



## ENHANCEMENT OF LEARNING AND INTEREST TO LEARN BY LEARNING OBJECTS

Razieh Rahmani<sup>1</sup> and Dr. G. Sheela<sup>2</sup>

### Abstract

The present experimental study assesses the effect of Learning Objects (LOs) on Interest and Achievement in Educational Psychology. LO is "any digital resource that can be used and reused to support learning". (Wiley 2003) In order to study its impact Pretest posttest control group design was adapted for the experiment; a total number of 123 B.Ed students in Mysore, India were selected through purposive sampling technique. LOs created in two units of the course were used to teach experimental group whereas control group was taught in conventional method. Pretest and posttest were conducted with help of Interest Inventory and Achievement test in Educational Psychology. Both tools were constructed by the researcher. Content validity of both the tools was established by experts in the field of Educational Psychology. A pilot test was conducted to establish validity by factor analysis in SPSS software. The Cronbach's alpha correlation coefficient was found to be 0.72 for Achievement test and 0.86 for Interest Inventory which indicate a high index of reliability. Independent samples t-test was run to compare means of two variables. The results show that there is significant difference between means of experimental and control group. It is interpreted that Experimental group showed better performance in Achievement test and also they were found to be more interested in Educational Psychology.

**Keywords:** Learning object, Interest.

### INTRODUCTION

When E- learning emerged a strange revolution occurred in the field of education. E- Learning with the help of LO as a type of instructional content can customize learning content for different learners and different learning needs. The fundamental logic behind LOs is that instead of traditional long courseware packages, curriculum content can be broken down into small components then use and reuse several times in different context. It is the minimum meaningful pedagogical unit like an atom. LO may include any form of learning resources from learning design, learning outcomes to multimedia assets which can use to improve teaching and learning. Discrete nature of LOs help to categorise and store them independently to use in a range of different educational settings. LO is not a piece of text, a graphic, a video clip or animation rather these are resources which support a Learning objective and are often used to create LOs. May be learning achievement and interest which are important measure of success in teaching and learning are proper criteria to assess LOs success.

Achievement can be defined as the act of acquiring knowledge, skills, ideas or understanding over and above those which are exist already. Achievement can be thought of as a set of possible action- an addition of ideas or skills, a reordering of ideas or an acquisition of concepts related to Educational Psychology. The act of Achievement requires learners to be involved in three distinctive sets of processes (Grewal, H.P. 1964).

-*Internalization*: the processes which enable ideas or knowledge to enter the mind from an external source;

-*Internal processes*: those processes which enable the ideas or knowledge acquired to be compared or contrasted or integrated in some way with those which already exist;

- *Externalization*: the processes which enable ideas or knowledge or skills to leave the mind and to be recognized by other.

Results' of researches on LOs' effect on learning demonstrate LO is preferred in comparison to other traditional methods such as lecture and textbook. While students' feedbacks were strongly positive they felt they can learn from LOs.

<sup>1</sup> Research Scholars in Education, Department of Studies in Education, University of Mysore

<sup>2</sup> Asst. Professor in Education, Department of Studies in Education, University of Mysore



Interest is a motivational power behind the growth towards expertise (Alexander 2004). Interest is also linked to quality: research shows that learning based on interest leads to high-quality learning results.(Krapp 2005)

Renninger and Hidi list five characteristics which many researchers agree. First, unlike many other motivational constructs, interest is always connected to an object. Thus, interest is identified with particular content, for example, a certain field of study. Second, interest is a phenomenon that emerges from an individual's interaction with her or his environment. Third, interest includes cognitive and affective components although their relative amount may vary. Fourth, a person is not always aware of her or his interest. Fifth, interest has a neurophysiological basis. It is assumed that a motivational system of all mammals, a seeking system, is related to searching and investigating behaviour (Hidi and Ainley 2008, Renninger and Hidi 2011)

Results of researches indicate students impressed by LO, it could get their attention. Even the students with low interest to the lectures started following the LOs and participate in the discussions. More than 90% of students declare that the use of LOs increased their interest to the course "Introduction to Programming", and a level of understanding of the learning content.(Tuparov, Tuparova et al. 2014). By the variety of pedagogy that is offered using LOs teachers note an increased Interest amongst pupils in the lesson. This increased Interest is seen in various ways.(McCormick and Li 2006)

## METHODOLOGY

The present study is an experimental research which was taken up with an intention to answer two questions about LOs' effect on: 1- Interest in Educational Psychology and 2- Achievement in Educational Psychology. Across different experimental design Randomized Two-Group Pretest-Post-test Design was used. In this study 349 LOs were created in two units of Educational Psychology subject of B.Ed degree. The topic in the two unit were understanding the learner, growth and development, cognitive development, psycho- social development, Constructivism Learning Theory, needs and problems of adolescents and personality and group dynamics, personality, mental health and mental hygiene, adjustment, conflict, frustration, defense mechanism and dynamics group.

123 B.Ed students were selected through purposive method as sample of the study were matched on their knowledge and Interest in Educational Psychology, then they were assigned randomly to control (B) and experimental (A) group. Pretest determined learners' entry behaviour. In both groups the researcher conducted 16 classes. Control group were taught by conventional lecture method with the help of power point presentation. Simultaneously experimental group were taught by adapting LOs. Finally post-test in Achievement and Interest inventory to both the groups administered. To avoid pretest sensitization two parallel test were taken as pre- test and post-test.

### *Sampling:*

All students of B.Ed colleges of Mysore city formed the population of the study. 123 students were selected in two stages as the sample of study:

- Selecting two colleges based on following considerations:
  - English medium
  - Number of the students (some colleges had less than 30 students in English medium).
  - Administrative cooperative
- Assigning the students to control and experimental group by random.

In order to control Hawthorne effect groups were selected from two different colleges. Since the students were from different schools, the researcher had to make sure that they are parallel in their Interest and their knowledge. To homogenize the groups, pretests in Interest and Achievement were conducted. Results show there is no significant difference between groups with reference to their Interest and Achievement.



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*Operational Definitions of Key Terms:*

- **Learning Object:** LO is defined as any digital resource that can be reused to support learning including video clips, images, animation, documents, audio files, web pages etc. LOs are operationally defined in this study as LOs which the researcher has created.
- **Achievement in educational psychology:** Achievement is an act of acquiring knowledge, understanding, application, and skills in Educational Psychology.  
In the present study Achievement in Educational Psychology is the score obtained by the student on the Educational Psychology achievement test constructed by the Researcher
- **Interest in educational psychology:** Interest in the feeling of a person whose attention, concern, or curiosity is particularly engaged by educational psychology. In this study Interest in educational psychology is represented by the score on Educational Psychology Inventory developed by the Researcher

*Tools Used:*

The following tools were used to collect the data:

**Achievement Test in Educational Psychology:** Achievement test in Educational Psychology covering the content of two units of Educational Psychology course of B.ED degree was constructed by the researcher. The two units were “understanding the Learner” and “Personality and Group Dynamics”. The test contained 36 items including multiple choice, short-answer and true/ false questions. Items were constructed based on the blue print prepared with weightage to content, types of questions and objectives.

The draft was sent to experts in the field of Educational Psychology. The suggestions given by them were incorporated and the modified test was prepared. Thus the content validity was established. Item analysis which was done to calculate discriminatory power and Item Difficulty indicates proper discriminatory power and item difficulty.

The Cronbach's alpha correlation coefficient was found to be 0.72 which indicated a high index of reliability

**Interest Inventory:** By content analysis of some books, articles and theoretical framework, factors related to the variables were extracted and prototype inventory exploited in two parts: part A included demographic information and part B included 35 item including both positive and negative statements. Each statement was followed by five point Likert scale ranging from strongly disagree to strongly agree.

To check on face and content validity the inventory was scanned and reviewed by experts in Educational Psychology field. After incorporating their suggestions few changes were made. After pilot test output of factor analysis predicated to suppress 5 items.

The Cronbach's alpha correlation coefficient was found to be 0.869 which indicated a high index of reliability

*Variables of the Study:*

- ✓ Independent variable is Treatment including:
  - LOs based method of teaching in Educational Psychology
  - Conventional method of teaching in Educational Psychology
- ✓ Dependent variables are:
  - Interest in Educational Psychology
  - Achievement in Educational Psychology

*Statistical Techniques to Analyse Data:*



*Independent Samples t-test:* The independent samples t-test compares means of two groups of the randomly selected samples by testing the significance of the difference between two independent means. As such, in the present study *t*-test was applied to find out the difference between means of two groups categorized on the basis of teaching method (traditional method and LO based teaching method) in Achievement and Interest in Educational Psychology.

#### ANALYSIS OF DATA

**H<sub>01</sub>:** There is no significant difference in the means gain scores of Achievement in Educational Psychology of experimental and control group.

To test the above hypotheses Independent samples t-test with observance of its assumption was used. The summary table of t-test with reference to achievement in Educational Psychology is given in table 1

Table 1. Result of t-test in Achievement in Educational Psychology

Groups	N	Mean	SD	df	T- value	P- value
Experimental	72	83.5	13	122	5.69	.000
Control	51	70.5	11			

Since the obtained P- value less than .05 rejects the null hypothesis and the alternative hypothesis is accepted. It is thus concluded that there is a significant difference in Achievement post test scores of Experimental and Control group. Since the mean score of achievement of Experimental group is greater than that of the Control group it is interpreted that Experimental group has better performance in Achievement test.

**H<sub>02</sub>:** There is no significant difference in the mean gain scores of Experimental and Control group in Interest in Educational Psychology.

To test this hypotheses Independent samples t-test was used. P- Value = .097 of Kolmogorov- Smirnov test approves the normality of distribution. The summary table of T-test with reference to Interest in Educational Psychology is given in table 2.

Table 2. Result of t-test in Interest in Educational Psychology

Groups	N	Mean	SD	df	T- value	P- value
Experimental	72	124.5	14.58	115	3.49	.001
Control	44	116.6	12,52			

Based on P- value less than .05 the null hypothesis rejected and alternative hypothesis is accepted. It is thus concluded that there is a significant difference in Interest Inventory scores of Experimental and Control group. Since the mean score of Interest of Experimental group is greater than that of the Control group it is interpreted that Experimental group is more interested in Educational Psychology.

#### FINDINGS

In this research learners were satisfied with LO. It increases learning as well as interest. It is because of human being nature. Capacity of short- term memory is seven plus or minus two elements then sends them to long term memory; it cannot hold much information at one time. Since LO presents granular of information which is exactly adapted with capacity of short- term memory. It makes an easy way to process data.

LO enlisting all type of media includes text, sound, animation, photo and ..., this is another reason for the success of LOs. Perception is distributed within all senses. 75% of learning is through the sense of sight, 13% is through hearing, 6% is through touching, 3% is through the sense of taste, and 3% is through the sense of smell. So the most learning will be happen if all of the senses to be applied. LO is more effective because it is able using all of the senses. In the other words findings of the present research provides empirical confirmation



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of theory behind LO. LO supports learners to give attention to details in their visual field. Students from the beginning at school learn how to read and write text word by word and line to line but they don't learn how to read visual data, yet most of the data faced to in real world is given in visual format, LO facilitates it.

Another Psychological principle behind effectiveness of LO in Achievement and Interest is learning style. Learning style emphasise different learner have different style to learn based on their trait and abilities; some people are visual learner, some other learn better when they faced to audio stimulus and some other are more comfortable with video or text. It is pretty clear LO is successful because it applies all media (text, photo, video, audio, animation...). LO pays attention to variety of learners with different characteristics.

LO make learner more interested in the subject under discussion and help them understand those same concept by make them more tangible and less abstract.

Learners engage with learning. According to Piaget meaning is constructed through meaningful engagement. He believes in students are more likely to learn with meaningful engagement activities.

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