

DOI: <https://doi.org/10.24297/jssr.v14i0.8424>

## Impacts of Blended Learning on Students' Vocabulary Enhancement

Sisay Ayalew Tsegaw

sisaya@bdu.edu.et, lesisay12@gmail.com

<https://orcid.org/0000-0003-0795-3085>

Department of English Language and Literature, Bahir Dar Institute of Technology, Bahir Dar University P.O.Box 26. Bahir Dar, Ethiopia.

### Abstract

This critique examines three studies about the impact of blended learning on students' vocabulary enhancement. The name of the author of the first article is Sezen Tosun. The article is entitled as "The effects of blended learning on EFL students' vocabulary enhancement." It was published by Elsevier Ltd-Procedia - Social and Behavioral Sciences 199 (2015) 641 – 647. The second article is "Enhancement of Students' Vocabulary Learning through a Blended Learning Approach". The authors of this article are Dinara G. Vasbieva, Irina I. Klimova, Elena L. Agibalova, Natalya V. Karzhanova, and Jana Bírová. The article accessed on IEJME-Mathematics Education on look academic publishers (open access), VOL. 11, NO. 5, 1195-1203 in 2016. The last article is a study about "A Blended Learning Approach to Enhance College Students' Vocabulary Learning". It is written by Djiwandono, and released on 2013, Vol. 10, No. 2, pp. 210–220 from Electronic Journal of Foreign Language Teaching. The credentials of the authors are not specifically stated in the articles except Vasbieva et al. The central argument of the articles was to investigate the effects of the blended learning approach to teach and learn English vocabulary. Therefore, this critique was designed to produce a systematic review of studies contrasting vocabulary learning outcomes for either blended learning conditions or with those of full face-to-face classroom instruction.

**Keywords:** Blended Learning, Face-To-Face Learning Review

### Introduction

We can learn language in two ways. Firstly, there is face to face learning that takes place in the school classrooms. Secondly, thanks to technology, students can learn languages online/offline –learning through internet. Nowadays, it is still arguable whether online or face to face can really contribute to the improvement of students' macro and micro language skills proficiency. For instance, Lee and Pyo (2003) argued that online classes would be more effective for certain groups who reached minimally functioning levels of English proficiency and have motivation for their own learning. On one hand, researchers found lower student performance in online classes (Trawick, Lile and Howsen, 2010).

On the other hand, other scholar found higher learning in online classes (Detwiler, 2008). This could infer that the increased capabilities of web-based applications and collaboration technologies and the rise of blended learning models combining web-based and face-to-face classroom instruction have raised expectations for the effectiveness of online learning. So, the critique/review of the 3 studies support the idea to provide a descriptive account and to investigate whether or not blended learning has significant difference between post-test scores of face-to-face learners and the learners who were exposed to blended learning instruction with regard to their vocabulary knowledge.

## Purpose

When the authors conducted the studies, around 51 references were cited to backup evidence. The references were used most dominantly in the introduction section. Djiwandono and Tosun used references only under this section, whereas Vasbieva et al. discussed in introduction and review of related literature section. The authors showed the background and the problem statements in the introduction sections. Djiwandono, Tosun and Vasbieva et al. argued that many foreign language learners know the feeling of not being able to remember the right word instantly in a conversation because of the limited range of vocabulary they know. They added that many higher education institutions today are using blended learning as a supplementary means in developing students' vocabulary knowledge, so blended learning approach in teaching foreign language has become a matter of considerable interest to language teachers all over the world.

Citing (Fandey, 2012; Popolzina, 2014), Vasbieva et al said that a combination of face-to-face classroom activity with the online instruction, referred to as blended learning, has become the alternative that is popular with language educators. So far several studies have shown that blended learning was highly appreciated and positively rated by the students. The authors argued that empirical studies in English language teaching extend the application of blended learning from different lessons to both teachers' and learners' behavior. In English classes, the authors have worked out more about blended learning mode. Especially, they described that most of the researchers who have studied blended learning approach and its place in enhancing vocabulary knowledge listed a great number of positive effects.

Vasbieva et al cited many authors whose findings show positive effect of blended learning in extending students' English vocabulary. For example, M. Lu (2008) examined the efficiency of SMS vocabulary lessons of limited lexical information on the small screens of mobile phones and compared two groups of high school students in Taiwan. H. Zhang, W. Song & J. Burston (2011) made a comparative study on the efficiency of vocabulary learning via mobile phones and compared two groups of students at a Chinese university. Y. Ono and M. Ishihara (2012) investigated a new pedagogical model of blended learning on the basis of the platform.

Similarly, Tosun and Djiwandono mentioned that most of the researchers who have studied blended learning approach and its place in enhancing vocabulary knowledge listed a great number of positive effects. The authors mentioned the same scholars who are mentioned by Vasbieva. For instance, Zhang, Song, and Burston (2011) examined the effectiveness of vocabulary learning via mobile phones and compared two groups of students at a Chinese university; Dastjerdi (2011) made a comparative study on the impact of traditional and blended teaching on EFL learners' vocabulary acquisition; Webb and Chang (2012) measured the vocabulary growth of 166 Taiwanese students who received different kinds of blended English instruction at their schools.

Conversely, Tosun and Vasbieva et al stated that there are very few empirical studies in the literature which found blended learning instruction had no impact on students' academic achievements. Alshwiah (2009) investigated the effects of a proposed blended learning strategy and analyzed students' attitudes toward the English language at Arabian Gulf University. The sample was divided into two groups: control group and experimental group. Findings indicated that there was no significant difference between two groups regarding achievement or attitude towards English Language. In like manner, Chang et al. (2014) conducted, and the results showed that there were no significant differences in achievement test scores between blended e-learning and traditional learning.

With respect to the above insights, Tosun and Vasbieva et al stated that the present study raises the following research questions:

1. Is there any significant difference between post-test scores of face-to-face learners and the learners who were exposed to blended learning instruction with regard to their vocabulary knowledge?

2. What are the students' perceptions and attitudes towards blended learning instruction?
3. What are the pedagogical implications of using blended learning strategy in teaching vocabulary in English?

## Findings

The authors' findings show both significant and non-significant differences after the treatment. Vasbieva et al. obtained the value of  $t=7.74$  exceeds the critical value at 5% level ( $t=2.08$ ). The researchers should therefore reject the null hypothesis ( $H_0$ ) and conclude that the training had a positive effect on ESL learners. On the contrary, Tosun proved that since the obtained  $p$  (0.549) is greater than 0.05, the test is not significant at 0.05 level. This indicates that there is no significant difference between the two groups of learners with regard to their vocabulary knowledge after 6-weeks of blended instruction period. Based on the test results, it can be inferred that the teaching vocabulary through blended learning instruction model does not have a positive impact on the vocabulary test scores of Turkish preparatory school students.

Djiwandono also asserts that the calculation with ANOVA generated an  $F$  of 30.26 ( $P < 0.0001$ ), indicating significant differences among the scores. However, a Tukey HSD test was run after the main computation to find the exact differences among the individual means. It is surprising to see that the LF2, the average score after the learners spent more time studying the new words from the blog, was slightly lower than LF1, which was taken after they learned the new words for the first time. The result indicated that differences between means ( $LF1 > LF2$ ) that showed the level of significance is not significant, and its status is not significantly different.

## Discussion

The research designs of the three articles clearly stated what the authors did and how they were done. The research design of those articles was experimental which consisted of 2 experimental studies using random assignment and a quasi-experiment with statistical control for preexisting group differences. To reach at the conclusion, the authors also possessed different procedures or steps.

The number of research participants and their characteristics were described in each study. Vasbieva et al. involved 22 third year students who study International Finance in English at Financial University under the Government of the Russian Federation in Moscow. In the same way, Djiwandono selected an intact class consisting of 21 students who were taking a vocabulary class that was taken as the group on which the experiment was performed. In contrast with this, a homogenous sample of 40 intermediate level students from two intact classes who study intensive English at METU in Turkey were participated in the study which was conducted by Tosun.

The instruments that were used in the articles were briefly identified and described. The main instruments that were used to collect quantitative data are a pre-test and a post-test. After the participants had undergone 2-month blended instruction, they were given the post-test. Furthermore, the qualitative data of the study were obtained from questionnaires and/or semi-structured interviews to collect opinions about the blended learning experience from the treated groups.

The steps involved in the data analysis were explained and the techniques were different in each articles, especially the inferential statistics. To illustrate, Vasbieva et al. analyzed the quantitative data with the Sandler  $A$  test that we use in case of two groups that are matched with respect to same extraneous variables and  $T$  statistics non parametric tests. To calculate the test scores, Tosun used independent  $t$ -test to analyze the findings. In contrast with this, Djiwandono analyzed the scores/data/ using ANOVA to determine whether there were any differences between results of comparison between individual means for the pre-test scores from the 5000-word level test, the middle-semester scores, and the two final tests. Again, to find the exact differences among the individual means, a Tukey HSD test was run after the main computation/ANOVA.

### Critique: Data Synthesis and Limitations

The titles of the stated articles are not extremely long or too short, and they also inform about their impact that reflect the content of the articles precisely and concisely. The studies reflect an accurate research, and the data collection is precise and well structured. All the studies indicate that the students were treated for 6-8 weeks period during their duration of treatment. Even though the procedures (test administration) are clearly written, the authors don't show the statistical tools to analyze the quantitative data and the analysis methods for the qualitative data.

All authors didn't compute an effect size since the studies were experimental. In addition to the descriptive and inferential statistics, I believe that the authors should compute the effect size of the tests. An effect size should be calculated or estimated for each contrast, and average effect sizes should be computed for fully face to face learning and for blended learning. The most basic and obvious estimate of effect size when considering whether two data sets differ is the difference between the means.

However, comparing means without considering the distributions from which the means were calculated can be seriously misleading. Regarding effect sizes, American Psychological Association (2010) states, for the reader to appreciate the magnitude or importance of a study's findings, it is almost always necessary to include some measure of effect size in the results section. Whenever possible, provide a confidence interval for each effect size reported to indicate the precision of estimation of the effect size.

Dornyei (2007) notes that effect sizes (strength of association) need to be computed because statistical significance only means that an observed phenomenon is most probably true in the population (and not just in our sample). Coe (2000) cited in Cohen, Manion, and Morrison (2007) also describe that an effect size is simply a way of quantifying the difference between two groups. For example, if one group has had an 'experimental treatment' and the other has not (the 'control'), then the effect size is a measure of the effectiveness of the treatment. Therefore, in the studies, the effect size can be measured using Cohen's *d* index of effect size formula to see the strength of the difference or how strong the relationship is. Cohen, et.al (2007) suggest to use the following indices: Cohen's *d*: 0–0.20 = weak effect, 0.21–0.50 = modest effect, 0.51–1.00 = moderate effect, >1.00 = strong effect.

**The weighted mean effect size of the three authors**

Study Name	Cohen's <i>d</i>	Percentage of control group who would be below average person in experimental group
<b>Tosun</b>	0.19	58%
<b>Vasbieva</b>	1.39	92%
<b>Djiwandono</b>	0.7	76%

As we can see from the above table, I computed the effect size of the three articles. The result showed that the treatment effects for experimental- vs. control- group comparisons studies for Tosun, Vasbieva, and Djiwandono have weak, strong, and modest effect respectively based on based on Cohen's *d* indices.

Moreover, all the authors didn't show clearly about the selection process of the samples and how the authors selected the target groups without employing sampling techniques. A good research design provides information concerning with the selection of the sample population treatments and controls to be imposed since the sampling are the fundamental to all the statistical techniques and statistical analysis (Singh, 2006).

When we see Tosun study, the author tries to check the reliability and validity because the content validity of the tests was evaluated by experts with more than 5 years of teaching and testing experience and to check the

reliability of the pre-test, the Kuder Richardson-20 (KR-20) coefficient was used. However, the article didn't provide information about the meaning of the listed keywords.

Additionally, the literature review section wasn't found in the study although an overview of the available literature in the introduction section frames or surrounds the study issue by revealing the gap. Few statements are also confusing the readers like: "in order to investigate the impact of blended learning approach in EFL teaching on students' achievement....(p.643) & .....from the vocabulary part of the exam (M=5, 65, SD=2,207) with those who were taught through face to face teaching (M=5, 25, SD=1,970)....(p.645)". Here the author put the M and SD results in comma not in decimal point.

There were no keywords to help users or readers of this article for ease of understanding in Djiwandono's study. Neither research questions nor hypothesis are found in the study. The study only set two objectives. Even though there was no a review section, the theoretical issues were discussed under the introduction section extensively. The author didn't show the gap under the subsection of the empirical evidence about vocabulary learning.

Under finding subsection, table 1 and 2 lack clear representation of data. It makes unclear as to what the data provide means and the ways it is stated. e.g. LF2 is higher than LF1, but the former mean is 67.619 and the latter 73.7619. The results were interpreted in relation to the findings and objectives, but the discussion should contain a clear statement of support for the output figures in its section. In Vasbieva's article, although the review of related literature was clearly explained, the statistical techniques weren't discussed in the section. Likewise, the author lists 16 references, but one of the references is not cited (Osguthorpe & Graham, 2003).

## Conclusion

The authors' paper set out to investigate the effectiveness of a blended learning technique in a vocabulary class and to identify the learners' opinions about the technique. The authors used different tools and targeted different sample, and the statistical tools result showed different conclusion. Vasbieva & Djiwandono stated that the findings indicated that the proposed blended learning strategy improved the students' vocabulary achievement, or there was a large enough gain on the mastery of new words by the end of the 2-month training program in the blended format. On the contrary, Tosun concluded that results indicated that the proposed blended learning strategy did not improve the students' vocabulary achievement.

Meanwhile, all the authors' qualitative data results which were obtained from questionnaires and interview showed that most of the respondents favored the blended learning instruction. I could argue that studies using blended learning also tended to involve additional learning time, instructional resources, motivation, and course elements that encourage interactions among learners. This opens the possibility that one or all of these practice could contribute to the particularly positive outcomes for blended learning. The authors' study issue has a big contribution to the advancement of knowledge, theory, or practice in the current encroachment of technological instructions. In short, I would suggest that further experimental research (testing design principles) of blending instruction for different kinds of learners, subjects, models and designs are needed since the available researches are few in number from online sources on the review issue.

## References

1. American Psychological Association. (2010). *Publication manual of the American Psychological Association*. (6th ed.). Washington, DC: Author.
2. Cohen, L., Manion, L., and Morrison, K. (2007). *Research Methods in Education*. (6<sup>th</sup> ed.). London: Routledge.
3. Detwiler, J.E. (2008). Comparing student performance in online and blended sections of a GIS programming class. *Journal of Transactions in GIS*, 12 (1), 131-144. Retrieved on December 17, 2017 from [onlinelibrary.wiley.com/doi/10.1111/j.1467-9671.2008.01089.x/full](http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9671.2008.01089.x/full)

4. Djiwandono, P.I. (2013). A Blended Learning Approach to Enhance College Students' Vocabulary Learning. *Electronic Journal of Foreign Language Teaching Vol. 10, No. 2*, pp. 210–220. Retrieved on December 18, 2017 from <https://www.scribd.com/document/338472914>
5. Dornyei, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Method Approaches*. Oxford University Press. New York. <https://www.researchgate.net/289318294>
6. Lee, C., & Pyo, K. (2003). A study on the effectiveness of online/offline English language learning at university level. *Multimedia Assisted Language Learning, 6*(1), 90–110. Retrieved on October 28, 2017 from [kmjournal.bada.cc/wp-content/uploads/2013/05/6-1-6CHLee.pdf](http://kmjournal.bada.cc/wp-content/uploads/2013/05/6-1-6CHLee.pdf)
7. Sezen Tosun. (2015). The effects of blended learning on EFL students' vocabulary enhancement. *Elsevier-Procedia Social and Behavioral Sciences 199* (2015) 641 – 647. Retrieved on December 15, 2017 From <https://www.sciencedirect.com/science/article/pii/S187704281504611X>
8. Singh, Y. (2006). *Fundamental of Research Methodology and Statistics*. New Delhi: New Age International (p) Limited Publishers.
9. Trawick, M.W., Lile, S.E., and Howsen, R.M. (2010). Predicting performance for online students: Is it better to be home alone? *Journal of Applied Economics and Policy, 29* (Spring), 34-46. Retrieved on December 16, 2007 from [connection.ebscohost.com/...](http://connection.ebscohost.com/...)
10. Vasbieva, D.G., Klimova, I.I., Agibalova, E. L., Karzhanova, N.V., and Bírová, J . (2016). Enhancement of Students' Vocabulary Learning through a Blended Learning Approach. *Look Academic Publishers - IEJME — MATHEMATICS EDUCATION, VOL. 11, NO. 5*, 1195-1203. Retrieved on December 18, 2017, from [iejme.com/makale/547](http://iejme.com/makale/547)