EFFECTIVENESS AMONG DIFFERENT STRATEGIES OF WEB-BASED INSTRUCTION IN LEARNING PHRASAL VERBS IN ENGLISH

B. Yamini[1],
M. Malarvizhi[2]
[1]Research Scholar, Department of Education
Bharathiar University, Coimbatore 641 046, India
[2]Asst. Professor, Dr., Department of Education
Bharathiar University, Coimbatore 641 046, India

Abstract:

The results of the study reveal that the performance of e-learners on Communicative English is excelling. Pretest, Posttest Equivalent Groups Design was adopted to be the most appropriate method of research in testing the spelt out hypotheses. It is concluded that the web-based learning strategies are effective in realizing the instructional objectives.

Keywords: web-based instruction, online phrasal verbs, instructional strategies, educational modules, communicative English

1. Introduction

When we recommend the web medium for learning, we have to change the learning management system and achieve a paradigm shift in the learning environment. The web medium for learning is believed to complement and support any teaching learning initiative taken up by the developer. However, there is a need for face to face involvement and exposure to something new. In this context, it is challenged that the web based learning system as its own lacks basis to uphold its supremacy so far as teaching and learning of any subject is concerned.

Web based learning system provides an opportunity to the teachers to enhance their teaching strategies besides encouraging them to choose different methods of teaching to reach more learners and make the learning more effective. Even though the

basic concept of teaching evolves around disseminating knowledge, web based learning system paves the way for an efficient and interesting way of pooling the information and imparting them whenever there is a need. Hence, it is to accept that the technology provides numerous advantages to the process of teaching learning in and out of the classroom.

2. Review of Related Literature

Krashen (1982) studied whether internet promote the language learning. The findings of the study reveals that internet provides a wealth of learning materials to the students and also provides resources and opportunities for comprehensible input on conducting a study on developing autonomous readers among EFL learners.

Dalton and Hannafin (1988) studied the effect of computer assisted and traditional mastery methods on computation accuracy and attitudes. It is found that there is no attitude difference between mastery and conventional instruction, but students receiving computer based instruction reported more favourable attitudes than those receiving initial instruction from the teacher.

Dudency (2000) studied on the Internet and the language classroom. The study revealed that it is the rise of the computer-mediated communication, which has reshaped the uses of computer for languages learning and also with the web, learners get access to a wealth of authentic target-language inputs.

Meera (2000) studied the relative effectiveness among different modes of computer based instruction in relation to students' personality traits'. The findings of the study revealed that CAI was found more effective than traditional lecture method. Further, CAI in drill & practice made was more effective when compared to that of tutorial and simulation modes.

Grabe& Sigler (2002) evaluated an online study environment. The study evaluates the students' use of an online study environment. It is found that the largest number of students made use of the online lecture notes and the greatest amount of online study time was devoted to reviewing multiple-choice questions.

Wright & Betts (2002) studied on Virtual universities--the reality of e-learning. The study revealed that with the growth of the internet and World Wide Web, new ways of exchanging information are emerging, barriers are being overcome, new partnerships and ways of working are emerging.

Kekkonen Moneta & Moneta (2003) compared learning outcomes in online multimedia and lecture versions of an introductory computing course evaluating the effectiveness of Web-based highly interactive and multimedia-rich e-learning materials

by comparing students learning outcomes in the lecture and online versions of an introductory computing course. It is found that the lecture and online students achieved comparable factual learning outcomes and the online students outperformed the lecture students in applied-conceptual learning.

Browne et al. (2004) compared lecture and e-learning as pedagogies for new and experienced professionals in dentistry. The results of the study revealed that there is significantly greater retention for the trainees occurred from lecturing rather than e-learning, and for the trainers e-learning was significantly more successful than lecturing

Mary Silver (2004) made an attempt to study on E-learning for the pump industry. Internet-based training is increasingly seen as the solution for providing professional-level education in a cost-effective and time-effective manner.

Virginio et al. (2004) studied on perspectives and challenges in e-Learning. The findings of the study revealed that the visual component of the e-learning experience is emphasized as a significant feature for effective content development and delivery, while the adoption of new interaction paradigms based on multi-dimensional metaphors and perceptive interfaces is presented as a promising direction towards more natural and effective learning experiences.

Buzhardt & Semb (2005) studied on integrating online instruction in a college classroom to improve cost effectiveness. The study compared online study guides to pen and-paper study guides in terms of academic performance, the amount of time instructors spent grading study guides, and student Preferences. Results of this study revealed that integrating online study guides saved labor costs and increased student satisfaction while maintaining student performance.

3. Need for the Study

Web-based instruction is the most effective means of delivering the best learning to the maximum of people at the lowest cost for the reason that it is flexible, fast and convenient besides delivering measurable results that bring a real return on investment. Online instructional courses do not have regular face to face meetings. Hence, the students can do their academic work and study based on their own pace. Instead of being limited to asking questions during instructional period, they have direct access to their instructors via email or message boards. The minimum requirement for the learners to participate in an online course is access to a computer, the internet and motivation to learn in a nontraditional classroom. The provision for accessing the online courses from a home computer via the internet is a tremendous incentive for the

learners to realize their academic and career objectives. Thus, it is ensured that there is a need for a study as conceived by the investigators.

4. Statement of the Problem

Communicative English through web medium serves self-education for self-development. Present education system causes lack of life skills to carry out routines in day to day life for want of communication in English language. There is a great need for developing communicative skills in English among the people at large to lead a happy life. Keeping these points in the mind, the present study entitled "Effectiveness among Different Strategies of Web based Instruction in Learning Phrasal Verbs in English" has been taken up by the investigators.

5. Scope of the Study

Teachers take advantage over technology to provide more effective and flexible teaching–learning process in the classroom. It is certain that the ELearning is an influencing tool for both distance and face to face learners. It is obvious that technology provides a rich environment for e-learners and e-instructors. The process of learning becomes significantly richer as learners have access to new and different types of ICT applications in education. In these contexts, the present study aims at studying the impact of different web-based instructional strategies over the mastery of the learners in Communicative English. This study assures the effectiveness of web-based education in developing communicative skills in English among the learners who are interested to attain better command over communicative English. The results of the study reveal that the performance of e-learners on Communicative English through internet is excelling.

6. Objectives of the Study

Keeping the statement of the problem in mind, the following objectives have been spelt out for the study in hand:
1. To develop a Web-based Learning Management System for teaching of Phrasal Verbs in English among learners with three different strategies
2. To evaluate the developed Web based LMS from technical and pedagogical points of view as to how far it facilitates for the realization of its instructional objectives

3. To study whether the different strategies of web-based teaching -learning process differ in the context of their effectiveness in learning Phrasal Verbs in English

4. To develop Criterion Referenced Test to measure the mastery of the learners in learning Phrasal verbs in English

7. Hypotheses of the Study

The hypotheses of the study are given as follows:

1. There is significant difference between the means of pre and post test scores of the subjects of different web-based instructional strategies viz.. Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OT-OC).

2. There is significant difference among different web-based instructional strategies viz.OnlineTutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC) in terms of their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

8. Operational Definitions of Term

8.1 Online Tutorial (OT)

This strategy is one of the web-based instructional environments where, once the learner learns the given concept and gives the correct answer to the question asked, he will be directed to move to the next concept. If the given answer is wrong, he will be directed to the same concept to re-read and gain a clear understanding. As the mastery over the given concepts is the target of the programme, the system does not permit the learner to move forward unless he gets the mastery over the concepts already introduced.

8.2 Online Tutorial Supported with Supplementary Reading Materials (OTSwSM)

This strategy provides the same experience as has already been illustrated to the Online Tutorial mode for the online learner. However, at the same time, when compared to the previous mode, here the learner is able to avail Summary, Frequently Asked Questions, Detailed Text, Glossary to learn new words/technical terms, List of References and Web-site Links so that he can refer to the additional information related to the content

being taught. If the learner needs to download any of Summary, Frequently Asked Questions, Detailed Text, Glossary to learn new words/technical terms, List of References and Web-site Links, he can do so without any difficulty.

8.3 Online Tutorial Supplemented with Online Counseling (OT-OC)

In this strategy, the process of learning is similar to that of the Online Tutorial mode but at the same time, here the learner is additionally given the provision of communicating with the researcher through online chat and clarifying his doubts regarding the concept in each and every frame of the module. He can make use of the option 'SEND QUERY TO ADMIN' given in the right hand side of each frame in the module. The learner is expected to write the name of the concept in the SUBJECT BOX wherein he has doubts and again he has to write his queries in the MESSAGE BOX. Once typed as illustrated, he can send the message to the admin namely the researcher. He can also view the answers sent by the Admin in the INBOX, given in the PROFILE, on the website menu after login.

8.4 Effectiveness of the Strategies

It is operationally defined as the efficacy of the LMSs how far they ensure the learners to attain mastery in realizing the instructional objectives as has already been specified for each and every module as evidenced by the scores obtained by the subjects of the various experimental groups as measured by the Post Tests.

9. Tools Used in the Study

The following tools have been used in the study:

1. An Instructional module in three different web-based instructional strategies viz. . Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC) in teaching and learning of Phrasal Verbs in English has been developed.

2. To assess the entry and exit behavior of the subjects of various experimental groups, Pre and Post Tests have been developed keeping in view all the instructional objectives spelt out from different levels of cognitive domain.

3. To validate the web-based instructional materials how far they comply with technical and pedagogical points of view, an Evaluation Performa has been designed with five point scale.

10. Brief Methodology of the Study

Pretest, Posttest Equivalent Groups Design, as an experimental design, was identified to be the most appropriate method of research in testing the spelt out hypotheses of the study in hand. It is obvious that when an experiment is being conducted via online, the subjects have chosen the different instructional strategies as per their will and wish without any control or intervention on the part of the researchers. Hence, the formation of different experimental groups resulted in random assembly of the subjects into different experimental interventions. Meantime, a Web-based Learning Management System has been developed in teaching and learning of Phrasal Verbs in English availing three different strategies of web-based instruction viz.OT, OTswSRM and OT-OC.

The said learning system allowed the subjects of the various experimental groups who desired to develop their communicative skill in English to register them choosing their desired instructional strategy. Care was taken to give a wider publicity via social media among the target population with regard to the availability of the said LMS as Open Educational Resource.

As has already been planned, the researchers have developed a module in Phrasal Verbs in English for each of the three web-based instructional strategies. A given person was allowed to choose any one of the said instructional strategies. Once chosen, he could not change his option. He was compelled to take up the pretest before he goes to the learning material followed by the posttest viz. Criterion Referenced Test (CRT) for the module.

The same condition applied to all the instructional strategies without any distortion. The Pre and Post Tests have already been developed keeping in view the mastery learning of the contents of the subjects of all three experimental groups. Once the given subject completed the module, he was directed to take up the Feedback Form in order to get a feedback on the LMS. From the evaluation of the subjects of the experimental groups, it was found that all the features both pedagogical and technical have been rated very high by most of the participants. No one rated negatively for any item which shows the high standard of the said LMS. Each strategy was attended by 30 people from different locations.

11. Analysis of Data

As has been planned, the Statistical Techniques viz. Analysis of Variance and 't' tests were availed with a view to test the formulated hypotheses.

In order to establish the identity among the experimental groups so far as the entry behavior of the subjects in Phrasal Verbs in English, an Analysis of Variance was attempted among the scores of the subjects of the experimental groups as measured by the Pre-Test. The results are given in the Table 1.

Table 1: Analysis of Variance among the Scores of the Subjects of the
Experimental Groups As Measured By the Pre-Tests

S.No.	Sources of Variance	S.S.	DF	MS	F
1.	Between Groups	21.62	2	10.81	1.77 [N.S.]
2.	Within Groups	531.53	87	6.11	
	Total	533.16	89		

N.S.: Not Significant

From the Table 1, it is found that the "F" value is not significant. Hence, it is concluded that the experimental groups are identical so far as the entry behavior of the subjects in Phrasal Verbs in English is concerned.

In order to test the formulated hypotheses, the same were stated in the null form.

11.1 Null Hypothesis: 1

There is no significant difference between the means of pre and post test scores of the subjects of different web-based instructional strategies viz..Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC).

To test the null hypothesis, "t" tests were attempted between the means of the subjects of the three experimental groups on the scores as measured by the Pre and Post Tests. The mean and SD of the said scores have already been computed. The results are given in the Table 2.

Table 2: Significance of the Difference between the Means of the Scores of the Subjects of
Various Experimental Groups As Measured By the Pre and Post Tests

S.No.	Experimental Strategies	Pre-Test		Post-Test		D	σ_D	"t"
		M1	SD1	M2	SD2			
1.	OT	8.07	2.43	12.17	2.13	4.10	0.56	7.38*
2.	OTswSRM	6.97	2.41	10.60	2.50	3.63	0.39	9.44*
3.	OT-OC	7.10	2.56	9.67	2.60	2.57	0.22	11.50*

N1=N2=30   *: Significant at 0.01 level

From the Table 2, it is found that the "t" values are significant at 0.01 level. It is also found that the mean scores of the Post-Tests are greater than that of the Pre-Tests.

Hence, the null hypothesis is rejected and the hypothesis is accepted. It is concluded that the web-based learning strategies are effective in realizing the instructional objectives so far as the Phrasal Verbs in English are concerned.

11.2 Null Hypothesis: 2

There is no significant difference among different web-based instructional strategies viz..Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OT-OC) in terms of their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

In order to test the null hypothesis, an Analysis of Variance was attempted among the scores of the subjects of all the three experimental groups as measured by the Post-Tests. The results are given in the Table: 3.

Table 3: Analysis Of Variance among the Scores of the Subjects of the Experimental Groups
As Measured By the Post-Tests

Sl. No.	Sources of Variance	S.S.	DF	MS	F
1.	Between groups	95.76	2	47.88	8.17*
2.	Within Groups	510.03	87	5.86	
	Total	605.79	89		

*: Significant at 0.01 level

From the Table 3, it is found that the "F: value is significant at 0.01 level. Hence, the null hypothesis is rejected and the hypothesis is accepted. It is concluded that there is significant difference among different web-based instructional strategies viz. Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC) in terms of their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

In order to find out the relative effectiveness among the different web-based learning strategies in terms of realizing the instructional objectives in Phrasal Verbs in English, "t" tests were attempted between the means of the scores of the subjects of the various experimental groups as measured by the Post-Test. The mean and SD of the scores of the subjects of the various experimental groups as measured by the Post-Test have already been computed. The results are given in the Table: 4.

Table 4: Significance of Difference between the Means of the Scores of the Subjects of Various Experimental Groups As Measured by the Post Test

S. No.	Groups Compared	M1	SD1	M2	SD2	D	σ_D	"t"
1.	OT Vs OT sw SRM	12.17	2.13	10.60	2.50	1.57	0.65	2.41*
2.	OT Vs OT sw SRM	12.17	2.13	9.67	2.60	2.50	0.53	4.71*
3.	OT sw SRM Vs OT-OC	10.60	2.50	9.67	2.60	0.93	0.67	1.39 NS

N1=N2=30   *: Significant at 0.01 level   N.S.: Not Significant

From the Table:4, it is found that the mean difference between the experimental groups viz. OT and OT sw SRM & OC-OC are significant at 0.01 level. But at the same time, there is no significant difference between the mean scores of the experimental groups viz. OT sw SRM and OT-OC. The mean value of the experimental group OT ind to be greater bthan that of both OT sw SRM and OT-OC. Hence, it is concluded that OT as one of the web-based learning strategies is more effective when compared to OT sw SRM and OT-OCin realizing the instructional objectives in Phrasal Verbs in English. OT sw SRM and OT-OC do not differ between them in their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

12. Major Findings of the Study

1. It is found that the "t" values are significant at 0.01 level between the means of the scores of the subjects of the three experimental groups as measured by the Pre and Post Tests. It is also found that the mean scores of the Post-Test are greater than that of the Pre-Test. Hence, the null hypothesis is rejected and the hypothesis is accepted. It is concluded that the web-based learning strategies are effective in realizing the instructional objectives so far as the Phrasal Verbs in English are concerned.

2. It is found that the "F" value is significant at 0.01 level among different web based instructional strategies viz..Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC) on the scores of the subjects of said web-based learning strategies as measured by the Post-Test. Hence, the null hypothesis is rejected and the hypothesis is accepted. It is concluded that there is significant difference among different webbased instructional strategies viz..Online Tutorial (OT), Online Tutorial Supported with Supplementary Reading Materials (OTswSRM) and Online Tutorial supplemented with Online Counseling (OTOC) in terms of their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

3. It is found that the mean difference between the experimental groups viz. OT and OT sw SRM & OC-OC is significant at 0.01 level on the scores of the subjects of said web-based learning strategies as measured by the Post-Test. But at the same time, there is no significant difference between the mean scores of the experimental groups viz. OT sw SRM and OT-OC on the scores of the subjects of said web-based learning strategies as measured by the Post-Test. The mean value of the experimental group OT is found to be greater than that of both OT sw SRM and OT-OC. Hence, it is concluded that OT as one of the web-based learning strategies is more effective one when compared to OT sw SRM and OT-OCin realizing the instructional objectives in Phrasal Verbs in English. OT sw SRM and OT-OC do not differ between them in their effectiveness in realizing the instructional objectives in Phrasal Verbs in English.

13. Delimitations of the Study

- The homogeneity among the different experimental groups was established only based on the scores obtained by the subjects as measured by the pretest meant for the instructional module simply ignoring the influence of the intervening variables viz. test anxiety, fatigue, motivation, attitude towards media based education, personality and intelligence.
- Due to the vastness of the content viz. Phrasal Verbs in English, the researchers have chosen only limited Phrasal Verbs while developing the said instructional module.

14. Educational Implications of the Study

This experimental study brings out light on development and utilization of a web-based learning system in the field of teaching and learning of English as a second language both formal and non-formal systems of education. The findings of this study will lead the other researchers and developers in their development and utilization of web-based learning system with critical thinking and refined thought process in the broad field of the study. The students could benefit from the web site even with the face-to-face instruction. In the learning environment, not every student is expected to be comfortable with the ongoing instructional strategies in different modes. Hence, it is evident that the LMS could offer alternative learning strategies and environments to the general public

15. Suggestions for Further Research

It is suggested that further studies could be taken up in the broad field of the study in future as detailed below:

1. A study may be taken up to investigate web-based instruction and the face-to-face instruction to compare the effectiveness of each of them in realizing the instructional objectives.

2. A research study may be attempted to explore the online communication style of the students in the web-based learning with a view to ascertain whether the communication of those students through online tools is different, and if so, what makes the difference.

3. Further, a research may be attempted to see the impact of the previous knowledge on the effectiveness of the web-based learning strategies.

4. Learners' collaborative learning skills may affect the perception and the way they use collaboration tools. Hence, it may be tried to find out the extent of this effect, and if so, whether the learners need additional training activities to gain collaborative learning skills.

16. Conclusion

The modern education system has undergone varied changes with unprecedented growth transforming from an elite system to a mass system including the underprivileged and weaker sections of the societies. But, at the same time, such a growth could not change its organizational structure and form and maintain uniform standards. Hence, it is indispensable to take up corrective measures to bring out reforms in the education system which is possible applying information and communication technology more and more in the teaching and learning process. By exploring and exploiting the Open Educational Resources in formal and non- formal systems of education, we may succeed in realizing the desired results in the education system.

References

1. Browne, L., Mehra, S., Rattan, R., & Thomas, G. (2004). Comparing lecture and e-learning as pedagogies for new and experienced professionals in dentistry. *British dental journal, 197*(2), 95-7.

2. Buzhardt, J., &Semb, G. (2005). Integrating online instruction in a college classroom to improve cost effectiveness. *Teaching of Psychology, 32*(1), 63-66.

3. Dalton, D.W &Hannafm, M. H. (1988). The Effects of Computer Assisted and Traditional Mastery Methods on Computation Accuracy and Attitudes. *The Journal of Educational Research, 8(1), 27-34.*

4. Dudency, G. (2000). The Internet and the Language Classroom, *Cambridge University Press.*

5. Grabe, M., & Sigler, E. (2002). Studying online: evaluation of an online study environment. *Computers & Education,* 38(4), 375-383Lin, C. Y., Cheng, Y. J., Chang, Y. T., & Hu, R. P. (2002). The use of Internet-based learning in biology. *Innovations in Education and Teaching International, 39*(3), 237-242.

6. Kekkonen Moneta, S., & Moneta, G.B. (2003). E-Learning in Hong Kong comparing learning outcomes in online multimedia and lecture versions of an introductory computing course. *British Journal of Educational Technology, 33*(4), 423-433.

7. Krashen, S. (1982). Principles and Practices in Second Language Acquisition. New York: *Pergamon Press.*

8. Mary Silver, (2004). E-learning for the pump industry. *World Pumps,* 453, 28-31.

9. Meera, S. (2000). Relative Effectiveness among Different Modes of Computer-Based Instruction in Relation to Students' Personality Traits. *Doctorial Thesis, Bharathiyar University.*

10. VirginioCantoni, Massimo Cellario, & Marco Porta. (2004). Perspectives and challenges in e-learning: towards natural interaction paradigms. *Journal of VisualLanguages & Computing, 15*(5), 333-345.

11. Wright, G., & Betts, H.J. (2002). Virtual universities - the reality of e-leaming. *Studies in Health Technology and Informatics, 90,* 752-6.