



EFFECTIVENESS OF LEARNING MANAGEMENT SYSTEM ON ACHIEVEMENT IN ENGLISH AT SECONDARY SCHOOL LEVEL

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Abstract

In the present era of globalization, English has emerged as the language of communication both at the national and international level. The present times demand curriculums integrate technology with the teaching learning practices to improve the achievement levels of the students, particularly the language skills. So, the need was felt to design technology integrated instructions for teaching the subject of English which may prove beneficial for the students. The importance of this study lies in its practical value and its contribution to the pedagogical body of knowledge in teaching of English. Using a Learning Management system is an innovative approach to teaching and learning that refers to the mixing of different learning environments. Here it refers to an instructional method designed by combining traditional classroom teaching with asynchronous online learning through learning management system called Moodle. The present study was conducted on the sample of 200 students of secondary schools affiliated to CBSE in Jalandhar City. It aims to study the effectiveness of LMS on the achievement in English of ninth grade students.

Keywords: Learning Management system, Academic Achievement, MOODLE



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Introduction

Due to rapid advancement in the field of science and technology, visible changes have occurred in almost every sphere of life including education. Education in general is undergoing rapid transition from the traditional teacher dominated teaching to the more self-motivated, self-directed and constructive learning. In recent years, information and communication technology has paved the way for accelerating the paradigm shift through providing more flexible ways of learning. The rapid growth in the use of learning technologies, particularly the use of the internet and web-based communication, has provided

teachers many opportunities to explore the most suitable teaching and learning styles for a given task. The rapid and constant pace of change in technology has profound and far reaching implications on the teaching learning process. At this changing time, there is dire need of innovative ways of teaching and learning.

Learning Management System:-A Learning Management System (LMS) is a software application that is designed specifically to create, distribute and manage the delivery of educational content. This software application is used for the administration, documentation, tracking, reporting, automation and delivery of educational content and courses. In blended learning strategy, the traditional classroom methods are combined with rich multimedia content having internet access, making the learning possible anytime and from anywhere. The learning management system concept emerged directly from e-learning. Although the first LMS appeared in the higher education sector, the first introduction of the LMS was in the late 1990s.

Learning management system/Course management system (LMS/CMS) is a software program or integrated platform that contains a series of web-based tools to support a number of learning activities and course management procedures” (Severson, 2012). This is an advanced technology which by integrating various features provides a convenient platform for creating and distributing teaching materials. It provides an excellent enriched media for learning and various tools for easy communication and collaboration among different users such as students, teachers, administrators and authors.

Modular Object-Oriented Dynamic Learning Environment (MOODLE):- MOODLE acronym of Modular Object-Oriented Dynamic Learning Environment is a free and open-source learning management system (LMS) written in PHP and distributed under the GNU General Public License. MOODLE was originally developed by Martin Dougiamas at Curtin University in Western Australia (Dougiamas & Taylor, 2003) from a social constructivist point of view. The first version of MOODLE was released on 20th August, 2002. Now-a-days the MOODLE project is led and coordinated by MOODLE HQ, an Australian Company of 50 developers which is financially supported by a network of eighty four MOODLE partner service companies worldwide. MOODLE is a combination of web-based learning management system (LMS)/course management system (CMS) and virtual learning environment (VLE) designed around pedagogical principles, namely social constructivist philosophy using the collaborative possibilities of the internet (Al-Ajlan & Zedan, 2008).

MOODLE is developed on pedagogical principles and is used for blended learning, distance education, flipped classroom and other e-learning projects in schools, universities, workplaces and other sectors. MOODLE is a learning platform which can enhance existing learning environments.

Statement of the Problem: - “Effectiveness of Learning Management System on Achievement in English at Secondary School Level”.

Objectives of the study

1. To develop LMS based instructional Modules on selected topics of English (Grammar) of class IX.
2. To develop achievement test in English (Grammar) on selected topics for class IX.
3. To investigate the significant difference in achievement in English (Grammar) of the groups taught through Learning Management System (MOODLE) and Traditional teaching.

Hypothesis

“There will be no significant difference in the gain in achievement in English (Grammar) of the groups taught through two different instructional strategies i.e., Using LMS (MOODLE) and traditional method of teaching”.

Sample: - The present study was conducted on 120 students of IX class of English medium private schools (affiliated to Central Board of Secondary Education, New Delhi) in Jalandhar city.

Tools Used for Data Collection

- i) Instructional Material for teaching developed on MOODLE (Developed and validated by Investigator).
- ii) Achievement Test in English (Grammar) (Developed and Validated by Investigator).

The Procedure Followed:-The experiment was conducted in four phases as following:

Phase I: Administration of Pre-Test and Matching the groups.

Phase II: Implementation of Instructional Programs

Phase III: Administration of Post-Test

Phase IV: Scoring and Analysis of Data

The groups (Control & Experimental) were matched before conducting the experiment

Table 1:-Matching of Treatment Groups on the basis of Intelligence

Treatment Groups	N	Mean	SD	t ratio	p
Experimental Group	104	27.69	5.08	-0.589 (N.S.)	0.557
Control Group	108	28.09	4.81		

N.S. – Not Significant

The above Table 1 shows that the scores on the intelligence test of the experimental group were ($M=27.69$, $SD=5.08$) and of the control group were ($M=28.09$, $SD=4.81$). This difference of ($27.69 - 28.09 = -0.4$) was statistically not significant as p -value came out to be more than 0.05 as shown by the result of t test, $t(210) = -0.589$, $p=0.557$. Hence, it can be concluded that both the groups were homogenous on the basis of intelligence and the experiment can be conducted without bias.

Scoring and Analysis of Data:-After the administration of post-test, the answer sheets were scored using the answer keys of both the tests. The scores of experimental and control group were compared according to their pre-test and post-test scores and the difference was called as gain scores in case of achievement in English.

Analysis of Gain scores in Achievement in English:-The achievement in English (Grammar) was analyzed on the basis of gain scores which represented the difference between post-test scores on the achievement test conducted after the experiment and pre-test scores on the achievement test conducted before the experiment.

Gain Scores = {Post-Test Scores – Pre-Test Scores} on Achievement Test in English

Table 2:- Tests of Normality for Pre-Test Scores in Achievement in English

Shapiro-Wilk Test			
Treatment	Statistic	df	Sig.
Experimental Group	0.986	64	0.661 (N.S)
Control Group	0.973	64	0.169 (N.S)
Total Sample	0.987	128	0.243 (N.S)

N.S - Not Significant

The Shapiro-Wilk test showed that the pre-test scores within the groups are normally distributed as the result came out to be not-significant i.e. all p -values are above 0.05:

Table 3:- Levene's Test on Pre-Test Scores in Achievement in English

Levene's Test of Equality of Error Variances			
Dependent Variable: Pre-Test Marks			
F	df1	df2	Sig.
2.653	3	124	.052 (N.S)

N.S – Not Significant

The result of Levene's test came out to be not-significant as p -value is above 0.05, $F(3,124) = 2.653$, $p = 0.052$ which accepts the null hypothesis, thereby meaning that the variance across different groups is homogenous or equal.

Table 4:- Mean and Standard Deviation of Pre-Test Achievement Scores in English of the Groups and of the Total Sample

Experimental Group (T ₁)			Control Group (T ₂)			Total		
N	Mean	SD	N	Mean	SD	N	Mean	SD
32	16.81	4.29	32	19.69	6.02	64	18.25	5.38
32	19.78	4.20	32	19.59	3.93	64	19.69	4.03
64	18.30	4.47	64	19.64	5.04	128	18.97	4.79

Table 5: Mean, Median, Standard Deviation, Skewness and Kurtosis of Achievement Gain Scores of Treatment Groups, and of Total Sample

Treatment	N	Mean	Median	Standard Deviation	Skewness	Kurtosis
Experimental Group	60	8.89	9	3.94	-.004	-.246
Control Group	60	6.89	7	3.8	.232	-.802
Total	120	7.89	8	3.98	.122	-.570

The F-ratio for the main effect of the treatment on mean gain achievement scores was found to be highly significant at 0.01 level of confidence, $F(1,124) = 9.02$, $p = 0.003$. The analysis of means indicated that the two instructional treatments yielded different mean gain scores in achievement in English. It shows that the students exposed to LMS (MOODLE) strategy yielded better gain in achievement scores as compared to those taught through traditional teaching method. **This leads to rejection of H₁** ("There will be no significant difference in the gain in achievement in English (Grammar) of the groups taught through two different instructional strategies i.e., Using LMS (MOODLE) and traditional method of teaching".)

The interpretation of the results on achievement in English can be discussed as follows:

The results of the present experimental study reveal that using LMS (MOODLE) is more efficient and can lead to higher achievement by students as compared to traditional

method of teaching. Hence, H_1 is rejected. The experimental group which was taught through LMS (MOODLE) achieved significantly better gain scores in English (Grammar) as compared to the control group who was imparted instruction through traditional strategy.

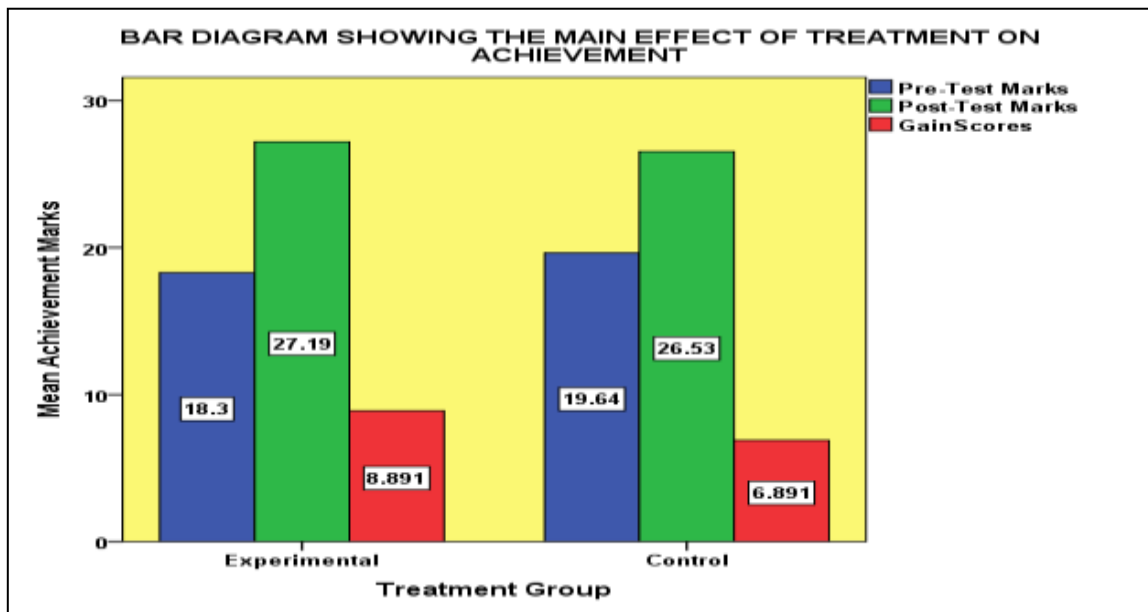


Figure 1:-Bar Diagram showing Mean of Pre-test, Post-test and Gain Scores of Achievement corresponding to the two Treatment Groups

Educational Implications

Education is undergoing rapid transition from the traditional teacher dominated teaching to the more self-motivated, self-paced and constructive learning. So at this changing time, there is dire need of innovative ways of teaching and learning. Recent innovations in the application of technology in education have enabled learning to take place beyond the four walls of a classroom. The findings of the present study proved that MOODLE based instructions were found to be effective in increasing students' achievement as compared to traditional teaching strategy. So, teachers can integrate these instructions in the teaching learning process.

The present times demand curriculums integrate technology with the teaching learning practices to improve the achievement levels of the students, particularly the language skills. The students have the provision for self-paced learning and any time access to learning material. The importance of this study lies in its practical value and its contribution to the pedagogical body of knowledge in teaching of English.

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