# CHAPTER I
## INTRODUCTION

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CHAPTER - I
INTRODUCTION

1.1 INTRODUCTION

The rapid development in information and communication technology (ICT) has led to the emergence of computers, multimedia, e-mail, internet, Blog and so on. The advanced technology has now enabled the learners of flexible learning to stimulate a virtual learning and take the learners to virtual situation where interaction occurs between teacher and student. The student centered teaching learning is flexible one, it provides high quality education and ensures equity in educational opportunities, especially to the marginalised people (disadvantaged and weaker sections) of the society. The internet technology acts as a vehicle for delivering knowledge and creating active learning experiences. Technology ensures better teaching learning process. With technology, students can acquire every domain of the knowledge. One of the technological innovations is Blog, which ensures effective teaching learning process.

1.2 BLOG BASED LEARNING

Blog is an innovative reorientation of the World Wide Web, becoming one of the newest additions in the rally of technological developments in this digital age. It helps not only to the common people but also extends its service into education field. Weblogs, or Blogs have rapidly evolved to become a popular and influential form of online micro-publishing and computer mediated communication (Bruns and Jacobs, 2006). Learning takes place in various ways viz. audio, video, multimedia, animation etc.
In the present scenario, internet technology plays a vital role in the learning environment. With the assistance of internet, Blog is a tool which provides effective teaching learning platform and makes the teaching-learning process simple, hurdle-free and affordable. Blogging has the potential to be a transformational technology for teaching and learning (Williams and Jacobs, 2004). In this research, Blog based learning (BBL) is referred to mean learning activity occurring through Blog by the learner from anywhere at any time. Blog based learning (BBL) can reach every nuke and corner of the society. Students can access materials and resources required for their studies from their dwelling place itself through Blogs with the help of internet.

Multimedia learning materials can be posted in Blog by the instructor. When the students learn through various sense organs (like eye, ear) the memory retention can remain longer. In the Blog based learning (BBL) method, the role of the teacher is mere facilitator or mentor. The learner is able to actively participate in the learning process while accessing the Blog materials. While learning through Blog, learner can be clarified their doubts through Blog itself. This kind of educational Blogs (edublogs) enrich the content clarity of the subject.

Physics is a branch of science which deals with nature, matter and energy. Self learning materials developed for the physics subject typically include text, audio, video, animation etc., which ought to be designed. This multimedia material can be posted in Blog. Learner can learn through Blog itself like edublogs. Students are able to acquire knowledge in the field of Physics through Blog, and this type of learning is defined as Blog based learning (BBL).
1.3 NEED AND IMPORTANCE OF THE STUDY

In the earlier days, students had to learn skills and knowledge only at the teacher’s home, which was otherwise known as Guru Kula. The colonial government, Christian missionaries and a few enthusiastic natives of the nineteenth century were instrumental in the gradual evolution of the modern school systems. Guru Kula system was necessarily teacher-centric one. Teachers were placed at a dominant position, whereas the pupils were restricted to acting as mere disciples. Students were passive listeners, and the teacher had every authority to decide what to teach, when to teach and importantly whom to teach. This may be called traditional method of teaching, which was centred on teacher. Then slowly education system underwent a tremendous change so as to become student-centric. In the beginning, western countries introduced technology in the class room. Computer technology has changed and to form the new field called information technology. This era is known as ‘age of technology’. In the present age of digital proliferation, the students are able to learn through computers, by which students get concept clarity and curiosity to learn. So the retention level is increased. Now with the help of internet, Blog is also utilized for teaching learning process. Learning through Blog is an active and engaged process.

Students can use Blogs to record what they learn, and teachers can use Blogs to record what they teach. For example, a teacher can Blog a course specifying the assignments that students are required to do, including the assessment scheme along with links to internet resources, and recording daily what is taught. Nowadays students are very curious to use technological devices with the help of internet. They use technological advancements like Blogs with increased proficiency. Hence, the students are familiar with technology, Blog based learning
(BBL) is need of the hour. In Blog based learning (BBL), learners can quickly catch up if they miss a class. Hence, it is essential to incorporate with Physics learning. The teacher can use the Blog as a course plan. So it is necessary for both teachers and students for enhancing their knowledge. The Blog serves as an accurate summary of the course that prospective students or new teachers can refer to. Blog can also be used to record class excursions, field trip and to create electronic “scrapbooks” of the student life. Therefore Blog is useful for co-curricular and extra-curricular activities also. With the rapid development of technology, e-books are available in large number for the download of the users world-wide. Blogs could be used to motivate students to do more reading and encourage them to improve their values. It is indispensable to adopt teaching-learning methods based on internet Blogs in the education sector for inculcating good values and developing reading skills. Blogs can also be used to bring out the diversity in the classrooms, in terms of learning styles and individual preferences. In order to develop divergent thinking and convergent thinking among the learners, it is most necessary to integrate Blog contents (text, pictures, audio recordings, video clips and so on for instance) into the mainstream syllabi. Blog based learning (BBL) Can Promote Critical, Analogical and Analytical thinking of the students. In particular, it is claimed that Blogging is a useful practice for the development of higher order learning skills, active, learner centered pedagogy, authentic learning, associative thinking, and interactive learning communities (Farmer and Brooks, 2007). Thus, this teaching-learning technology, if planned properly and implemented seriously, can act as a provoking mechanism for the students mind; scientific aptitude and reasoning skills would be developed among the students. This Blog based learning (BBL), Promotes Creativity, Intuitive and Associational
thinking. Moreover it has Potential for increased access and exposure to quality information. In Blog based learning (BBL), social interaction is possible. Additionally, there is a possibility to link one’s class room with another class room somewhere else in the world. It is the way to open for communicate with Bloggers outside the classroom (Pinkman, 2005).

This technology enables the learner to learn at anytime from anywhere, time and space will not be a constraint. Since the learners are able to control the programme, they can learn with their own pace and there is no intervention of the teachers in their learning process. In this method, speed and accuracy is possible for acquiring knowledge. Blog is not only useful for students but also useful for teacher also. Through Blog itself, teacher can post student’s homework and assignments. Studies published include research on Blogging’s effect on learner autonomy, increasing writing fluency, as a place for completing writing assignments (Ward, 2004; Wu, 2005). Project based learning is also very much possible. Teacher can posts the multimedia based content at anytime from anywhere (Johnson, 2004). So without class room, learning can occur effectively. Thus, it is user friendly and flexible, providing learner-centred environment. Hence, it is indispensable to utilize all these advantages of the technological development in the teaching learning process. In Physics subject, some concepts are very difficult to understand. Physics problems are also very difficult to be solved by the students in the intermediate and higher secondary levels. Most of the students are not even able to attend the Physics problems in their school examinations and other competitive examinations conducted by various bodies. Through the Blog based learning (BBL) approach, Physics concepts are clearly explain to the students with effective animations and graphics. Thus, the Blog
based learning (BBL) will be effective for an individual learner. Hence, the investigator has to make an attempt to know the “Effectiveness of Blog Based Learning in Physics at Higher Secondary Level”.

1.4 STATEMENT OF THE PROBLEM

In the present age of technological advancement, the students are well equipped to effectively deal with digital devices like computer with internet. Usage of internet has also increased tremendously in the recent past. Students are very much interested to share their thoughts and to acquire knowledge through social media such as Blog, Facebook, Twitter etc. In future the trend will continue as well as increase rapidly. Younger generation students develop good relationship with technology especially internet technology. Students are largely influenced and attracted by technology for all their daily needs, classroom needs and to improve some additional skills of the students as well as teacher, with integrating lessons where the students are much interested in.

The term ‘twenty first century learner’ can be describe as, for whom technology is at the centre of their learning and interactions with information. This millennium has brought many scientific and technological inventions in almost every domain of our life including education. Hence, knowledge explosion has become the mantra of the present generation of students and learners. Due to these scientific and technological inventions, this century has developed its own familiarity as ‘age of technology’. Internet technology has influenced and changed our life completely. Today, with the advancements of technology, the world has become a tiny global village. Computer assisted instructions (CAI) are widely used for teaching and learning purpose. It has entered into the school environment and it
can prove to be a good assistant and companion for teachers and good mentor for students. Web based learning (WBL) is capable of opening up a wide range of beautiful visions in the learning situation.

Students’ progress ought to be achieved with the new advancements in the field of education like internet technology. In the age of technology, education requires variety, novelty, harmony, interesting and wonderful strategies in the teaching learning process. This can be achieved with its best performances through the use of computers as an educational tool. Generally, students studying Science subject feel it extremely difficult to understand especially Physics and its problems. To eradicate this attitude, Blogs will be helpful. The teaching of Physics is very essential and important. Blogs are usually maintained by an individual with regular entries of commentary, descriptions of events or other material such as text, images, audio, video, animation and graphics. Blogs can be identified as one of the newly scientific effective tool for teaching learning process. With the help of Blogs, Physics subject can be taught and learned more effectively through multimedia such as text, images, audio, video, animation. Though, educational softwares are available, Blog is one of the best ways for learning. In Blog based learning (BBL) students can clarify their doubts in the Blog itself at anytime from anywhere. Detailed information regarding Physics can be given to the students through Blogs. Moreover, the teachers can create their own Blog and Multimedia content (self learning material) can be posted in it. Blog based learning (BBL) is an enthusiastic approach. Through this innovative approach, learning is possible without burden.
Realizing the importance of Blog based learning (BBL), the present study is undertaken to check the effectiveness of Blogs in learning Physics among higher secondary learners. Thus, the title of the study chosen by the investigator is “Effectiveness of Blog Based Learning in Physics at Higher Secondary Level”.

1.5 DEFINITIONS

1.5.1 Conceptual Definitions of the key terms used

Effectiveness

1) According to Cambridge Dictionary, effectiveness means, “the ability to be successful and produce the intended results”.

2) According to Oxford Advanced Learner’s Dictionary (8th edition), effectiveness means, “Producing the result that is wanted or intended”.

Blog

1) According to Florence Dassylva - Simard (2004), "Blog is the most beautiful tool of the world and it allows us the most magic thing”.

2) According to Oxford Advanced Learner’s Dictionary (8th edition), Blog can be defined as “A website where a person writes regularly about recent events or topics that interest them, usually with photos and links to other websites that they find interesting”.

Learning

1) According to Oxford Advanced Learner’s Dictionary (8th edition), learning means, “Knowledge that you get from reading and studying”.

2) According to Merriam Webster dictionary, learning means, “The activity or process of gaining knowledge or skill by studying, practicing, being taught, or experiencing something”.

9
Physics

According to Oxford Advanced Learner’s Dictionary (8th edition), Physics means “The scientific study of matter and energy and the relationship between them, including the study of forces, heat, light, sound, electricity and structure of atoms”.

Higher Secondary

Students who are studying eleventh standard and twelfth standard in Tamil Nadu.

1.5.2 Operational Definitions of the key terms used

Effectiveness

Effectiveness refers to the adequacy to accomplish a purpose as well as producing the desired or expected results. In this study, Effectiveness refers to the outcome of the achievement through Blog in learning Physics.

Blog

A Blog (weblog) is a type of website in which one can publish the content in the form of regular entries or post. Blogs are usually maintained by an individual with regular entries of commentary, descriptions of events or other material such as text, images, audio, video, animation and graphics. The investigator developed a Blog and used the same for teaching learning process. The URL of the Blog is ‘www. vimalresearch.wordpress.com’. Password: tiger123.

Learning

Learning is the process of gaining or obtaining, modifying and reinforcing knowledge or skill through studying, practicing, being taught or experiencing something.
Physics

It is the scientific study of nature, matter and energy.

Higher Secondary

Education offered to XI and XII standard from the age group of 16 to 17 at schools in Tamil Nadu state, India (STATE BOARD).

1.6 OBJECTIVES OF THE STUDY

The following are the objectives of the present study;

Major objectives:

To develop and find out the effectiveness of Blog based learning in Physics at higher secondary level.

Specific objectives:

1) To develop and validate, a Blog to learn Physics at higher secondary level.

2) To find out the effectiveness of Blog based learning based on the Physics achievement scores at higher secondary level.

3) To find out the effectiveness of Blog based learning based on the Physics retention test scores at higher secondary level.

4) To find out, if there exists any significant difference in the achievement scores of Physics in the pre test in terms of

   a) gender  b) optional subject
   c) frequency of using computer  d) knowledge on internet usage.

5) To find out, if there exists any significant difference in the achievement scores of Physics in the post test in terms of

   a) gender  b) optional subject
   c) frequency of using computer  d) knowledge on internet usage.
6) To find out, if there exists any significant difference between the retention scores of control and experimental groups in terms of
   a) gender                                b) optional subject
   c) frequency of using computer           d) knowledge on internet usage.

7) To find out, if there exists any significant difference between the gain scores of control and experimental groups in terms of
   a) gender                                b) optional subject
   c) frequency of using computer           d) knowledge on internet usage.

1.7 HYPOTHESES OF THE STUDY

On the basis of the above mentioned objectives the following hypotheses have been formulated.

Major hypothesis

Blog based learning is more effective than the conventional method in learning Physics at higher secondary level.

Specific hypotheses

1) There exists significant difference between pre test and post test scores of control group.

2) There exists significant difference between pre test and post test scores of experimental group.

3) There exists no significant difference between the achievement scores of control group and experimental group in the pre test.

4) There exists significant difference between the achievement scores of control group and experimental group in the post test.
5) There exists significant difference between the retention scores of control group and experimental group.

6) There exists no significant difference in the achievement scores of Physics in the pre test in terms of
   a) gender
   b) optional subject
   c) frequency of using computer
   d) knowledge on internet usage

7) There exists no significant difference in the achievement scores of Physics in the post test in terms of
   b) gender
   b) optional subject
   c) frequency of using computer
   d) knowledge on internet usage

8) There exists no significance difference between retention scores of control and experimental groups in terms of
   a) gender
   b) optional subject
   c) frequency of using computer
   d) knowledge on internet usage

9) There exists no significance difference between gain scores of control and experimental groups in terms of
   a) gender
   b) optional subject
   c) frequency of using computer
   d) knowledge on internet usage
1.8 DELIMITATIONS OF THE STUDY

The following are the delimitations of the study:

1) The researcher selected only the eleventh standard learners of the specified school in the Coimbatore area for the study.

2) This study is confined only the limited unit in the eleventh standard Physics syllabus prescribed by the Department of School Education, Government of Tamil Nadu.

3) Only 80 eleventh standard learners, chosen as sample, from a private school at Coimbatore.

4) The experimental treatment was given for two months only.

1.9 CONCLUSION

This chapter contains Blog Based Learning, Need and Importance of the study, Statement of the Problem, Definitions of the Key Terms, Objectives of the Study, Hypotheses of the Study and Delimitations of the Study. The Conceptual Framework of the present study is given in the following chapter II.