# Collaborative Distance Learning System: "Interactive English pedagogy based on Internet and e-Media platform"

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# Declaration

The whole dissertation, unless specifically indicated to the contrary in the text, is our original work, and has not been submitted in part, or in whole for the degree or diploma to any other university. In accordance with the requirements of the degree of Bachelor of Computer Science in the Division of Computer Science and Engineering, I am presenting this thesis paper entitled, **"Collaborative Distance Learning System": Interactive English pedagogy based on Internet and e-Media platform".** This project has been performed under the supervision of Dr. Yousuf Mahabubul Islam.

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 researchers has mentioned by reference in the end of this paper. This thesis, neither in whole nor in part, has been previously submitted for any degree.

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Signature of                                                                    Signature of
Supervisor                                                                      Author
(Dr. Yousuf Mahabubul Islam)

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# Abstract

To enhance distance learning education through developing an effective English learning pedagogy based on internet and e-media. Analyzing and Designing the distant learning system of Bangladesh Open University (BOU), so that students learn better English, increase usability internet and computer technology through an effective manner. Thereby the objective our project is develop the English background of the students of BOU, making them only medium of education ,that is the television program effective through increased interaction, redesign it with web based facilities, and thus develop a new complete distance education system.

# Contents

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**Chapter 1**

**1.0 Introduction**

**1.1 What is Distance Education and Distance Learning?**

Distance education is a form of education that focuses upon intertwining pedagogy, technology and information system to deliver education to student who cannot be present physically in a classroom or in front of a tutor due to a number of circumstances. In distance education system, usually the teacher and the student communicate with each other through a number of medium.

**(1.1.1)Types of medium used in distance education**

o **Print media** - Here the medium used is regular mail. In this case the student and the teacher communicate and correspond with each other through mail.

o **Internet** - This medium can be used both synchronously and asynchronously. By synchronization we mean that as the course precedes the student and teacher can synchronize themselves to the course curriculum pace. In other scenario sit is also observed that the student asynchronously.

o **Television/radio**- Usually known as the telecourse, this mode usually deliver the course lectures to the student by building up a simulated classroom or may be through video conferencing with the student. Both

the modes are quite popular. Though radio is not as famous but it also has had solid effect in the distance education history.

- o **CD/DVD-ROM-** The lecture notes or recorded video of a simulated classroom, special quizzes, certain learning software and a lot a course material are recorded on to the DVD or CD ROM and are distributed among the student through market. The students continue their study from these supplied course materials.

- o **Mobile Learning**- This is new medium which recently developed in the distance education system. The student are able to use their mobile or their PDAs to access the course content through the wireless servers or interact with the virtual classroom through SMS

## 1.2 Scenario of Distance Learning in Bangladesh

Currently in Bangladesh there are 104 educational institutions which provide higher education to the student of Bangladesh. 29 of them are public universities, 56 private universities, 31 specialized colleges and 2 specialized universities and 1 international university.

### 1.2.1 Bangladesh Open University (BOU)

Among the 29 public universities Bangladesh Open University (BOU) is the first and only university that provides distance education to the students of Bangladesh.
BOU is mandated to "promote through multimedia; instruction of every standard and knowledge - both general and scientific - by means of any form of communications technology, to raise the standard of education and to give the people educational opportunities by democratizing education and creating a

class of competent people by raising the standard of education of the people in the country.(Reasons why people choose distance education is shown in appendix-A).

As we have seen in the above, distance education has a number of modes of communication but it does not mean that one of the mediums can only be used. BOU uses a number of modes of communication starting from print media to the television broadcast etc. The use of internet has not developed in BOU very well yet but they are developing a website and it is currently under construction.

Our aim was to establish Distance learning through BOU the only distant learning centre at Bangladesh, thus the first thing was to find out the limitations they face and the processes that BOU follows.

### 1.2.2 Limitations at BOU- Dropouts

What are Dropouts? Technically dropouts are the group of students who enroll themselves in one of the BOU courses then discontinue or end up not attending. The level of Dropouts for the last three years is shown in the appendix A.

Now the growing concern for BOU is this high level of dropouts. We thus decided to find out what are the reasons why the student left the courses. Therefore we decided to attend a research with a group of student from BOU who were present in the RRC (Regional Resource Center). Most of the student there where student who has dropped out of the courses at least ones their were something like 120 student present on that location and also we had a session with a group of students who commenced a course with a international university through distance education but later decided to discontinue. The question in the questionnaire was "**Why did they discontinue their studies"?** (see survey questionnaire in appendix-A)

The several reasons that the students provided were related both to the course matter but mainly the distant education aspect. The maximum found reasons are stated below:-

i). They lost interest in studying alone.

ii). They did not have adequate contact with the teacher

iii). The lesson materials were not much interesting

iv). Their home assignments were not returned properly

As we did not have any options to solve the student related problems but we aimed in eliminating all the teaching related problems that we have found out in our research.

### 1.2.3 Use of television on distance education

BOU mainly provides distance education through Television. Their shows are broadcasted on the BTV (Bangladesh Television) at specified times and therefore we wanted to justify the use of television in distance education. In our research questionnaire, a large percentage of student preferred television over radio and internet for distance education. Radio doesn't provide the visual advantages like TV and the internet facilities are not of such a high quality in our country. Our further analysis of the use of television allowed us to find the advantages of television in the distance education scenario. The reasons that we believe television are proper for distance education is:

1. **Social Equity in Education**: Television promotes the goal of social equity in education catering to the masses of rural background and those living in slums of urban areas. Television increases the effectiveness of instruction and cuts down drop-out rates.

2. **Higher Quality of Instruction**: Television programmes are well planned/organized and better presented than the usual class-room instruction.

3. **Reduce Dependency on Teacher**: The students learn from television with their own efforts. They need minimum help from the teacher in case television is pressed into service.

4. **Flexibility**: Rapid and continuing changes in curricula and instructional methods are made possible through educational television. Course can be constantly modified not only to update them but to incorporate the constantly changing needs of the society and the expansion of knowledge.

5. **Use of the best Available Teacher**: Educational television makes educational opportunities equal throughout the country. The student in rural and deprived areas of the country where educational resources are not available, get the same quality of education as their counterparts in the urban centers. The best teachers are equally available for every student. Thus, television bridges the gap between the poor and the rich, the privileged and the underprivileged, the rural and the urban.

6. **Cost Effectiveness**: If television is utilized on a large scale, it proves cost effective. It can provide education throughout the country at a minimum cost without lowering the quality of instruction. The initial expenditure, of course, will be high.

7. **Logistically Simple**: In operating an effective distance education system, educational television is logistically very simple. The problems of planning, implementing and operating distance learning can be overcome to some extent by teaching through television.

8. **Combination of Audio and Video Components**: Television has the advantages of the radio as well as the video. That is why it has a greater appeal that the radio and the print-media.

9. **Stimulation:** Through educational television, we can control the stimulation (the audio and the visual) to get desire response (learning).
10. **Mass Education**: Educational television can cater to the explosive increase in student numbers.

## Chapter 2

## 2.0 Methodology

## 2.1. Collaboration- Introducing interactivity through SMS and Internet

Most of the education programs that are broadcasted on BOU are a program that just complies of a certain instructor who takes a class on a certain topic. Now in most cases there are no students present. The students who are present in front of the TV have no sense of contribution to the course. As I have already mentioned above, the students have dropped out of their courses because of reasons that they felt that **i) they were studying alone & ii) they did not have adequate contact with the teacher.**

One of our main goals of the thesis was to bring a sense of collaboration and contribution into the student. Although the students are far away from each other, in today's world there are many modes through which the student can contact and have a sense of collaboration with their fellow student. We also intended to make the classroom session in the BOU more interactive with the participation of students in the classroom.

The communication module used in our thesis was Short Messaging Service (SMS) using the mobile phones. Currently in Bangladesh there are 27.7 million mobile subscribers and a large number of them comprises of student. Therefore using this vast availability of mobile users in the country we believed that we can

build up an interactive session with the student as they proceed in their studies. The advantage of using this is that the student who felt alone while they studied will fell more involved with the course. Thus we believe it would ultimately reduce the dropout rate also.

## 2.2 English- The Lacked Subject

When we decided to recede with our work we needed to find out which subject we should work upon. In BOU there are many faculties but the subject where the performance of students and the rate of dropouts are highest is English. Most faculties at BOU and teachers at Institute of Educational Research (IER) believe that if a proper pedagogy can be developed to make the student be more interested to learn English through distance education then the level of English in Bangladesh will hopefully be much more advanced and creative. We therefore decided that our sector of research should focus on building a proper pedagogy of English using the facilities provided by the BOU. Now our main aim was to keep the students interested and involved in to the course as much as possible. Even the students of BOU believe that English will be a more appropriate course to learn through television media then any other course as science is a subject that requires viewing and sometimes touching also subjects like social science and humanities may follow the same English learning techniques. Studies at Brac university also showed that the main problem of students in all the courses is due to the lacking in English language.
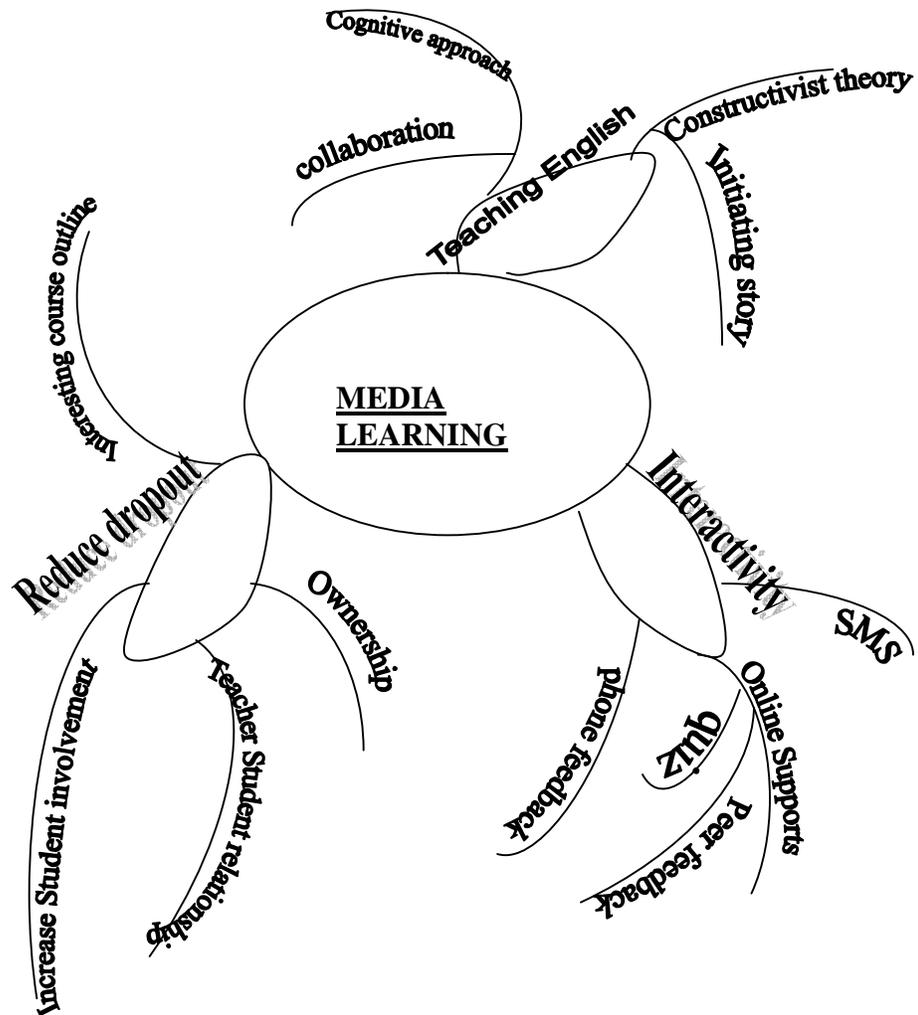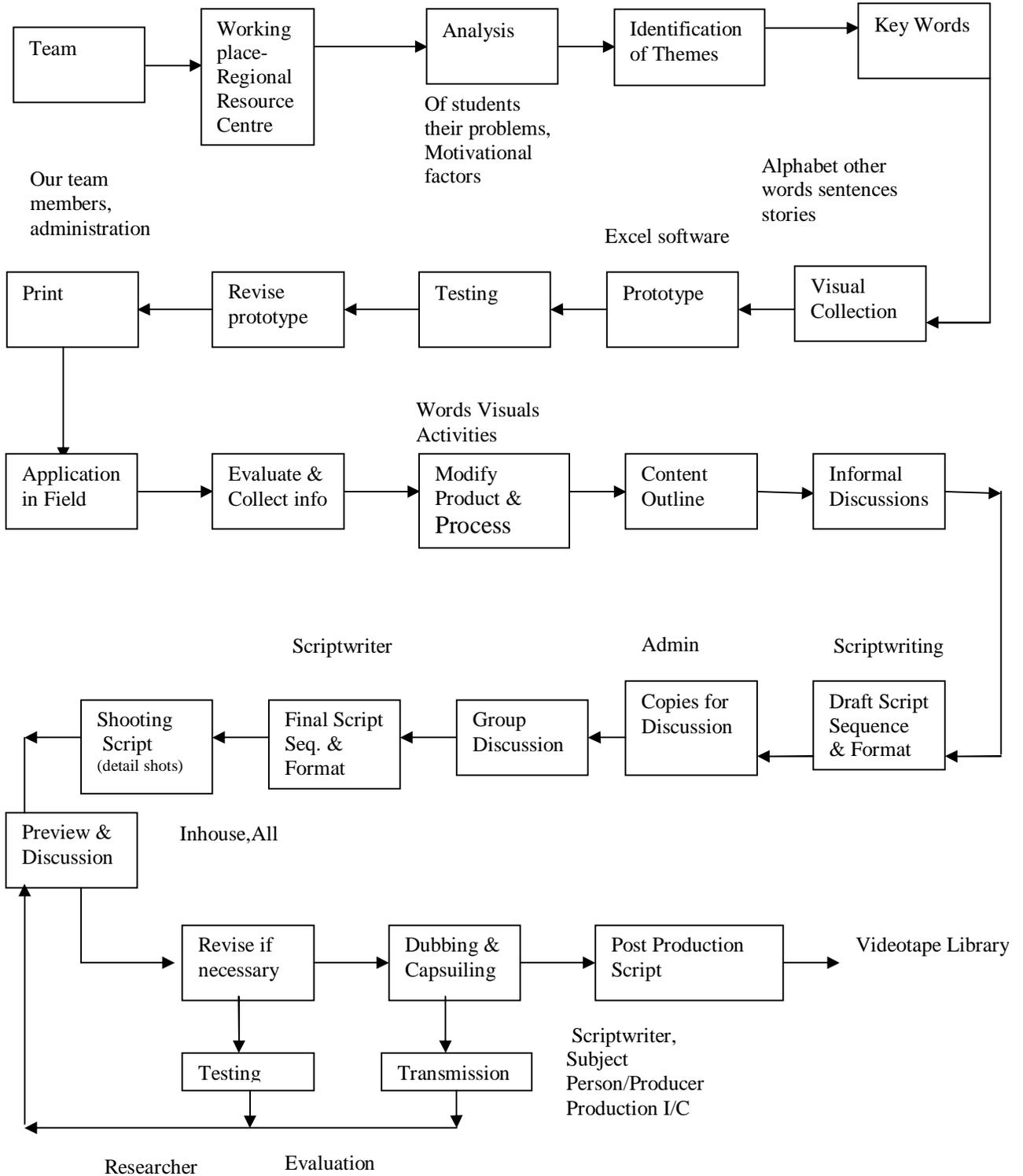
Based on the surveys and after preparing the mind map we decided upon the things we need to do:-

- We need to develop a collaborative English learning pedagogy
- Design an interactive Television show
- To provide a complete support design and implement a collaborative Web-based software

## 2.4 Flow Chart of the design of the entire System

Team → Working place- Regional Resource Centre → Analysis → Identification of Themes → Key Words

Our team members, administration

Of students their problems, Motivational factors

Excel software

Alphabet other words sentences stories

Print ← Revise prototype ← Testing ← Prototype ← Visual Collection

Words Visuals Activities

Application in Field → Evaluate & Collect info → Modify Product & Process → Content Outline → Informal Discussions

Scriptwriter

Admin

Scriptwriting

Shooting Script (detail shots) ← Final Script Seq. & Format ← Group Discussion ← Copies for Discussion ← Draft Script Sequence & Format

Preview & Discussion

Inhouse, All

Revise if necessary → Dubbing & Capsuiling → Post Production Script → Videotape Library

Scriptwriter, Subject Person/Producer Production I/C

Testing

Transmission

Researcher

Evaluation

16

## 2.5 Designing interactive English learning program

In designing our interactive television program we have focused on our proposed pedagogy that is the cognitive and the constructivist approach. In the thirty minute program other than the presenter/teacher two students who are the actors are present the program sequence is written below and the script is shown in appendix C.

1. Firstly the home sitting students asked to SMS their name and tutorial center number to attend the current program
2. The students are sent back a group name and password
3. The presenter asks one of the two students in the set to initiate a short real life story
4. While proceeding with the story the presenter collects key points through interrogation
5. From the extracted key points the presenter requests the audience to SMS an introductory sentence for writing a paragraph within a given time
6. After receiving the sentences the correct and incorrect sentences are separated
7. One of the incorrect sentence senders is called and through discussion the sentence is corrected
8. Four random correct sentences are chosen and given option
9. Students are asked to SMS the most appropriate introductory sentence
10. Paragraph is starred with the highest SMSed sentence
11. Two students in the set provide the following three sentences of the paragraph
12. The two set of sentences are given option
13. The audience is asked to SMS the most appropriate set of sentence that goes with the introductory line
14. The highest ranked set is chosen to follow the paragraph

15. Lastly the students are asked to complete the paragraph and upload in the website according to their respective groups

16. For further assistance they are asked to visit the tutorial center

## Chapter 3

### 3.0 IMPLEMENTATION OF THE SOFTWARE:

### 3.1 Prototyping

After successful implementation of our excel prototype, we started we develop our web based software. The excel software is used simultaneously with the television show, and the web support is provided all the time.

While television program is running we needed software to automate the SMS collection, student grouping, thus sequencing the entire content of the program. We used Microsoft Excel to build the software. The purpose and the forms along with the test data are shown below:-

### (3.1.1) Sheet 1-User registration

|    | A | B | C | D | E | F |
|----|----------|----------|----------|---|---|---|
| 1  | Mobile no. | REG CODE | Name | | | |
| 2  | 8801913397411 | E1 | fahim | | | |
| 3  | 8801913397411 | e2 | karim | | | |
| 4  | 8801712457296 | 32 | ovee | | | |
| 5  | 8801711289765 | e3 | tani | | | |
| 6  | 8801915700986 | e1 | jyoti | | | |
| 7  | 8801819013448 | e1 | hira | | | |
| 8  | 8801714090622 | e2 | sumit | | | |
| 9  | 8801717761217 | e3 | dhanad | | | |
| 10 | 8801717436890 | e1 | intekhab | | | |
| 11 | 8801712457296 | e1 | mishu | | | |
| 12 | 8801717761217 | e4 | rony | | | |
| 13 | 8801819013448 | e2 | jami | | Group | |
| 14 |  |  |  | | | |

## (3.1.2) Sheet 2-Assign group password

|   | A | B | C | D |
|---|---|---|---|---|
| 1 | Group 1 | Group 2 | Group 3 | Group 4 |
| 2 | fahim | karim | tani | rony |
| 3 | jyoti | sumit | dhanad | |
| 4 | hira | jami | | |
| 5 | intekhab | | | |
| 6 | mishu | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | Assign Pass | Return to main menu | Next | |
| 13 | | | | |
| 14 | | | | |
| 15 | Group no. | Group 1 | Group 2 | |
| 16 | Group Pass | gr1 | | |

## (3.1.3) Sheet 3- Sentence collection and sorting

|   | A | B | C |
|---|---|---|---|
| 1 | Mobile no. | Sentences | Check |
| 2 | 8801913397411 | It was a nice summer morning | Correct |
| 3 | 8801913397411 | We decided to go for a summer holiday | Correct |
| 4 | 8801712457296 | Every summer isa point to prove | Correct |
| 5 | 8801711289765 | Along came summer on pot | Incorrect |
| 6 | 8801915700986 | Come on, give it up for the greatest summer | Correct |
| 7 | 8801819013448 | Summer was nice,tomorrow came | Incorrect |
| 8 | 8801714090622 | Nancy is engrossing in a summer program | Incorrect |
| 9 | 8801717761217 | Summer holidays are the best | Correct |
| 10 | 8801717436890 | Summer is usually the best season of the year | Correct |
| 11 | 8801712457296 | The summer camp had students from all around the world | Correct |
| 12 | 8801717761217 | Highways is usually emty in summer | Correct |
| 13 | 8801819013448 | Summer came by the way. | Correct |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | Sort Sentence | |
| 18 | | | |

## (3.1.4) Sheet 4- Extracting the correct sentence

|   | A |
|---|---|
| 1 | Correct Sentence |
| 2 | It was a nice summer morning |
| 3 | We decided to go for a summer holiday |
| 4 | Every summer isa point to prove |
| 5 | Come on, give it up for the greatest summer |
| 6 | Summer holidays are the best |
| 7 | Summer is usually the best season of the year |
| 8 | The summer camp had students from all around the world |
| 9 | Highways is usually emty in summer |
| 10 | Summer came by the way. |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | Rank |
| 16 | |
| 17 | |
| 18 | |
| 19 | Return to sentence sheet |
| 20 | |

## (3.1.5) Sheet 5- Four correct options

| | A | B |
|---|---|---|
| 1 | **OPTIONS** | **Correct Sentence** |
| 2 | **A** | It was a nice summer morning |
| 3 | **B** | We decided to go for a summer holiday |
| 4 | **C** | Every summer isa point to prove |
| 5 | **D** | Come on, give it up for the greatest summer |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | Sms sheet |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | Main menu |
| 18 | | |

## (3.1.6) Sheet 6- Ranking the SMSs

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| **Mobile no.** | Answers | | | | | | | | |
| 8801913397411 | b | | | | | | | | |
| 8801913397411 | d | | | A | B | C | D | | |
| 8801712457296 | b | | | 8 | 3 | 4 | 4 | | |
| 8801711289765 | a | | | | | | | | |
| 8801915700986 | b | | | | | | | | |
| 8801819013448 | a | | | | | | | | |
| 8801714090622 | d | | | | | | | | |
| 8801717761217 | a | | | | | | | | |
| 8801716068528 | c | | | | | | | | |
| 8801911191242 | a | | | | | | | | |
| 8801715936134 | c | | | | | | | | |
| 8801717436890 | a | | | | | | | | |
| 8801713013365 | a | | | | | | | | |
| 8801711289765 | a | | | | | | | | |
| 8801712457296 | c | | | Generate | | | | | |
| 8801716068528 | d | | | | | | | | |
| 8801717761217 | d | | | | | | | | |
| 8801717436890 | a | | | Result | | | | | |
| 8801819013448 | c | | | | | | | | |
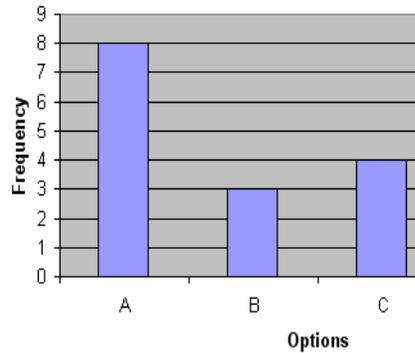
**(3.1.7) Sheet 7- Introductory sentence of the paragraph**

| | A | B |
|---|---|---|
| 1 | Sentences | Paragraph Sentences |
| 2 | 1 | It was a nice summer morning |
| 3 | 2 | |
| 4 | 3 | |
| 5 | 4 | |
| 6 | | Main menu |
| 7 | | |

Accordingly the next three lines of the paragraph are put in to two sets, from the main menu, the system is run again and eventually we will get almost half of the paragraph is completed.

## 3.2 Web Based Software

### 3.2.1 Requirement Specification:

As per our research we have found that to impose a concrete learning and ensure that each an every student is a part of our proposed learning pedagogy, human intervention is essential. Taking the students and the faculties in mind we have designed our application in two parts:

**(a) For the faculty (admin)**

Reminding that our television program does not make our students finish writing the entire paragraph, but completing the paragraph is very important. Thus in the website the faculty will be able to view the paragraph sent by the students, correct and comment them, put up quizzes and mark them, upload lectures and program videos, put up news and events, make and delete groups and approve member request.

**(b) For the students (BOU only)**

Here the students will be able to collaborate entirely and eventually make a concrete learning. The students will be able to upload their homework

paragraphs, view their group mates assignments and comment them also view the comments their peer made upon their paragraph, view and download lectures and program videos, attend quizzes and see the result, for missing the program and not having a group they will also be able to ask for membership (a group name and password will be assigned in this case),and lastly view news and updates

### 3.2.2 Functional Requirements:

Functional requirements describe what the system should do that is the services provided for the users and for other systems

.

**Logon permission**

**(a)** For the faculty the system requires a user name and a password given by the university to connect to the database. Positive validation opens a new page where faculty is able to continue the desired works eg. upload assignment, view lecture. See figure-1.1.

**(b)** For the students to get connected to the database he/she needs to give a username and a password only prior the username and password they need to go to the students page. A positive validation will allow login.

**Create quiz:**

To make a quiz the faculty need to click the create quiz (see Figure-1.2) button in the faculty page which will open a new page for quiz creation (see Figure-1.3).

**Save quiz:**

To save the quiz, the faculty must fill in the question part, the options and the difficulty level together providing the correct option then click save button, the quiz will be save in the database. To make the quiz available to the students

the faculty should the on button and make the quiz available to the students. (see Figure-1.3).

**Edit quiz:**

To edit the already prepared quiz the faculty has to click the edit quiz button (see Figure-1.2) which will take him to the quiz page where he/ she will first make the quiz unavailable by selecting off then make required changes and save it to update the database.(see Figure-1.4)

**Create Group:**

The faculty is able to create new groups and save it in the database by clicking the create group button and filling up the spaces like group name and password in the next page.(see Figure-1.5).

**Show Videos:**

To view uploaded videos the faculty has to click show videos button which will open a new page driving the uploaded videos from the database. To see any of them the faculty just has to click on any of them. (see Figure-1.2).

**Upload video:**

To upload videos the faculty has to click upload videos button, the system will provide a browsing option and he/she may upload a video to the database. (see Figure-1.7).

**Show Lectures:**

To view uploaded lectures the faculty has to click show lecture button which will open a new page driving the uploaded lectures from the database. To see any of them the faculty just has to click on any of them. (see Figure-1.2).

**Upload lectures:**

The upload a lecture the faculty has to click upload lecture button, the system will provide a browsing option and he/she may upload a PowerPoint lecture to the database. (see Figure-1.6).

**See Member Request:**

The faculties will be able to see if any of the students has asked for a member request by clicking the Member request button in the admin page. Clicking the button will open up a page showing the pending member requests (see figure-1.8). The faculty may also approve member request by clicking the Approve button and may reject it by clicking the Reject button.

**Show News and Events:**

Faculties will be able to put up news and events for the students by clinging the News and Events button which will show a new page having news headline author and news body and a submit button to save in the database.(see Figure-1.9)

**Attend a quiz:**

To attend a quiz already uploaded by the faculty the students need to click Quiz button in the student page which shows the list of quizzes available and also the quiz results that's already been taken (see Figure-1.11) then click Take the quiz button, which will show up the quiz with the option and the time limit. The student will attend the quiz in the given time. (see Figure-1.12)

**View Quiz Result:**

In the same page of taking a quiz (see Figure-1.11) the students will be able to see the result of the already taken quizzes by clicking the View quiz result button and see the number of attempted and the number of correct answers (see figure-1.13).

**Submit Assignment:**

To submit assignment given during the television show the students need click the Submit assignments button where a new page where they will have to give a group name a password (see Figure-1.14) given during the television program then submit the paragraph in the given space (see Figure-1.15), clicking the submit button will save the assignment in the database.

**View News and Events:**

The students will be able to see recent news and events put up by the faculties, by clicking the News and Events button (see Figure-1.16).

**View lectures:**

The students will be able to view and download lecture slides by clicking the Lectures button. A list of available lectures will show up.(see Figure-1.17)

**View Videos:**

The videos of the television shows of the recent ones will be available in clicking the button Videos the students will be able to view them.(see Figure-1.18)

**Post and View Peer Comments:**

The faculty is able to view the student assignment along with their peers' comments by clicking assignments button

The students are able to view their peers submitted assignments and post comments on them (See Figure -1.19).

### 3.2.3 Non Functional Requirements

Non-functional requirements are constraints that must be adhered to during development. They limit what resources can be used and set bounds on aspects of the software's quality, thus they tend to restrict the freedom of software engineers as they make design decisions.

### Extensibility:

The software is to handle any new applications added. And in future we desire to extend the software for the other different subjects that BOU offers. However though large modification may not be required but still the system has extensibility for various new functions.

### Security:

As we are using a 3tier architecture the database server is completely separated from the client server and the application sever this enforces a better security. The connection to database is secured by valid user name and password. Only authorized individuals will be provided with the administrative password.

### Portability:

The power of PHP is that it is cross-platform and runs everywhere!! It runs on Linux, Windows 95/98/NT/2000/XP, Solaris, HPUX and all flavors of UNIX. PHP is writing once and deploy anywhere and everywhere. This is why future extensibility on different platform is very much possible.

### Response time:

According to the system design two severs are separated in two different machines. This increases the performance of the system and makes a system stronger to handle enormous number of client at the same time. Thus the response time is very reasonable.

**Reliability:**

The system is quite robust. The actions of the clients are so much specified that it's quite unusual to have unstable actions from the user. Being web-based system it is easily available to the students in any geographical area.

**Reusability:**

The system is designed in such a way that it may be used by other institution for increasing students interaction and making the learning more interactive.

### 3.2.4 Technical Requirements:

#### (3.2.4.1)Hardware requirements

The system being web based we need to perform appropriate actions to be accessible through the Internet. We are using two different machines for application server and database server. Though it can be done in one machine, this increases the efficiency of the system.

#### (3.2.4.2)Software requirements:
**Programming language**

- Presentation logic/Business logic : PHP
- Data Access Logic : MySQL

### 3.2.5 Database Design

We have used MySQL at the backend of the software; in the database we have 13 tables. The details f the tables are shown in the Appendix -

## 3.2.6 High Level Use Case Diagram

Uses

Group log on

Turn off

Turn on

Attend Quiz

Submit paragraph

Make quiz

Uses

View lectures

View assignment

**Students**

**Faculty**

Be Member

View Assignments

Upload video

Log on system

View news & events

Upload lecture

Log on System

Make a group

Delete a group

Uses

Uses

Uses

Uses

Uses

Update database

Uses
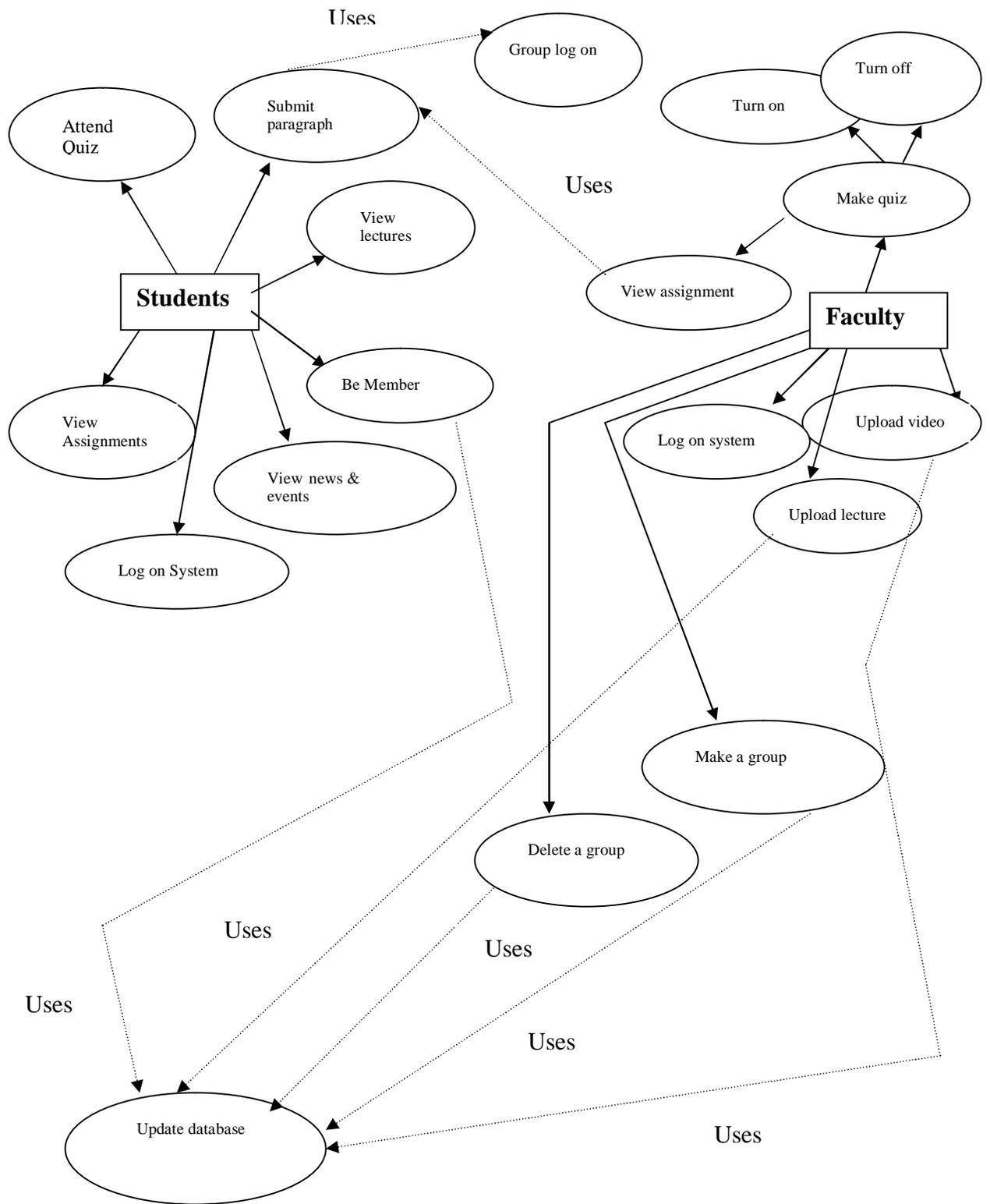
**Chapter 4**

**4.0 Limitations and Future Work**

**4.1 Limitations**

As shown earlier, we have used an Excel prototype in our testing session. In that software after gathering the sentences they has been sent by the student through SMS, we needed to separate them as correct and incorrect ones. In the testing session the teacher had to separate the correct sentences, but these process may causes some trouble as between the advertisement break of the television program, the teacher is suppose to gather the correct sentences which may not be possible within the break time., depending on the number of SMS's .But this can be solved by using an NLP parser incorporated with the Excel software. The final portion of our project that is the web based application has been developed considering the requirement of BOU administration and the students.
But due to absence of our advisor and certain coordination of BOU testing in the BOU server has not been possible. But the application has been tested in the Local host of BRAC University and used by the students of BRAC.

**4.2 Future Works**

In future we expect to install the entire designed system in BOU. We may also write a paper that will automatically separate the correct and the incorrect sentences and we will be able to run the television program efficiently.

With BOU's support we may also develop similar pedagogy for other subjects that BOU provides, and extend the well used software for those subjects also. To further enhance the SMS method of interaction we may request the telecommunication services providers of the country for support.

## Chapter 5

### 5.0Conclusion

### Concluding Words:

Distance education is a system by which learning can reach people's homes, and the only Open University of Bangladesh that practices distance learning is Bangladesh Open University (BOU). All most all over the world English is used widely, and due to lack of English proficiency the students of Bangladesh are not able to flourish of all their knowledge. Day by day the usage of English language increasing, once the students develop English proficiency they will be able to use it to learn other subjects too. Through our develop pedagogy, are re-designed television program and our extended support with web based interactive application, we hope learning English will be fun and students will be encouraged to join distance learning  system in BOU and develop their English proficiency.

# List of Figures

**(Figure 1.1)**



**(Figure- 1.2 )**

**(Figure-1.3)**



**(Figure-1.4)**



**(Figure-1.5)**

**(Figure- 1.6)**



**(Figure- 1.7)**



**(Figure-1.8)**



**(Figure- 1.9)**

**(Figure- 1.10)**

Collabora

Welcome Dear students of BOU,

In this page you can perform a nu
distance education course

You can perform a number of tas

**Submit Assignments:**

You can submit your home assign
Otherwise you cannot submit you

**News & Events**

Any upcoming events or news ca
the news and event page be sure

**Lectures**

The lectures that are transferred
notes from this site so that you ca

**Videos**

Submit Assignments
News and Events
Lectures
Videos
Quiz

**(Figure-1.11)**

# Collaborative English Learning Program

Submit Assignments
News and Events
Lectures
Videos
Quiz

| Quiz | |
|---|---|
| Module 3 Exam - CCNA 2 Router and Routing Basics Version 3.1 | Take the Quiz |
| Module 4 Exam - CCNA 2 Router and Routing Basics Version 3.1 | View Quiz Result |
| Introduction to grammar | Take the Quiz |

**(Figure-1.12)**

Introduction to grammar

Time Remaining:   59:58

Total Question:   3

1.  Halloween was a christian Festval.What is the mistake here

   ○   B.Was
   ○   C. Christian
   ○   D.Festival
   ○   A.Halloween

   Next

**(Figure- 1.13)**

# Collaborative English Learning Pr

it Assignments
and Events
res
s

Module 4 Exam - CCNA 2 Router and Routing Basics Version 3.1

| Number of Question : | 11 |
|---|---|
| Write Answer : | 6 |
| Percentage Mark : | 54 |

**(Figure- 1.14)**

Bangladesh Open University,

Collaborative English Lea

| Submit Assignments |
| News and Events |
| Lectures |
| Videos |
| Quiz |

Group          G1

*Group Password   •••••••

submit

**(Figure- 1.15)**

Write a new paragraph/ Create new topic

Topic          my interest about movie

Paragraph

I am a movie fanatic. When friends want to know what picture won the Oscar in 1980 or who played the police chief in Jaws, they ask me. My friends, though, have stopped asking me if I want to go out to the movies. The problems in getting to the theater, the theater itself, and the behavior of some patrons are all reasons why I often wait for a movie to show up on TV.

Queen Elizabeth Park, filled with the scent of pine and cedar, gives me much pleasure when I walk my dog. QE park, as the neighbours call it, shines as a beautiful place to go: the lower reaches, which I prefer, offers evergreens, a pond, and a stream. Tashi loves to sniff along the stream banks. When we round the hill to the south side of the park, if we're lucky that day, we catch the sun as we walk into the

NEXT

**(Figure- 1.16)**

| Submit Assignments |
| News and Events |
| Lectures |
| Videos |
| Quiz |

**News & Events**
- Next Broadcast
- Class postponed

**(Figure- 1.17)**

Col

| Submit Assignments |
| News and Events |
| Lectures |
| Videos |

**Lectures**
- Lecture 01
- Lecture 02
- Lecture 03

**(Figure- 1.18)**



**(Figure-1.19)**

## Appendix A

## Surveys and questionnaire in BOU and IER

## Questionnaire 1

1. Do you think that television can be a mode of education?

A. Yes    B. No

2. Which do you rank to be the most prospective mode of distance education?

A Radio
B Television
C Internet

3. What subject do you think is appropriate on television?

A. English
B. Math
C. Science

4. Give your view on what do you want on a educational television show (you can have more than one answer)

A. More instructive.
B. Not Organized.
C. Much organized than the normal classrooms.
D. More Interesting
E   A, C & D

5. Will many educational sessions are you prepared to view every week?

A.    1
B.    2
C.    3
D.    4

6. Which mode of information gathering do you find most effective?

A. Teacher interacting with student during the show.
B. A group of student discussing on a topic (no teacher present).
C. A video related to the topic is run on the show.

7. Which mode will you use if you need to participate in the show?

A. SMS
B. E-mail
C. Post mail
D. Telephone

8. What software platform for the show do you think will be most appropriate?

A. MS EXCEL
B. VB
C  MS POWERPOINT

9. Which process do you think is appropriate in the brainstorming of the student?

A. Individual
B. Group
C  SMS Grouping

10. If you are writing an English paragraph which kind of story do you prefer?

   A.  Personal Experience
   B.  Narration
   C.  Biography

**Questionnaire 2**

1. Was the television session interesting?

    A. Yes

    B.  No

2. If No, then what is the reason?

_____

_____

_____

3. What are our feelings about the SMS based Interactive system

    A. It made you feel more involved

    B. Gave you a feeling of being in a class

    C. Helped you to be more interested to the session

    D, Did not like it because there was not enough time to SMS
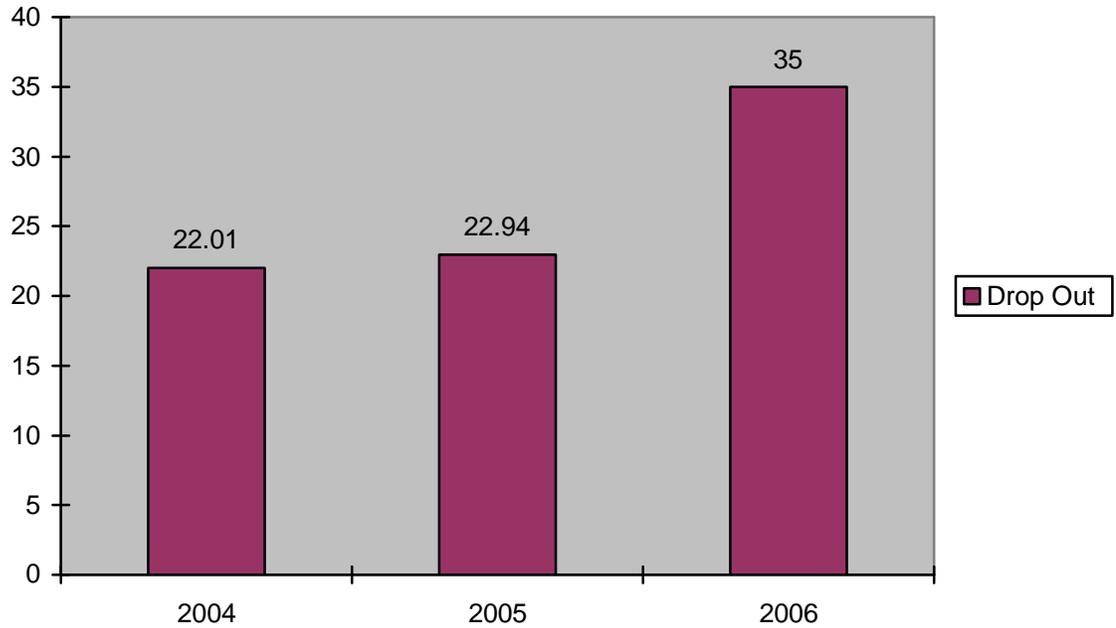
4. During the session the teacher calls back a student who gave a wrong answer.
Then he helps him/her to correct his mistake. What are feeling about that?

    A. Gave a feeling of contact with the teacher

    B.  It felt that the students' mistakes were taken into account

    C. It felt more encouraging for the student to send more sentences

    D. It was totally unnecessary

## Survey Result

## Drop outs rate

```
40 ┤
   │                                                    35
35 ┤                                              ┌──────┐
   │                                              │      │
30 ┤                                              │      │
   │          22.01          22.94                │      │
25 ┤                      ┌──────┐                │      │
   │        ┌──────┐      │      │                │      │          ┌──────────────┐
20 ┤        │      │      │      │                │      │          │ ■ Drop Out   │
   │        │      │      │      │                │      │          └──────────────┘
15 ┤        │      │      │      │                │      │
   │        │      │      │      │                │      │
10 ┤        │      │      │      │                │      │
   │        │      │      │      │                │      │
 5 ┤        │      │      │      │                │      │
   │        │      │      │      │                │      │
 0 ┴────────┴──────┴──────┴──────┴────────────────┴──────┴──────
            2004            2005                  2006
```
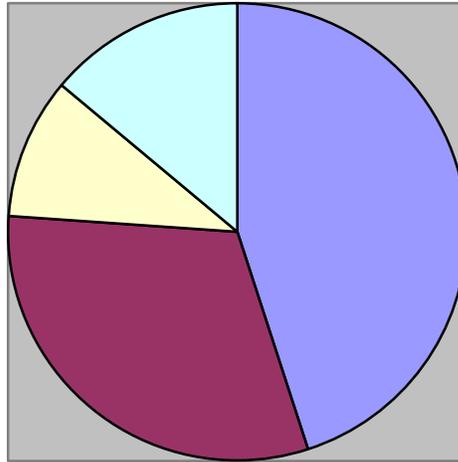
| Questions | Percentage |
|---|---|
| 1.  Most student assignment or works in English were low in standard or    lacked substance | 74% |
| 2.  Due to lack of English knowledge students fail to properly understand   subject matter. | 58% |
| 3.  Student lack in grammatical expertise rather than creativity | 78% |
| | |

# Pie chart for the Questionnaire 1



- ■ Students who prefers TV ,SMS and prefers English as the subject
- ■ Student who do not prefer TV but are interested in SMS based interaction
- ☐ Students who are not interested at all and does'nt prefer the prospect of distance learning
- ☐ Students who does not prefer television, or smsm but prefers radio over TV

## Feedback at BOU
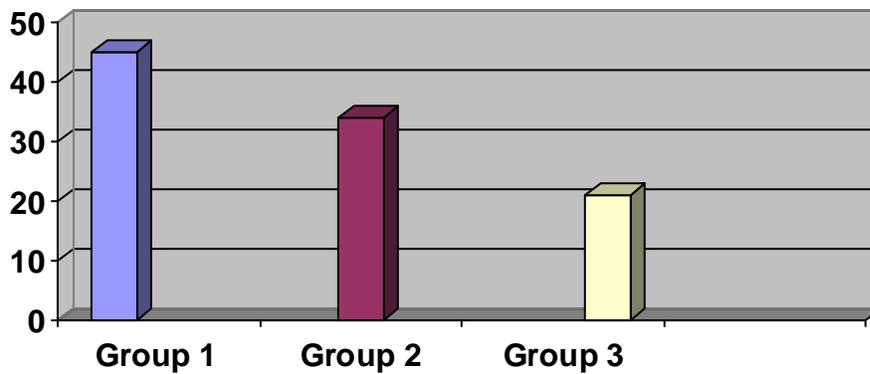


- ☐ Students who found the session interesting and felt more involved due to SMS based ineraction
- ■ Student who found the sesion interesting but felt that the SMS based interaction lack time management
- ☐ Student who were not imressed by the session and found it cmplicated

## Feedback at IER

The following graph is from a survey done on a group of 60 students at IER they also viewed the program and participated through SMS. After the session we had the same feedback session with the students and the result of their answers were as below
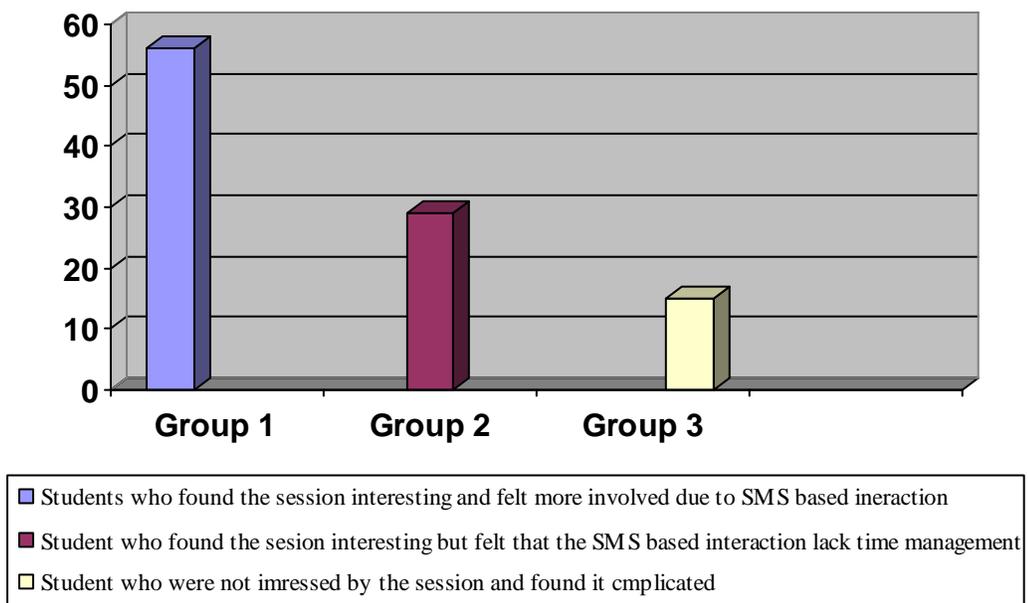


☐ Students who found the session interesting and felt more involved due to SMS based ineraction

☐ Student who found the sesion interesting but felt that the SMS based interaction lack time management

☐ Student who were not imressed by the session and found it cmplicated

**Data Dictionary**

**Table name : tbl_admin**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| admin_name | varchar(32) | No | | Username of the administrator |
| admin_pass | varchar(32) | Yes | *NULL* | Password of the administrator |
| admin_type | varchar(32) | Yes | *NULL* | Type of administrator(teacher or system) |

**Table name : tbl_discussion**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| topicID | int(11) | No | | ID of the topic |
| topic | text | Yes | *NULL* | Name of topic |
| topicDes | text | No | | Topic description |
| Posted_by | varchar(32) | Yes | *NULL* | Name of the topic presenter |
| Posted_on | date | Yes | *NULL* | Date of post |

**Table name: tbl_comments**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Tid | int(11) | No | | ID of the table |
| topicID | int(11) | Yes | *NULL* | ID of the comment |
| msg_post_by | varchar(32) | Yes | *NULL* | Name of the comment writer |
| msg_post_on | Date | Yes | *NULL* | Date of comment postage |
| msg_body | Text | Yes | *NULL* | Body of the comment |

**Table name : tbl_groupname**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(11) | No | | Group ID |
| name | varchar(250) | No | | Group name |
| GroupPassword | varchar(30) | No | | Group password |

**Table name: tbl_lecture**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(10) | No | | Lecture ID |
| title | varchar(255) | No | | Title of the lecture |
| File | varchar(255) | No | | Name of the file |

**Table name: tbl_quiz**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| quizId | int(10) | No | | Id of the quiz |
| title | Text | No | | Title of the quiz |

**Table name : tbl_quiz_question**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| questionId | int(10) | No | | ID of the quiz question |
| question | Text | No | | Question of the quiz |
| quizId | int(10) | No | | ID of the quiz |
| diffLevel | varchar(20) | No | | Difficulty Level |

**Table name: tbl_quiz_setup**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(10) | No | | ID of the Setup |
| quizId | int(10) | No | | ID of the quiz |
| setTime | int(10) | No | | Set time of the quiz |
| numQuestion | int(10) | No | | Number of the question |

**Table name: tbl_quiz_student**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(10) | No | | ID  of the table |
| userId | int(10) | No | | ID of the User |
| quizId | int(10) | No | | ID of the Quiz |
| startTime | datetime | No | | Start time of the quiz |
| endTime | datetime | Yes | *NULL* | End time of the quiz |
| writeAnswer | int(10) | Yes | *NULL* | Answer of the quiz |
| numQuestion | int(10) | No | | Number of the quiz |

**Table name: tbl_quiz_temp**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(10) | No | | ID of the table |
| userId | int(10) | No | | Id of the user |
| quizId | int(10) | No | | ID of the Quiz |
| questionId | int(10) | No | | ID of the Question |

**Table name: tbl_paragraph**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| ssID | Int(11) | No | | Id of the paragraph table |
| Story_author | varchar(255) | Yes | NULL | Author Name |
| story_headline | varchar(255) | Yes | NULL | Headline of the story |
| story_body | text | Yes | NULL | Body of the story |
| story_date | date | Yes | NULL | Date of the story |

**Table name: tbl_usersinfo**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| userID | int(11) | No | | ID of the User |
| groupId | int(11) | Yes | NULL | ID of the group |
| fullname | varchar(255) | Yes | NULL | Full name of User |
| loginName | varchar(32) | Yes | NULL | Login name of User |
| password | varchar(30) | Yes | NULL | Password of User |
| IdNumber | varchar(20) | Yes | NULL | ID number of Student |
| phone | varchar(20) | Yes | NULL | Phone of student |

**Table name: tbl_video**

| Field | Type | Null | Default | Description |
|---|---|---|---|---|
| Id | int(10) | No | | ID of the table |
| title | varchar(255) | No | | Title of the table |
| File | varchar(255) | Yes | NULL | Video file |

**Appendix C**

**Interactive English Learning program Script**

{Camera<presenter>}

Assalamulaikum. Today we are going to have a "Collaborative English writing session".
You will need a mobile set to interact with the program.
During the lesson you would be asked to sms your sentences and choices to 6161.

{Click on slide}

{1}At the beginning you must register for the program.
{2}For this you must send your name and tutorial center code.
{3}For example if your name is Sakib and you are registered to tutorial center number 101 you must sms "sakib T101".

{Click on slide 2}

To answer the questions you must do the following.
{1}If the question number is 2 and you want to select choice b
{2}Type"q2b" and sms to 6161

{Camera<presenter>}

 In the studio currently we have two students.
Assalamulaikum.Can you please tell your first name

{Camera<student1>}

Student 1 => <name>

{Camera<student2>}

Student 2 => <name>

{Camera<presenter>}

Welcome.

I am sure each and every one of you have faced or witnessed unethical deeds by someone somewhere.

We would focus on such a story and start writing our paragraph using that story.

Student 1 has a story to tell us.

{Camera<student 1>}

It was our school's final exam. We had our math's exam. There were two good students at my class. That day during the exam they made a mistake in their exam. Therefore they waited till everyone left the school. After that they went in to the teacher's room and changed the mistake in the scripts. Next day, when our teacher handed out the papers. They challenged the teacher. She thought it was her mistake and gave them the marks they never deserved.

{Camera<presenter>}

That sounds like an interesting story we can make a paragraph from that. What do you thing student 2?

{Camera<student 1>}

 Yes sir but we need more information.

{Camera<presenter>}

Yes let's gather them.

So we must find the answers to the question that we shall ask to student 1 (name) and write them down as the key points for our paragraph

{Camera<slide>}

{1} Student 1, when and where did it happen?

{Camera<Student 1>}

It happened when I was in school and it was in a classroom of my school when we were having a quiz

{Camera<presenter>}

So we have our first information so we can write down our first bullet.

{Camera<Slide>}

{1} <u>In school during the exam</u>

{Camera<presenter>}

Next who were present in the story?

{Camera<student 1>}

I think there was my teacher; there were two girls who cheated and my classmates.

{Camera<presenter>}

So we can see that mainly the teacher and the two students are the important people in this story.

Our next key point should be.

{Camera<slide>}

- o   {3} My teacher and the two girls.

{Camera<presenter>}

Next I must ask you.

What happened that made you feel that there was an unethical situation

{Camera<Student 2>}

The students were good student. I did not understand why they changed their mistakes when teacher was away.

Later they charged her and confused the teacher and were getting the marks that they didn't deserve nobody in the class protested.

{Camera<presenter>}

So we have some more bullets

{Camera<Slides>}

- o {4} Two girls made a mistake
- o {5} Corrected their mistake unethically
- o {6} Got undeserving marks

{Camera<presenter>}

 Student 2, do you feel like giving any bullet? Or what do you think about the bullets.

{Camera<Student 2>}

Sir from the story one thing amazed me the most.
 The thing was that this unethical act was done by two good students
And they did it for mere two marks

{Camera<presenter>}

So we have a more bunch of point or bullet

{Camera<slide>}

- o {7}Students were good students.
- o {8}They cheated  for two marks

{Camera<presenter>}

We have a set of bullets now.

We must now help student 1 write this story.

We shall write an introductory sentence for this story.

The sentence must be correct and interesting and it can be written from any of the key points given.


{Camera<Slide>}
{CLICK 1}

Now to write an introductory sentence for the paragraph we can use one of the key points for e.g.

- <u>Teacher and two students</u>

We can also start with a different approach can be something creative but it must be able to relate to the paragraph.

{Camera<Next Slide>}

{CLICK 1}

You must sms your sentence through sms at 6161.

You will have two minutes to sms .

In the meanwhile we shall go for a break.


{Camera<presenter>}

We have received sentences from the students.

{Camera<slide>}

We have 10 correct and 4 incorrect sentences.


{Camera<presenter>}

Others who had mistakes in their sentences will receive their sentences with the mistakes underlined and the types given.

Let us choose 4 correct sentences that can be used as an introductory sentence and give them options.

{Camera<slides>}

{1}A. The school quiz was scheduled on that day.
{2}B.  The final exam at Dhanmondi tutorial was going on.
{3}C.  I remember that we had a quiz that day at school.
{4}D.  The incident happened when I was in school.

{Camera<presenter>}

Now I would ask you to choose the most appropriate sentence from the lot.

You must either type

- S1a  S1b  S1c  S1d
-
And then sms at 6161

We give you 60 secs for sms.

{Camera<slides>}

From the graph we can see that

{1}10% choose A.
{2}20% choose B.
{3}45% choose C.
{4}15% choose D.

{Camera<presenter>}

Therefore C seems to be the most wanted answer.
Therefore we start our paragraph with the sentence C.

{5}I remember that we had a quiz that day at school.

So we can use the sentence as your starting sentence if you want or you can use your own.

{Camera Presenter}

Now let us dial randomly one of the participants who sent a wrong sentence.

{Camera<slide>}

- {1} The sentence was "**It is an incident which happened on my exam day.**"

[Computer dials… the dialing can be heard]
[Person picks up phone]
Main presenter looks directly at the camera: Assalamualaikum!

[Voice of unseen student] Walaikumassalam, sir!
Main presenter: Can you tell us your name please!

Unseen student: Yes, sir, my name is Nazifa.
Main presenter: Nazifa, can you tell us why your sentence is wrong?

Unseen student: No sir.
Main presenter: You had grammatical errors.
- happened and is are two different tenses used in one single sentence which is incorrect.

Unseen Student: Thank you sir

{Camera<presenter>}

{1}Now we shall ask the students here to write the next sentence.
{2}This time around it is necessary that we use one of the key points for the sentences.
{3}We shall ask you to sms and decide which of the sentences are better.

{Click<next slide>}}

{Camera<presenter>}

Student 1, What is your sentence?

{Camera<student 1>}

I remember that day we had a quiz at school. It was Mr. Mosharaf's math class.

{Camera<presenter>}

Okay, very well. Now student 2 what's your sentence?

{Camera<Student 2>}

I remember that day we had a quiz at school. Mr. Mosharaf, our math teacher was the one who was taking it.

{Camera<presenter>}

Now you must choose the best among these sentences and let us know which one you like.

You must either type

- S2a        S2b

And then sms at 6161

We give you 60 secs for sms.

{Camera<slide>}

We have received your sms

As we can see from the graph

{1}35% choose A.
{2}65% choose B.

Therefore we choose b

I remember that day we had a quiz at school.
Mr. Mosharaf, our math teacher was the one who was taking it.

{Camera<presenter>}

Using the way we showed you must use all the key points given to build your paragraph.

You can use the method of feedback that we used through sms here.With your groups.

Make your fellow group members to comment on your complete writing

I hope we have given you a process to proceed with your writing.

Dear Student please complete the whole story, mail or post the paragraph along with the comments to cdl@bou.net or post it to the  Bangladesh open university moodle server for this course

That's all for today. Thank you

**References:**

1. Dr. Yousuf Mahbubul Islam
   Thesis supervisor
   Assistant Lecturer
   BRAC University

2. Dr. Sayeed Salam
   Acting supervisor
   Head if the department
   CSE department
   BRAC University

3. Dr. Mumit Khan
   Senior Lecturer
   CSE department
   BRAC Universiy

4. Md. Saifuddin Khalid
   Lecturer
   School of Engineering and Computer Science
   Independent University

5. Mr.  Jewel
   Bangladesh Open University

6. Fahim Tawfique Chowdhury
   Research Assistant

Center of Research for bangle Language Processing(CRBLP)

7. http:// www.wikipedia.org

8. http:// www.explorantium.edu/ifi/resources/constructivistlearning.html

9. Education Media (book)
   M.M. Chowdhury

10. Teaching at a Distance
    Inayat Khan

11. BOU(Bangladesh Open University) and ELPRO Faculties

12. BOU students

13. IER(Institute of Education and Research, Dhaka University) Student

14. BRAC University Students