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Effect of Blended Learning on Achievement in English of IX Graders in Relation to Self-Efficacy

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Abstract

In today's world of technological advancement & Globalization, the idea of Blended Learning appeals to the educationists all over the globe. There is an increasing need and demand to respond to diverse student's needs and provide engaging and meaningful learning experiences to the students. Blended Learning can also be applied to the integration of e-learning with a Learning Management System along with face-to-face instruction. It should also be noted that when the learning material is simply presented to the learners, they are passive and less interested and as a result minimal learning takes place. In contrast, when the learners are active and motivated, when they are involved, engaged, participating and interacting with the learning material, the learning outcomes are much better. Literature suggests that using blended learning approach can enhance students' knowledge retention better than or at least comparable to traditional classroom teaching. After going through many studies regarded blended learning and in order to overcome the problems faced in traditional classroom teaching as mentioned above, the present study was conducted to find out the effect of Blended Learning on achievement in English of IX graders in relation to Self-efficacy. For the purpose of present investigation a pre-test and post-test factorial design was employed. In order to analyze the data, a 2x3 analysis of variance was used for the two independent variables viz. instructional treatment and self-efficacy. Levels. The main dependent variable was performance gain which was calculated as the difference in post-test and pre-test scores for the subject.

Key Words: 1. Blended Learning, 2. Achievement in English, 3. Self-efficacy, 4. Online learning.

Introduction:-

Blended Learning is a hybrid of traditional face-to-face and online learning so that instructions occur both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning. Blended Learning refers to "mixing of different learning environments". Blended learning is an effective integration of various learning techniques, technologies and delivery modalities to meet specific communication, knowledge sharing and informational needs (Finn & Bucci, 2006). It is suitable for all educational levels.

Blended Learning is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods. It requires the physical presence of both teacher and student with some elements of student control over time, place, path or pace.

Historical Background:- The term Blended learning was first used within American literature. The term should grasp the blend of traditional teaching and technology based teaching using a variety of pedagogical methods and different forms for technology (Gynther, 2005). According to Collis and Moonen (2001), blended learning is a hybrid of traditional face-to-face and online learning so that instruction occur both in classroom and online.

Graham (2006) attempts to reunite the situations, which have adopted a definition of blended learning which are so broad that they can include virtually all learning systems and offers a working definition of blended learning as, “the combination of the instruction from two historically separated models of teaching and learning: traditional face-to-face learning systems and distributed learning systems” with an emphasis on the role of computer-based technologies.

The Higher Education Funding Council for England (HEFCE) (2010) defines blended learning as a method of educating that uses e-learning techniques such as online delivery through the web, discussion boards and e-mail, combined with traditional face-to-face lectures, seminars and tutorials.

Types of Blended Learning:-

- Station Rotation Blended Learning
- Lab Rotation Blended Learning
- Enriched Virtual Blended Learning
- Flex Blended Learning
- Flipped Classroom Blended Learning
- Individual Rotation Blended Learning

Blended Learning Models:-

There are different viewpoints regarding the definition of Blended learning .Some academic studies have suggested that it is an unnecessary phrase. There are many components that can comprise a Blended Learning model, including instructor-delivered content, e-learning webinars, conference calls, live or online sessions with instructors and other media and events; for example, Facebooks,e-mail,chat rooms, blogs, podcasting, Twitter, You Tube, Skype and web boards.

Modals vary in the way-

- The teacher plays a role,
- The physical environment in which the learning is taking place
- How instructions and learning is being delivered? And
- The flexibility of pace and place of learning

However there are distinct Blended learning models suggested by some researchers and educational experts. These models include-

Face- to-face Driver-Where the teacher drives the instruction and augments with digital tools in a digital classroom.

Rotation- Where students cycle through a schedule of independent online study and face-to-face classroom time.

Flex-Where most of the curriculum is derived via a digital platform and teachers are available for face-to-face consultation and support.

Labs-Where the entire curriculum is delivered via a digital platform but in a consistent physical location; students usually take traditional classes in this model as well.

Self-blend- where students choose to augment their traditional learning with online course work.

Online driver- Where students complete an entire course through an online platform with possible teacher check-ins; all curriculum and teaching is delivered via a digital platform and face-to-face meetings are scheduled and made available if necessary.

Advantages of Blended Learning-

It is important to note that even blended learning models can be blended together and many implementations use some, many or even all these dimensions of larger blended learning strategy. Some of the main advantages of blended learning can be seen as-

- Students learn with freedom and greater flexibility
- Students explore online resources of learning.
- It is a convenient method of learning.
- Develops self-confidence among students.
- Students get more time for reflection.
- Proper provision for feedback
- Provides flexibility for learning
- Student control over time ,place and pace

So blended learning can be summed up as a learning strategy that mixes various event based activities, including face-to-face classroom, live e-learning and self-paced instructions. It is an effective combination of different modes of content delivery, models of teaching and styles of learning.

Self-efficacy-

Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals. This can be seen as the ability to persist and a person's ability to succeed with a task. Self-efficacy refers to how confident an individual feels about handling particular tasks, challenges, and contexts. Self-efficacy was first defined by Bandura in 1977 as a person's belief in his or her ability to succeed in specific situations. Bandura said it was "the conviction that one can successfully execute the behaviour required to produce the outcomes. It is widely considered to be derived from Bandura's (1986) Social Cognitive Theory (SCT).

Bandura (1994) defines self-efficacy as people's beliefs "about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives". It is generally reported that individuals with higher self-efficacy perceive difficult tasks as meaningful challenges, despite the fact that others may find similar tasks discouraging.

Self-efficacy effects every area of human endeavor, by determining the beliefs person holds regarding his or her power to affect situations, thus strongly influencing both the power a person actually has to face challenges competently and the choices a person is most likely to make.

Scheier and Carver (1992) said "Self-Efficacy underlines people's faith in their ability to carry out particular behaviour or produce a desired outcome."

Henk and Melnick (1995) discussed Bandura's theory of perceived self- efficacy as a person's judgment of her or his abilities to perform an activity and the effect this perception has on the ongoing and future conduct of the activity.

Eysenck (2000) defines self-efficacy as an individual's assessment of his or her ability to cope with given situation.

Bandura (2001) Self-efficacy is the concept by which each person's experiences, abilities and thoughts merges into one road. This concept could account for the online learner of motivating, affecting the retention of online psychology and graduate student retention.

Ormrod (2006) Self-efficacy is one's belief that one is capable of performing in a certain manner to attain certain goals.

Factors affecting self-efficacy-

The factors affecting self-efficacy can be defined as follows:-

1. Mastery Experience or “Enactive Attainment”

The experience or enactive attainment is the most important factor determining a person's self-efficacy. Students' successful experiences play an important role in boosting their self-efficacy where as the failures have reverse effect on them by discouraging them. Nothing is more powerful than having a direct experience of mastery to increase self-efficacy. For overcoming obstacles through effort and perseverance, require a resilient sense of self-efficacy. Basically mastery experience is interpreted as result of one's previous performance. Students engage themselves in different activities and tasks, and interpret the results of their actions, use these interpretations to develop beliefs about their capability to engage in subsequent tasks or activities, and act in concert with the beliefs created.

2. Modeling or Vicarious Experience:

The second source of self-efficacy comes from the observation of people around, especially who are considered as role models. Modeling is experienced as, “If they can do it, I can do it as well”. Observing a peer succeed at a task can strengthen beliefs in one's own abilities. It refers to the positive influences to efficacy beliefs of observing other people succeeding. On seeing others' success, our own self-efficacy increases: whereas on seeing people failing, our self-efficacy decreases. This process is most effectual, when one resembles oneself to the model. Although not as influential as direct experience, modeling is particularly useful for people who are particularly unsure of themselves.

3. Verbal or Social Persuasion:

Social persuasion means direct encouragement or discouragement from other persons. Discouragement, generally affects more by decreasing a person's self-efficacy than encouragement, increasing it. The people having important place in our life or who influences us such as parents, teachers, managers, peers or coaches etc. can strengthen our beliefs on our capabilities and potential to succeed. Teachers can boost self-efficacy with credible communication and feedback to guide the student through the task or motivate them to make their best effort.

4. Physiological Factors:

One's state of mind influences one's judgment of his self-efficacy. In stressful situations, people commonly exhibit signs of distress, body aches and pains, fear, nausea, and fatigue etc. Stress reactions or tensions can be interpreted as a sign of vulnerability to poor performance whereas positive emotions can boost confidence and high morale in people. A positive mood can boost one's belief in self-efficacy, while anxiety can undermine it. It is one's belief in the implications of physiological responses that alters self-efficacy, rather than the physiological response itself.

A strong sense of efficacy enhances human accomplishment and personal well-being in many ways. The people who fully believe their capabilities, work to achieve the goals and are fully confident. In contrast, people having doubt on their capabilities, run away from difficult tasks which they view as personal threats. They fall easy victim, to stress, depression and anxiety. Along with the above given factors, psychologist James Maddux has suggested a fifth factor or route to self-efficacy through “imaginable experiences”, the art of visualizing yourself behaving effectively or successfully in a given situation.

The Role of Self-Efficacy:

Self-efficacy can have great impact on peoples' feelings, thinking, behavior in particular situations and motivating themselves. Generally people can identify goals, they want to accomplish, changes which they want in their lives and targets they would like to achieve. However most of them also realize that putting these plans into actions is not so easy task and not so simple. Badura and others have found that an individual's self-efficacy plays a major role in the achievement of set goals, tasks and overcome the challenges. Self-efficacy can greatly impact how people feel, think, behave, and motivate themselves.

People with a strong sense of self-efficacy:

- Develop deeper interest in the activities in which they participate
- Form a stronger sense of commitment to their interests and activities
- Recover quickly from setbacks and disappointments
- View challenging problems as tasks to be mastered

People with a weak sense of self-efficacy:

- Avoid challenging tasks
- Believe that difficult tasks and situations are beyond their capabilities
- Focus on personal failings and negative outcomes
- Quickly lose confidence in personal abilities.

Need and Significance of the Study-

The various researches on blended learning increasingly support that the traditional & innovative methods have to be blended together to make the whole teaching –learning environment congenial for facing the rising global challenges. Traditional or face-to-face instructional environment have been criticized because they encourage passive learning, ignore individual differences and needs of the learners, and do not pay attention to high order thinking skills. The focus of blended learning is the combination of face-to-face teaching with online instructions and feedback. Its attraction is that it combines the advantage of face-to-face teaching (social interaction and inspiration) and online instruction (flexibility of access). Another reason in support of using blended learning is to improve pedagogy.

It is observed that most of the researches conducted on the effect of blended learning strategy on achievement are confined to other subjects and other countries as Croatia (Taradi, Radic and Pokrajac, 2005), Cyprus (Melton, Graf and Chopak-Foss, 2009), Qatar (Rehana Masrur, 2010), South East Europe (Vernadakis, Giannousi and Michalopoulos, 2012), Turkey (Akyuz and Samsa, 2009), (Yapici and Akbayin, 2012) USA (Dziuban and Moskal, 2001), (Munson, 2010), Pakistan (Rehana Masrur, 2010) or in other states in India as Tamil Nadu (Singaravelu, 2008), (Kanmani, and Radha, 2009), Maharashtra (Thatte, 1998). In Punjab, Sidhu (2013) and Gill & Beryar (2014) conducted researches on the effect of multimedia based instructions on students' achievement in English in Amritsar and Ludhiana district respectively. The studies conducted to see the effect of blended learning are on different subjects. No study was found by investigator which was conducted on the population of Jalandhar district on the effect of blended learning in the subject of English.

Not much work has been done on the proposed topic in India. Investigator did not find any study conducted on secondary school students in Punjab on the proposed topic. After going through many studies regarding blended learning, and, in order to overcome the problems faced in traditional settings as mentioned in many findings, the present study has been selected by the investigator.

The literature that was found on blended learning mostly related to higher education and other subjects. There was hardly any study found on secondary school students in Punjab on the effect of

blended learning on achievement in English of IX graders in relation to self-efficacy. As the investigator did not find any study related to this topic, the proposed study thus seems fully justified.

Objectives of the Study-

1. To compare the achievement of groups taught through Blended Learning strategy and Conventional method of teaching in English.
2. To study the achievement of groups with high, average and low self-efficacy.
3. To examine the interaction effect of instructional strategies and self-efficacy on achievement in English of IX graders.

Hypotheses-

H₁: The achievement of group taught through blended learning strategy will be significantly higher than that of conventional method of teaching in English.

H₂: The achievement of high self-efficacy group will be higher than that of average and low self-efficacy.

H₃: There exists significant effect between instructional strategies and self-efficacy on achievement in English.

Sample-

The study was conducted on a sample of 100 students of class ix of two schools of Jalandhar city. It was a random and purposive sample. The study was conducted on two intact groups viz. experimental group and control group.

Design-

For the present study, a pre-test and post-test factorial design was employed. In order to analyze the data a 2x3 analysis of variance was used for two independent variables viz. instructional treatment and self-efficacy levels. The impact of teaching strategy was examined at two levels, namely blended learning and conventional teaching. The variable of self-efficacy was done at three levels viz. high, average and low self-efficacy groups. The main dependent variable was performance gain which was calculated as the difference in post-test and pre-test scores for the subject of English.

Tools Used-

The following tools were used for the data collection-

1. An Achievement Test in English Grammar was developed by the investigator .
2. Instructional material based on blended learning strategy and conventional teaching strategy in teaching English Grammar was developed by the Investigator.
3. Self-efficacy scale by Mathur & Bhatnagar (2012).

Procedure-

After the selection of the sample and allocation of students to the two instructional strategies, the experiment was conducted in four phases. Firstly, the test of self-efficacy was administered on the total sample, in order to identify self-efficacy levels of the students. Secondly, a pre-test of Achievement was administered to the students of both the treatment and control group. The answer sheets were scored to obtain information regarding the previous knowledge of the students. Thirdly, the experimental group was taught through blended learning strategy and control group was taught through conventional method of teaching by the Investigator. Fourthly, after the completion of the course, the same achievement test in English Grammar was administered as post-test to the students of both the groups. The students were given 40 minutes to complete the test. The answer sheets were scored with the help of scoring key. The experiment and control group scores were compared according to their pre-test and post-test scores and difference was called as gain achievement scores of the experiment and control group.

Analyses and Interpretation of the Results-

Analyses of Descriptive Statistics-

The data was analyzed to determine the nature of Distribution of scores by employing mean and standard deviation. The two way analysis of variance was used to test the hypotheses related to strategies of teaching and self-efficacy levels. The mean and standard deviation of different sub groups have been presented in Table 1 & 2.

Table-1 (Means & SD of Achievement Scores for the different Sub Groups)

Self-efficacy Groups	Blended Learning Strategy			Conventional Teaching			N	Total Mean	S D
	N	Mean	SD	N	Mean	SD			
High	16	7.49	4.84	16	3.38	2.61	32	5.44	4.41
Average	28	6.14	2.69	28	4.89	2.96	56	5.55	2.92
Low	16	3.81	2.06	16	2.28	2.28	32	3.52	2.11
total	60	5.91	3.52	60	2.85	2.85	N=120		

It may be observed from the Table-1 that the mean scores of blended learning (M=5.91) is higher than the conventional method of teaching (M=4.00). This shows that blended learning strategy is more effective than the conventional method of teaching. It is also confirmed that the mean of the three groups, i.e., high, average and low self-efficacy group is 5.44, 5.55 & 3.52 respectively. It is concluded that the gain mean with blended learning strategy has shown significant differences for high, average and low self-efficacy students.

Analysis of Variance on Achievement Scores-

The mean of different sub-groups, sum of squares, degrees of freedom, mean of sum of squares and the F-ratio have been presented in Table-2.

Table-2 (Summary of Analysis of Variance (2x3) Factorial Designs)

Source of Variance	Sum of Squares	df	Mean of Sum Squares	F-ratio
Blended Learning Strategy(A)	108.3	1	108.3	11.4**
Self-efficacy (B)	91.83	2	45.92	4.83**
Interaction (AxB)	55.46	2	27.73	2.92
Error	1083.11	114	09.50	

** Significant at 0.01 level

(Critical Value 3.93 at 0.05 and 6.96 at 0.01 levels, df 1/114)

(Critical Value 3.08 at 0.05 and 4.80 at 0.01 levels, df 2/114)

Main Effects-

Blended Learning Strategy (A)

Table -2 observed that the F-ratio for difference in mean gain scores of Blended Learning strategy and conventional teaching group is 11.4, which in comparison to the table value was found significant at 0.01 level of significance. It shows that the groups were not different beyond the contribution of chance. Hence the hypothesis H₁: The achievement of group taught through blended learning strategy will be

significantly higher than that of conventional method of teaching in English, is accepted. The result indicates that the performance on English of Blended learning was more effective than conventional method of teaching.

Self-efficacy (B)

Table-2 shows that the F-ratio for difference in mean of the three groups of self-efficacy levels are 4.83, which in comparison to the table value was found significant at 0.01 level of significance. It suggests that the three groups were different in respect of achievement scores. Hence hypothesis H₂: The achievement of high self-efficacy group will be higher than that of average and low self-efficacy, is accepted. The result indicates that the performance of students in English through Blended Learning strategy has significant differences for high, average and low self-efficacy students.

Interaction Effect (AxB)

Table-2 shows that the F-ratio for the interaction between treatment and self-efficacy groups is 2.92, which in comparison to the table value was not found significant even at 0.05 level of significance. It indicates that the two variables do not interact with each other. Thus, the hypothesis H₃: There exists significant interaction effect between instructional strategies and self-efficacy on achievement in English, is rejected at the specified level. The Blended Learning and Conventional method of teaching yielded equal levels of achievement for high, average and low self-efficacy level for the students.

Discussion-

The present study revealed that the achievement of group taught through blended learning strategy will be significantly higher than that of conventional method of teaching in English. The results are supported by the findings of Osguthorpe and Graham (2003), Chung and Davis (1995), (Balasubramaniam et al., 2018; Delialioglu & Yidirim, 2008; Dlab, Hoic-Bozic, & Mornar, 2016; Gaikwad & Tankhiwale, 2014; Sharma, 2017; Smith & Suzuki, 2015; Yapici & Akbayin, 2012), & Singh, 2018, who all favoured blended learning strategy over conventional teaching method resulting in higher achievement in English.

The study also revealed that the achievement of students with high self-efficacy will be higher than that of average and low self-efficacy. The result is supported by the findings of Yousif (204), Gomes (2014) & Köseoğlu, Bahçeşehir. (2015).

Interaction effect of instructional strategies and self-efficacy did not yield significant difference in mean gain scores on achievement in English

. Conclusion

On the basis of above discussion, it can be concluded that the present study reveals that achievement score in English of the students taught through blended learning strategy was significantly higher than those which are taught through conventional teaching method. Further, the gain means with blended learning strategy was more for high self-efficacy group as against the average and low self-efficacy groups. However the difference in mean gain scores for interaction effect of instructional strategies and self-efficacy did not proved to be significant. The study recommends the use of Blended learning strategy for better performance and better learning outcome of students.

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