

# E-learning models are proposed for various education-level of Bangladesh.

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**Abstract:** Institutional education is necessary for every human being. Proper environment for teaching and learning is required. In our traditional system, it does not fulfill the requirement. If we change our traditional system into another sophisticated one such as e-learning, then proper environment may be given in every institution. E-learning means electronic learning where using different types of media; a student can learn anything from his teacher. The institutions are proposed different types of e-learning model for various education levels. Proper implementation of those models may bring a fruitful impact on education system.

**Keyword:** E-learning, media, education, feedback.

## I. INTRODUCTION

The process of receiving or giving systematic instruction, especially at a school or university is called education. Education is a vital part of our life. It is so much essential for success in life. It is also necessary for the personal, social, and economic development of the nation. Education empowers minds that will be able to conceive good thoughts and ideas. It is only one thing that can remove corruption, unemployment, and environmental problems. So everyone should receive a proper education. This task will complete in different levels of education.

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These levels may be:

- Pre-primary Education level
- Primary Education level
- Secondary Education level
- Higher-Secondary Education level
- Higher Education level

**Pre-primary Education** is a set of knowledge along with skills and experience. It is appropriate for 0-6 year's children. Those children who did not beginning their academic education. Generally pre-primary education is classified in two levels: kindergarten/ nursery/ playgroup for children of 3-5 years; and pre-primary or kindergarten for children ages 5-6 years [11, 12]. It is monumental for a child. Because, it prepares a child for his kindergarten and future school. It will be allowed to build a base for his future education.

It allows developing a child's maturity and knowledge like considerable, emotional, exciting, mental, ethical, fine motor, gross motor, verbal communication, education, admiring, response, etc. It allows developing a child's personality by exposing the creativity of the child in a natural way. It also ensures the physical, mental, and emotional growth of the child.

**Primary education** is the second level of the learning system. But it is the first stage of formal education. It usually takes place in a primary school. It is appropriate for 6-10 years. It is significant for a child to build a base for his future education.

Primary education helps the student to develop himself in many fields. Such as literacy, numeracy, creativity, the ability for critical thinking and logical judgment, social responsibility, patriotism, individual talents and awareness of different issues, etc.

**Secondary education** is the third level of the learning system. A student enters this level after completing primary level. It is appropriate for 10-15 years. It is more important for a student. In this stage, the student chooses their aim in which they will study further.

**Higher-Secondary Education level** is the fourth level of the learning system. It is the intermediate level between secondary and higher-secondary education. It directs the

student to choose the field of higher education. It is appropriate for 15-17 years.

**Higher education** is the fifth and final stage of formal education. To enter this stage, a student must complete the higher-secondary stage. It is the most precious level for ingoing his career.

The activities of those levels such as admission, student attendance, teaching method, class assessment, examination, result, etc are done manually. For this reason, the education system suffers many problems. The e-learning system can be implemented to solve such kind of problems.

E-learning means electronic learning, which one of the tools emerges from information technology. Using digital technologies and media, a system which is delivered, supported, and enhanced to conduct teaching and learning is called e-learning[2,4,8,9,10].

E-learning system has many advantages. Such as it can accommodate everyone's needs, lectures can be taken any times, update content can be accessed; lessons can be delivered quickly, scalable and consistent, cost-effective and less impact on environment, etc. In the e-learning system, Information and communication technologies (ICT) provide new opportunities for students and increase learning and teaching, which will facilitate cooperation, origination, and inspiration for teachers, and learners[3]. In spite of facilities, there are many obstructions in integrating e-learning in higher education [7].

To build a successful e-learning system, there must exist some components, such as, instructor, learners, course materials, and ICT [2].

Instructor and learners are conducted via different types of media and technology [6]. Media may be text, audio, images, animation and streaming video. Technology may be audio or video tape, satellite TV, CD-ROM, computer-based learning, etc.

E-learning may include face-to-face, distance, and mixed-mode or blended delivery models [9].

## II. EXISTING SYSTEMS PROBLEMS

The knowledge, skill, and understanding that get from the institution like a school, college, or university is called education. The system of giving instruction is the education system. E-learning technology is playing a main role in the delivery of education, where the traditional method of learning may not be satisfactory in the present-day classroom[5]. The traditional education system in Bangladesh has many problems [1, 13]. Those problems are summarized below:

- Lack of qualified teachers and institution facilities in terms of school, classrooms, libraries, lab, and playgrounds are responsible for poor quality education.
- Sometimes teaching methods are not suitable for students. For this reason, students only memorize the texts, and cannot acquire proper knowledge.
- Some academic curriculum doesn't meet the demand for the market or job-oriented syllabuses.
- Many students finish their primary education with knowledge that is short of expectations in the reading, writing, and extra curriculum.

## III. PROPOSED SYSTEM

Education is a primary key to development in any modern civilization. The traditional education system has many problems. Now it is urgent to amalgamate the different types of the education system. It is necessary to adopt the teachers and students in e-learning based education system. If e-learning based education system is followed, then it can be possible to overcome the problems of the traditional education system.

We have proposed an e-learning based model for various level of education.

### A. Model for pre-primary education

The age belonged to 0-5 years is considered as a pre-primary learner. Generally, guardians are not aware of their children's pre-primary education. Most of the children are not able to prepare him to begin institutional education. Our proposed e-learning model can be solved this problem for those children.

The proposed e-learning model for pre-primary education is given below:

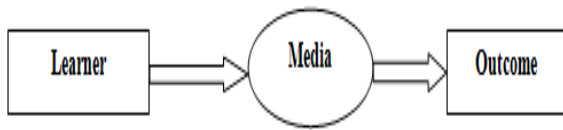


Fig.1. E-learning Model for Pre-Primary education.

The components of e-learning model are learner, media, and outcome.

- The learner is a beginner for primary education,
- Media means Smartphone, various Apps, different types of automated toys, electric learning devices, etc. and
- The outcome means the performance of children.

#### A1. Functions of our proposed model

By using different types of media, a learner can listen, observe or show different types of activities such as recite rhymes, telling a story, singing song, drawing, knowing objects and increase curiosity to acquire knowledge, etc.

#### A2. Advantage of our proposed model

There are many outcomes of this model. Such as, to familiar with electronic media, increase the power of listening and observation, learning morality and other activities and finally they will prepare to start institutional education i.e. primary education. The Learner can begin their institutional journey and will be adapted to the next stage by using this model.

#### B. Model for primary education

This is the first stage of institutional education. In the traditional system, students learn their lesson by listening, blackboard and reading some selected or curriculum books, etc. They cannot find any interest in their existing education system. For this reason, many students cannot complete their primary education. They drop out from the early

stage. We are trying to solve those problems by proposing our e-learning model.

Here is our proposed e-learning model:

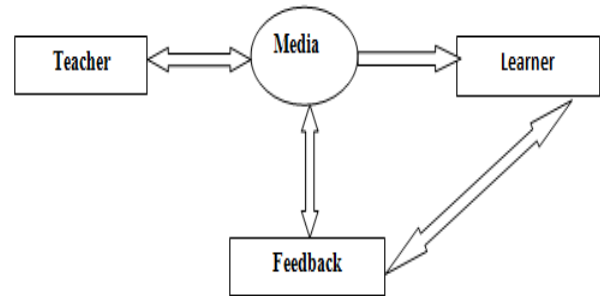


Fig.2. E-learning Model for Primary education.

For primary education, the e-learning model is consists of four elements. They are teacher, learner, media, and feedback.

#### B1. Functions of our proposed model

In this system, the teacher teaches the student using different types of media. Media may be a Smartphone, Tab, Projector, Laptop, various Apps, Electronic learning devices, etc. In this way, the teacher can make attracted student at their lesson. If any student cannot understand anything, then he can make query and solution using a feedback parameter.

#### B2. Advantage of our proposed model

By using this model, learners can start their primary education, i.e., reading, writing, and speaking with a lot of joy and happiness.

#### C. Model for secondary education and higher secondary education

After completing primary level, a student enters the next stage i.e., secondary, higher secondary education. Those stages are vital for every student. If any student absent or not reached at due time, then he may be miss the lecture. Sometimes the teacher cannot give a proper instruction on theory or laboratories due to lack of facilities. So that

students are not able to gain enough knowledge or skill from those levels. Some of them are not interested in higher education or research.

Our proposed e-learning model can be solved those problems. In this model, there exist four components. They are teacher, media, learner, and feedback.

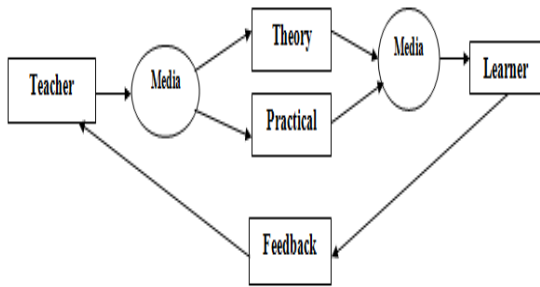


Fig.3. E-learning Model for Secondary and Higher Secondary education.

**Functions of our proposed model**

In this model, media means the Internet, computer, laptop, smartphone, and projector, etc. If we follow this model, then problems of the traditional system may be solved. Using different types of media, a teacher lectures on theory and laboratories. The teacher can also simulate the practical work. Students may be able to understand most of the class. They are also able to implement practical or laboratories work.

**Advantage of our proposed model**

As a result, a student may be interested in the next stage i.e., higher education or research. In those levels, teacher lectures not only limited class books but also give extra knowledge of different issues. Students can be able to find the entering way of career for his life.

**3.4 Model for higher education**

Higher education is a fancy for every student. The student who is completed the higher secondary education; he can enter the stage of higher education. A student gets proper guidelines for his future career in higher education. So higher education is significant for every student. In our

traditional education system, a teacher faces many problems with the course or related activities. The ways of some academic activities such as, taking attendance or assessment or delivered a lecture or course materials or research-related opportunities are not perfect. Sometimes teacher and student face infrastructure problem, classroom problem, and lab facilities problem. Often miscommunication occurs between teacher and student. Our proposed model may be solved those problems. This proposed model is consists of four component, teacher, media, learner, and feedback.

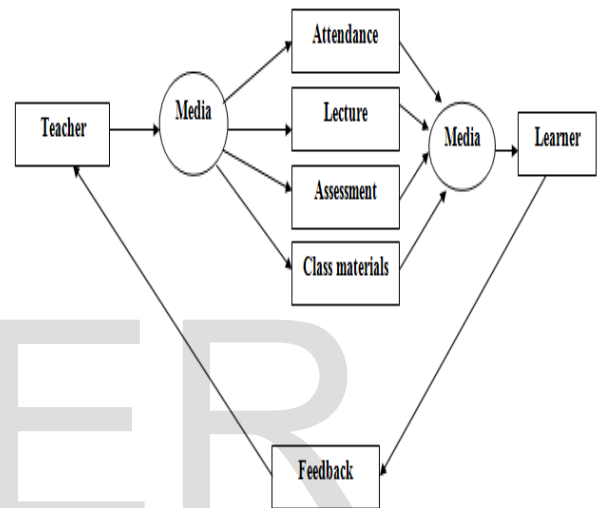


Fig.4. E-learning Model for Higher education.

**C1. Functions of our proposed model**

A student who is starting his pre-primary education with e-learning, he can spontaneously adopt in higher education. In this model, the media is a key component. Media may be a multimedia projector, different types of software, Internet, Laptop, smart phone, and many other ICT related devices. Using media, a teacher conducts his lecture or course material or research. He can take his class attendance or assessment. He also gives enough opportunity in research and other career-related facilities. When conducting a teacher, a student may faces any problem; then it can be solved by using the way of feedback.

**C2. Advantages of our proposed model**

Both teacher and student will be benefited using this model,. A student can learn himself not only institutional

education but also a golden future. Infrastructure problems and other lab facilities problems may be solve. Research facilities may be increase in higher education. The communication gap between teacher and student may be reducing.

#### IV. CONCLUSIONS

Proposed E-learning model may be effective to complete in every level of education. System implementation may carry some cost for media. But it can save time, and manpower. It is also secured. Already a few educational institutional has implied partly e-learning system but not entirely. If the proposed model is implemented at starting to ending of every level of education, then it will be more sophisticated.

#### REFERENCES

1. AlokluKJamilahA. "The Effectiveness of Blackboard System, Uses and Limitations in Information Management", *Intelligent Information Management*, 10, 133-149, 2018.
2. Ismail M. Romi, "A model for e-learning Systems Success: Systems, Determinants and Performance", *ijET- Vol 12, No. 10, 2017*.
3. Zare, M., Sarikhan's, R., Salari, M., & Mansouri, V, " THE IMPACT OF E-LEARNING ON UNIVERSITY STUDENTS' ACADEMIC ACHIEVEMENT AND CREATIVITY", *Journal of Technical Education and Training*, vol. 8, No.1, June 2016.
4. Noawanti S., "E-learning system in virtual learning environment to develop creative thinking for learners in higher education", *Social and Behavioral Sciences, ELSEVIER*, 174, 674-679 , 2015.
5. Nurul S., Martin D. Beer, Frances Slack, " E-learning Challenges Faced by Academics in Higher Education: A Literature Review", *Journal of Education and Training Studies* Vol.3, No.5, September 2015.
6. Vidyadevi P., "Technologies used in E-learning", *SCHOLARLY RESEARCH JOURNAL FOR HUMANITY SCIENCE & ENGLISH LANGUAGE*, Vol.1, Issue-II, March 2014.
7. Barclay, Corlane and Osei-Bryson, Kweku-Muata, "An Analysis of Students' Perceptions and Attitudes to Online Learning Use in Higher Education in Jamaica: An Extention of TAM" 2012.
8. Symeon R., Petros G., Yannis D., "Eliciting design patterns for e-learning systems", *Computer Science Education*, 16(2): 105-118, June 2006.

9. Andrew R. Brown, Bradley D. Voltz, "Elements of Effective E-learning Design", *International Review of Research in Open and Distance Learning*, Vol. 6, No. 1, March 2005.

10. Charalambos V., "Issues of Pedagogy and Design in E-learning Systems", *ACM Symposium on Applied Computing*, 2004.

11. <http://www.heavitreecommunitypreschool.com/aims-and-objectives-of-our-pre-school.html>

12. <https://blog.oureducation.in/introduction-pre-primary-education>

13. Htps: // [www.thedailystar.net/](http://www.thedailystar.net/) problems-with-our-education-sector-2395