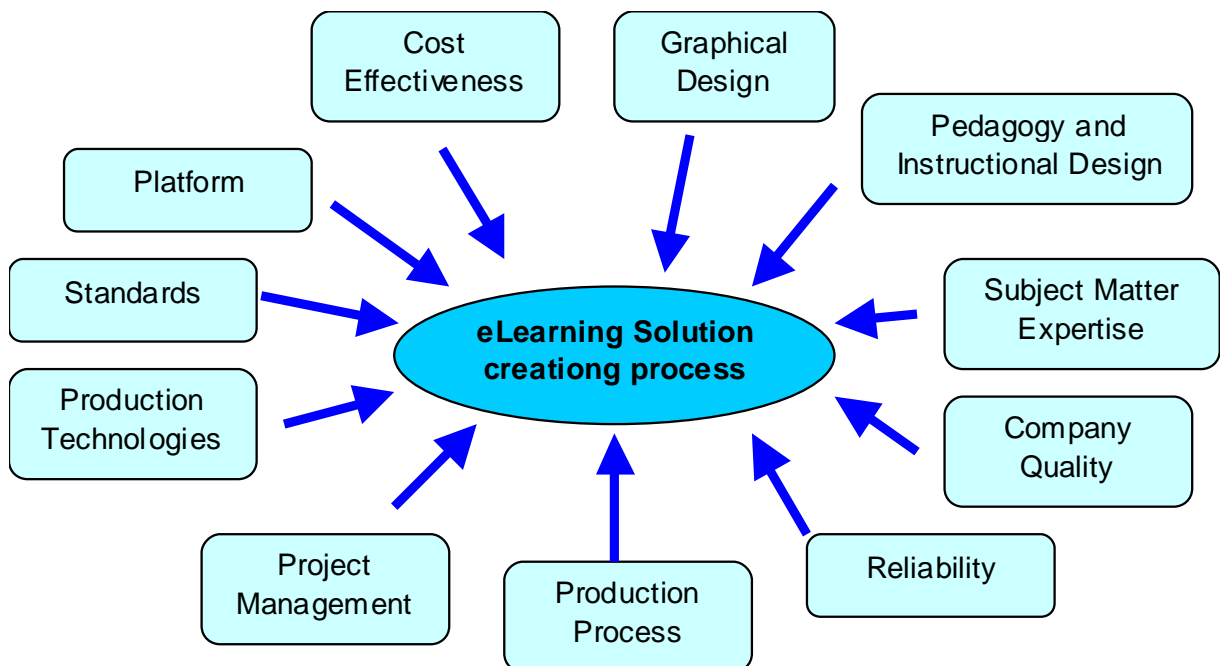


**Figure 11.** Forces leading to transformation in teaching and learning.

We asked what elements of traditional teaching students felt could not be replaced by e-learning. One student commented that traditional teaching was more dynamic - lecturers can adapt their approach to the audience's reaction. The other student felt that lecturers could add explanations in reaction to student spoken or unspoken (body language) queries. This student felt that traditional lectures were good to ensure they focused on the material – helped them remember and made sure they took notes.

### 7.3. Additional points raised or emphasized by focus groups

To elicit examples of good practice, we asked the focus groups what approaches to e-learning they had felt to be useful, and how. One student cited by accessing the Internet distance educators and their students can use e-mail similar to postal mail. Interaction with other by E-mail can be useful technique to exchange messages. Others highlighted Video conferencing can one of constructive medium of E-Learning. It will allow “real time” visual contact between students and the instructor or among students at different sites. Using multimedia maximizes the effectiveness of videoconferencing. Changing the camera from the instructor to another media helps to retain interest.



**Figure 12.** e-learning solution creating process

No matter how good an instructor is, they will have difficulty holding the attention of the far site without some variety. However, there are quibble about the cost of doing this. In this sense one student listed some of the multimedia used in distance

learning which are Slides, Overhead transparencies, Laptop or PC, CD-ROM, Objects on a document camera, PowerPoint and Internet. Another student believed that using the visual graphics cans effective technique.

## **8. Scope for further work**

The main purpose of focus group research is to draw upon respondents' attitudes, feelings, beliefs, experiences and reactions in a way in which would not be feasible using other methods, for example observation, one-to-one interviewing, or questionnaire surveys. These attitudes, feelings and beliefs may be partially independent of a group. Compared to individual interviews, which aim to obtain individual attitudes, beliefs and feelings, focus groups elicit a multiplicity of views and emotional processes within a group context. The individual interview is easier for the research to control than a focus group in which the participants take the initiative. Compared to observation, a focus group enables the researcher to gain a larger amount of information in a shorter period of time. Observational methods tend to depend on waiting for things to happen, whereas the researcher follows an interview guide in a focus group. In this sense focus groups are not natural but organized events. Focus groups are particularly useful when there are power differences between the participants and decision-makers or professionals, when the everyday use of language and culture of particular groups is of interest, and when one wants to explore the degree of consensus on a given topic. Research methods can be classified in various ways; however one of the most common distinctions is between qualitative and quantitative research methods. Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions. The benefits of qualitative pre-field testing include:

- improved reliability of responses

- improved validity of responses
- reduced non-response (both unit and item)
- reduced processing error and need for imputation
- improved cost efficiency
- reduced respondent burden

On the other hand Quantitative Research options have been predetermined and a large number of respondents are involved. Statisticians using formulas to determine how large a sample size will be needed from a given population in order to achieve findings with an acceptable degree of accuracy calculate the sample size for a survey. So one can work on it in quantitative research technique



**Figure 13.** Discussion session

## **9. Conclusion**

Research findings revealed that a considerable number of students were familiar with the term e-learning. Nonetheless, only few had familiar e-learning modalities education. While a large number of students believed that technology assisted teaching and learning methods would be a useful means to complement the traditional education, the use of such tools has been extremely limited. The main barrier to the use of e-learning modalities has been the lack of awareness. In fact, it is a serious misconception that technology is the primary element in e-learning. The key components of introducing and implementing e-learning modalities (like in any other innovative implementation) are organizational and human factors. It is the initiative, enthusiasm and creativeness of governments, policy makers and medical educators that provides synergy for innovation. Such initiatives would lead to find the most suitable and available technology to achieve the objectives.

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