Vol. 8, No. 1, 2022, pp. 161-169
DOI: https://doi.org/10.29210/020221287

Contents lists available at Journal IICET

JPPI (Jurnal Penelitian Pendidikan Indonesia)
ISSN: 2502-8103 (Print)ISSN: 2477-8524(Electronic)

Journal homepage: https://jurnal.iicet.org/index.php/jppi

Blended learning effect towards Indonesian education students' learning achievement

Anwar Sewang[*)]
STAIN Majene, West Sulawesi, Indonesia

Article Info

Article history:

Received Des 24th, 2021
Revised Feb 04th, 2022
Accepted Mar 22st, 2022

Keyword:

Blended learning
Technology in education
Learning achievement

ABSTRACT

The success of a teacher in delivering a subject matter is not only influenced by his ability (competence of the teacher) in mastering the material to be delivered. But there are other factors that must be mastered so that he is able to convey the material professionally and effectively. In pedagogical competence, one of the points is that a teacher must master learning theory and educational learning principles.Mastery includes the competence of teachers in applying various approaches, strategies, methods, and learning techniques that educate creatively in the subjects they master. Blended learning is one of the strategies in learning process to build up the students' learning achievement.This paper examines the effects of blended learning on FKIP students of Universitas Sulawesi Barat Majene. In this study was selected students and divided into two equal groups; one experimental (blended learning) and one control group (traditional method). This paper uses the experimental methods and data analysis was carried out by using the Statistical Package for Social Science (SPSS) 25 version. The results for the research statistically revealed that the blended learning group significantly did better on the post-test ($p<0.5$). Therefore, the null hypothesis of the study with blended learning does not have any significant effect on student, in the other name it was rejected and the blended learning appeared to have greater effect on student of FKIP Universitas Sulawesi Barat. it can be claimed that receiving instruction by using blended learning can facilitate to learn.

Corresponding Author:

Anwar Sewang,
STAIN Majene
Email: sewanganwar@yahoo.com

Introduction

E-Learning allows work interviews and lives discussions to be made accessible online and offers rapidly updated information, animation and simulation services, immersive activities, and realistic appsthat are compatible with the needs of the students (Brew, 2008) and keep up pace whilst lessening cost of training (accommodation, travel, and books). Besides, it promotes the preservation and accessibility of information on time and combines material and information for all consumers. Eventually, it strengthens communication and cooperation among learners and decreases theirfeelings of humiliation to peers when making mistakes (Chih-Hua, 2008). Even so, e-learning mayhave negative sides, such as digital dependency, lack of enthusiasm, and loss of interpersonalcontact. Eventually, e-learning evaluations are limited to largely quantitative subjects, not overlook the standard of protection concerning online learning programs. Nevertheless, BL is anew curriculum technique that has steadily substituted e-learning in most universities, schools, institutes, and colleges.

According to Clark and Olson (2010, BL is a rational and logically appropriate complement to e-learning, has better benefits, is cheaper, and integrates progressivelyadvanced forms of learning. Likewise, Garrison and Kanuka (2009) claimed that BL is a conceptthat describes the different endeavors made by instructors to integrate the technology aspect intothe conventional classroom environment, due to the efficacy this arrangement offers. BL attemptsat immersive learning, culminating in the blending or combining of the role of a teacher in aconventional classrooms with that of a virtual classroom. The technology used in BL is alsointended to produce optimum participant output. As per Graham (2006), BL systems are designedfacilitate learning by promoting the incorporation of visual cues and instructional principles. The use of interactive settings is intended to attract the interest of the individual's participatingwhile boosting the connections with the partners.

From another point of view, information technology (IT) is rapidly growing as brought major changes in every aspect of our lives, including high demands in education and IT-based learning and teaching. Through technology, learning and teaching activities can be done withoutany boundaries of place and time differences. Unfortunately, this still appears far from the realitysince learning and teaching activities are still based on the traditional way, where students have toface the teacher directly in class. Aside from learning and teaching activities that were not soenjoyable, teachers still used teaching techniques that asked students to memorize a concept thatwas described abstractly. Some teachers still could not see an opportunity to use technologicaladvancement to deliver the lesson to students easily (Mouza, 2009).

The use of technology in class is still complementary and has not been used fully for both students and teachers. Whereas, technology can help them to do their learning and teachingactivities wherever and whenever so that it will not be as boring as before. Teaching through technology in the classroom help increase students' willingness to learn more and change thestudents' perception of teaching activities in general. Moreover, teachers will have a differentpoint of view about using technology in teaching that it is not only an activity to deliver the lessonto students but an activity to share and discuss new information. That is why a teaching strategythat can provide a useful atmosphere for both teachers and students is of paramount importance (Nuno, 2005).

Many strategies can be used by teachers. Yet, a strategy that can combine learning face to face and learning online will be the best choice for the students of FKIP Universitas Sulawesi Barat. The teachers needed to know not only the way to properly teach students theoretically, but also to use teaching technologies that highly applicable based on context. It also becomes an additional reason as to why the traditional way of teaching students face to face in a class willnotbe a suitable technique for them. Some extra time to help students in understanding a lessonalso as a way to do interaction and discussion between students to teachers and students tostudents outside of the classroom will be necessary and appropriate. Therefore, in this studyblended learning was implemented.

In a nutshell, curriculums based on blended based learning have been growing internationally since 2000 and has been utilized in many developed countries so far, such as North America, England, Australia, and so forth. All sorts of learning channels have been utilized appropriately to provide improved learning tasks through blended learning. Blended learning uses computers as a tool to merge both face-to-face learning and digital learning. This implies that teachers can teach using the technology approach and integrate it with channels of face-to-face learning that have been shared online. Through using laptops, mobile phones, televisions, video conferencing, and all other electronic equipment, they can have access to it (Yaumi, 2018). To developtheir learning and teaching qualities, learners, and even instructors as facilitators can cooperatesuccessfully. All share the same goal of using a blended learning approach, which is to make thelearning experience easier for learners to be autonomous, sustainable, and to continue to improvein their lives (Green & Whitburn, 2016). Throughout this way, the learning experiences of students will no longer be tedious, but they will certainly be more productive, efficient, and fascinating instead. Moreover, one ofthe advantages of blended learning is the ability to increase student participation – changingand strengthening the structure of the student's role in their learning as an engaged student (Korkmaz&Karakus, 2008; Obiedat et al., 2014; Mosca et al. 2010; Vernadakis et al. 2011).Blended learning has the potential to leverage students' perceptions that distribution modeswould parallel a significant part of their out-of-university environment that resides in thisblended 'style.'

In order to make it easier for students to find language classes more exciting and reach the best nature of learning, online instruction will, in addition to conventional approaches, lead to new learning success. It is recommended that a combination of traditionalinstruction and on-line training, named blended learning, will be used in language classrooms. Blended learning brings some benefits, e.g. higher classroom efficiency, greaterteaching flexibility, more convenience for students, and better learning engagement (Owston, York and Murtha, 2013).

In this way, concerning confinement and issues in conventional classes (tedious, lack of interest, and inspiration), the requirement for the joining modern technology into traditional. Classrooms, to improve students' learning are definitely needed. Although the utilization of thePC and the web has been presented in language classrooms, studies are required to check theviability and effect of blended learning. Therefore, this research aims to investigate the impact of blended Learning strategy on student's learning achievement.

The key ICTs and fundamentals of the rest of these inventions are computers, the internet, and its related technologies. ICTs have become ubiquitous and are utilized to promote andstrengthen users' communications and connections (Hussain, Cakir, Candeğer, 2018). Blended learning helps us to understand, more precisely, the features of electronic media in general, and information communication technologies (ICTs) in particular (Dziuban et al., 2018; Saat, 2004). Some aspects of blended e-learning are web-based teaching, video playback, audio, synchronousand asynchronous interaction, etc (Kenney &Newcombe, 2011; Limniou, Schermbrucker, & Lyons, 2018). The concept of blended learning has been defined using multiple meanings by many scholars. Miles and Foggett (2016) characterize blended learning as the integration of the powerful and beneficial elements of face-to-face learning with web-based learning. The concern here is not the accessibility of computers and computer applications, but how to make the best use of it in producing strategies and materials for learning (El-Ghalayini& El-Khalili, 2012). As Davies (2011) argued, the use of technologies is a way ofreaching educational targets and improving learning objectives.

The concept of blended learning has been defined using multiple meanings by many scholars. Miles and Foggett (2016) characterize blended learning as the integration of the powerful and beneficial elements of face-to-face learning with web-based learning. Blended learning is often characterized as a teaching approach that removes obstacles related to time, location and circumstance, while yielding high-quality communication between instructors and learners (Kanuka&Rourke, 2014; Krishnan, 2015; Simpson & Anderson, 2009).

In order to determine the relationship between the use of the computer in L2 learning and progress, various experiments have been carried out. Liu et al. (2002) claimed that "Outcomes from various researches indicate that the use of visual media facilitated the acquisition of vocabulary and sought to boost academic performance". Francis and Shannon (2013) measured the effect of blended learning to enhance the academic outcomes of learners. They concluded that students who do not engage with blended learning are academically disadvantaged.

Ghahari and Ameri-Golestan (2013) investigated the impact of blended and classroom teaching methods on Iranian learners. To fulfill, a group of 29 upper intermediateand advanced learners were randomly divided into two groups: an experimental group, namely Blended Learning, and a control group, namely Classroom Learning after taking partin a placement test. Participants of the Blended Learning group received traditional teaching methods of writing plus learning through the web. Participants of the Classroom Learning group, however, were taught based on the traditional teaching methods of writing and received the materials, instructions, and feedback merely through traditional methods. The results of the independent-samples t-tests showed that participants of the Blended Learning group significantly outperformed the ones in the Classroom Learning group in their writing performances.

In another study, Harahap, Nasution, and Manurung (2019) investigated the influence of the blended learning approach on students' learning achievement and scientific process skills of plant tissue culture course in the UniversitasNegeri Medan. Based on the study results, the blended learning approach can be inferred to be considerably more efficient in improving the learning success and science process level of learners in the plant tissue culture course in comparison with the traditional learning strategy.

Based on a study done by Dziuban, Hartman, and Moskal (2004), blended learning can improve students' learning outcomes and also decrease school dropout numbers in comparison to only thoroughly online learning. Another finding is that teaching based on blended learning is far better than face to face learning. The composition that is often used through blended learning is 50/50; it means from total time allocation, 50% is for face to face activity while another 50% is for online learning. Another percentage is 75/25, where 75% for face to face learning and 25 % for online learning. A composition of 25/75 is also possible, where 25% for face to face learning while 75% for online learning. In another study done by Sihkabuden (2011, there were no significant changes found between the experiment class which used blended learning, and the control class which used face to face learning method with help of PowerPoint, bout the students in the experimental group had higher motivation than the control class.

Blended learning typically attempts to employ multi-educational approaches to pursue the overarching purpose behind education (Olejarczuk, 2014; Tsoi, 2009). The versatility of blended learning is expressed by the potential to use both e-learning and conventional methods in streamlined techniques, so the product would be a variant of the best from each approach. As a consequence of this development in instructional strategies

and processes, which provided the means to help provide students with scientific information in a simple, fast and transparent manner, different forms of e-learning emerged to meet the concerns of students and the essence of the available resources to communicate with, including education depends on the use of electronic media in the classroom, and communication between teachers and learners, and receive information, and the interaction between the student and the teacher and the student and the sources of information available in the school. In the other researcher state that blended learning is a mixture of various learning strategies and delivery methods that will optimize the learning experience for its users. Bonk and Graham (2006) define blended learning as a combination of two instructions on learning and teaching models: traditional learning systems and distributed learning systems that emphasize the role of computer technology. Blended learning is a learning approach that integrates face-to-face traditional learning and distance learning that uses online learning resources (especially web-based ones) and a variety of communication options that can be used by educators and learners.

Method

The participants of this study were two intact classes (60 language learners) at the Education students FKIP of Universitas Sulawesi Barat, Indonesia. The participants' age range was from 19 to 22. They were selected based on non-random sampling. One class of 30 student sacted as the experimental class, and another class of 30 students acted as the control class. Both classes were taught by the same instructor who is the author of this paper.

Instruments

The first instrument used in the present study was a researcher-made pre-test. To realize the current participants' knowledge of Islamic education skills, a researcher-made pre-test was designed based on the students' materials. It was a test of 40 objective items including multiple-choice, short answer, and true or false items. The validity of the pre-test was confirmed by 5 experts. It should be mentioned that the reliability index of the pre-test was calculated through the KR-21 formula (r=0.94). The second instrument of the current study was a post-test of FKIP student. After the treatment, a post-test was designed and given to the participants. Like the pretest, it included 40 objective items including multiple-choice, short answer, and true or false items. The validity of the post-test was confirmed by 5 experts and the reliability index of this test was computed through the KR-21 formula (r=0.89).

Procedure

To conduct the present study, the researcher attended the above-mentioned university and selected two intact classes which were student of FKIP Universitas Sulawesi Barat. The researcher selected 60 students and divided them randomly into two groups; the experimental group (Blended Learning) (n=30) and the control group (Traditional learning) (n=30). Then, both groups were pretested. Then, the treatment was practiced in both groups. The learners in the Blended Learning group received learning by using computers and the internet. Using Hypertext Markup Language (HTML), Hypertext Preprocessor (PHP), and Java Script language, the website was designed as a learning media for this research in the blended learning class. The format and design of the website course were updated by validating, 2 professors who are specialists in studying media design, 2 professors who are specialists in instructional design and 2 professors who are website design specialists. Learners have been briefed on the procedure. On the other hand, the control group was taught in the traditional classroom that only learned based on available textbooks. The treatment lasted 15 Sessions of 50 minutes each under the guidance of the researcher.

Data Analysis

To answer the research question, data analysis was carried out by using the Statistical Package for Social Science (SPSS) software 25 version. In data analysis, the descriptive statistics including means and standard deviation were calculated.

Results and Discussions

First of all, the performance of both groups on the pretest was checked through running an independent samples t-test. The discussion will always connect to the introduction by way of the research questions or hypotheses.

Table 1. Group Statistics (Pre-test of Both Groups)

	Group	N	Mean Std	Std. Error	
				Deviation	Mean
Pretest	Experimental group	**30**	12.3125	1.30600	.23087
	Control group	**30**	12.7090	1.46500	.26312

In table 1, the descriptive statistics of both groups are presented. The means of both groups are almost equal. The EG's mean score is 12.3125 and the CG's mean score is 12.7097. This means that both groups are somehow similar since they are homogeneous at the beginning of the treatment.

Table 2. Independent Samples t-test (Pre-test of Both Groups)

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig	t	df	Sig. (2 Tailed)	Mean Difference	Std. Error Difference
Pretest	Equal Variances Assumed	.942	.336	-1.137	62	.260	-.39718	.34940
	Equal Variances Not Assumed			-1.135	60.719	.260	-.39718	.35005

In Table 2, an independent samples t-test was used to show the scores of both groups on the pre-test. Since the Sig (.260) is greater than 0.05, the difference between the groups is not significant at ($p<0.05$). They performed the same on the pre-test.

Table 3. Group Statistics (Post-test of Both Groups

	Groups	N	Mean Std.	Std. Error	
				Deviation	Mean
Pretest	Experimental Group	30	15.5625	.80071	.14155
	Control Group	30	13.0323	1.30343	.23410

Table 3 reveals the descriptive statistics of both groups on the post-test. The EG's mean score is 15.5625 and the text chat group's mean score is 13.0323. It seems that both groups performed differently.

Table 4. Independent Samples t-test (Pre-test of Both Groups)

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig	t	df	Sig. (2 Tailed)	Mean Difference	Std. Error Difference
Pretest	Equal Variances Assumed	6.690	.012	9.317	60	.000	2.53024	.27158
	Equal Variances Not Assumed			9.429	49.357	.000	2.53024	.27357

Table 4 indicates that the difference between both groups is significant at ($p<0.05$). The experimental group had better performance than the control group on the post-test. Therefore, it can be concluded that blending learning had a significant effect on improving Islamic Education skills. Lastly, to check the performance of each group from pretest to posttest on both speaking and self-efficacy tests, a paired samples t-test was run.

Table 5. Paired Samples Test Comparing the Performance of Both Groups from Pretest to Posttest

	Mean Std.	Std. Error		t	df Sig. (2-tailed)
		Deviation	Mean		
Pair 1 EG. Posttest – EG. Pretest	3.25000	1.43684	.25400	12.795	.000
Pair 2 CG. Posttest – CG. Pretest	.37500	1.07012	.18917	1.982	.061

As can be seen in Table 5, the experimental group improved from pretest to posttest (p- value <.05) but no change was found in the control group performance from pretest to posttest (p-value > .05).

Result and Discussion

After collecting the data, the researcher analyzed them to find out the impact of blended learning. The findings showed that the students who received the instruction through blended learning had better performance on their post-test compared to their pre-test. The results statistically revealed that the blended learning group significantly did better on the post-test ($p<.05$). Therefore, the null hypothesis of the study with blended learning does not have any significant effect on student was rejected. The results showed that blended learning appeared to have greater effect on student of FKIP Universitas Sulawesi Barat

According to the shreds of evidence from the above tables, the students who learn using the traditional way scored lower than the students who learned by blended learning strategy.This result can be explained as follows; the blended learning approach provided an efficientatmosphere for the growth of communication skills that reflected on the skills of students, suchas real-life behaviors and attitudes, enhancing their engagement with these attitudes. Thus, the significance of the blended learning approach stems from the feelings of the student towardsthis technique, they believe that while learning they play a significant part, and they have thechoice of selecting which learning method matches them. The Blended Learning technique saves both the instructor and student time. These results are also compatible with the researchof Mendez and Gonzalez (2010) in terms of saving both the teacher and the student time.

The findings further agree with those of Krishnan (2015), which notes that blended learning is efficient in developing the capabilities of the experimental group than traditionalmethods. This study is also in line with that of Saat (2004), who demonstrated that a web-basedlearning atmosphere enables the student to improve skills in the science process. The potential of the learning processes is developed by learners themselves in an individual learning process through blended learning. Students are also expected to comprehend the material individuallyand in detail. Before joining the class, the learners are also expected to learn the materialindividually by blended learning, although it will then be debated together in the class. It isindependent learning that is probably one of the explanations of why blended learning willstrengthen the learners' Islamic Education skills. By implementing the learning phases such asobservation, description, and estimation, students individually develop their comprehension ofmaterial information. Multimedia presented by teachers on the website, such as videos, animations, pictures, games, and flashes, will also assist students. Lecturers also provide theplatform with a simulated allocation of topics related to Islamic education skills. In the debateforums on the internet, participants are also allowed to attempt to figure a way out of the issue and reveal it online. Students are expected to regularly carry out science tasks such as analysis, estimation, generating observations, asking questions, applying ideas, preparing research, andsharing research findings through the accessibility of the virtual task. Learners are thereforesupported with too much academic help and scientific arguments between students and teachersto boost their Islamic Education skills.

The outcome of this study confirms the study results of Obiedat et al. (2014), who concluded that blended learning has an important and optimistic effect on the academic successof students at the University of Jordan. Furthermore, the results of Abidoye (2015), Kazu and Mehmet (2014), Ismail et al (2014), and Korkmaz and Karakusus (2009) also affirm the findingof this study that blended learning setting boosts students' learning achievement. In their study,Sridevi (2008) and Krishnan (2015) reported that the enhancement of skills in the scienceprocess is linked to student learning progress. Garrison and Kanuta (2004) mentioned that it isthe potential of blended learning that facilitate deep learning. According to Simpson andAnderson (2009), its key

role in higher education has been reinforced by the effects of blendedlearning. Kenney and Newcombe (2011) also did their comparison to establish effectivenessbecause of grades and found that blended learning had a higher average score than the non-blended learning environments.

From another point of view, the findings revealed that the high success of the experimental group could be related to the benefits of information delivery through the computers. The benefits of the computerized curriculum may have led to the improved resultsof the students in the experimental group who were trained using a computerized contentconfigured for learners to be appealing, fascinating, and pleasant and include vision and soundcharacteristics that far surpass the static descriptions in the book, thus making learning more interesting.

The curriculum permitted the solution to be identified by the computer in the learner computer interaction, and also performed the correction process so that the learner's wouldknow if the solution they had given was right or inaccurate. The computer gave feedback and support if the response was accurate; otherwise, the students were asked to attempt again. Thisis can also be credited to the innovation of introducing English language lessons via a computer. The findings of this research are compatible with those of Nuno's (2005) report, whichconfirmed the efficacy of computer-based instruction.

More specifically, computers boost the ability of students to draw a connection between abstract ideas and their immediate surroundings. When students are introduced to visualindications and monitored visual environments, they are more motivated to monitor theirlearning initiatives. In evaluating the implications of technology on student motivation, Mouza(2009) concluded that increased experiences in the classroom atmosphere, as a result embedded computers, provided students with the means to promote active participation. In addition, to promoting a concise connection between abstract ideas and the environment. The enthusiasm of students is boosted as they are subjected toinstruments that enhance their abilities while developing their deficiencies. Olejarczuk (2014) proposed that blending models should redesign themselves to accommodate the individualizednecessities of the students who are interested in the program. Preferably, as he or she can connect with the resources used in the learning process, student curiosity is sparked. Students' productivity is boosted as they are subjected to instruments that facilitate their comprehensionbased on different abilities. BL promotes the recognition of the strengths and deficiencies oflearners. Such an approach is important because it offers the knowledge required for teachersto modernize each student's performance in learning institutions.

Conclusions

The results indicated that Indonesian Education learners can benefit from attending blended learning classrooms. Based on the findings of the present study, it can be concluded that the implementation of blended learning in teaching and learning can produce positive results because they could absorb students in learning. The positive effects of using blended learning became obvious after the treatment. Here, it can be claimed that receiving instruction by using blended learning can facilitate to learn. The results of this research supported the fact that there is a positive relationship between students' education skills and technology use. These results have also indicated that using technologycan lead to students' satisfaction. Moreover, applying technology in classes and learningthrough it can enhance activity engagement. The results of this study have also shown thatstudent-centered classes and interactive education can be achieved through the application of technology in Education classes.

The researcher proposes the following for more studies and advancements in the light the findings of this research: Blended learning should be incorporated in other disciplines dueto the implications of teaching the skills of Islamic education. Researchers should perform more studies on the usage of blended learning techniques in students' success in other fieldsofeducation and regard other variables such as gender, age, student score rate, and IT and internetexperience. Several challenges impact the blended learning approach from the teachers' andstudents' point of view and their attitudes towards it, so further research can concentrate on thisfield to increase the use of this approach. This research can be the gateway for other relatedexperiments to demonstrate the impact of utilizing a blended learning approach on otheracademic materials or other stages of education. Eventually, the blended learning approach as a teaching strategy focuses on increasing students' success and enhancing their attitudes towards learning. Besides, it improves the skillsof the students, such as communication skills, obtaining information, and collaboration betweenthe student and the instructor, feeling that the learner plays a significant role throughoutlearning and that they have the choice of selecting which learning approach matches to them. The blended learning approach saves both the instructors' and the students' time.

References

Garrison, D. R., &Kanuka, H. (2009). Blended learning: uncovering itstransformative potential in higher. Internet and Higher Education, 7(2),95–105

Ghahari, S., &Ameri-Golestan, A. (2013).Theeffectofblendedlearningvs.Classroom learning techniques on Iranian EFL learners' writing. International Journal ofForeign Language Teaching & Research, 1(3),63-71.

Graham,C.R. (2006). Blended learning systems: Handbook of Blended Learning. Pfeiffer Publisher, San Francisco, CA,USA

Harahap,F.,Nasution,N.E.A.,&Manurung,B.(2019).The Effect of Blended Learning on

Student's Learning Achievement and Science Process Skills in Plant Tissue Culture Course. International Journal of Instruction, 12(1),521-538

Ismail,N.,Wan,Z.W.A.,Aida,S.M.Y.&Ahmad,F.M.A.(2014).The Effects of Blended Learning Methods on Educational Achievement and the Development ofOnline Material ina Curriculum Information Document Online System (CIDOS) forComputer Application Courses. Malaysian Journal of Distance Education.16(2),59− 82.

Kenney, J., &Newcombe, E. (2011).Adopting a blended learning approach: Challenges encountered and lessons learned in an action research study. Journal of Asynchronous Learning Networks, 15(1), 45 - 57.

Kazu, I.Y.& Mehmet, D. (2014). Effect of Blended LearningEnvironmentModelonHigh School Students' Academic Achievement.The Turkish Online Journal of Educational Technology, 13(1).

Laher, S. &Boshoff, E. (2017). Understanding learner attitudes towards the use of tablets ina blended learning classroom. Perspectives in Education, 35(1),200-213.

Mendez, A.& Gonzalez. (2010).Areactive blended learning proposal for anintroductory control engineering course. Computers & education, 54(4),856-865.

Abidoye, J. A. (2015). The Effect of Blended Learning Instructional Approach on Secondary School Students Academic Achievement in Geography in Akure, OndoState, Nigeria.Research Journal of Educational Studies and Review. 1(5), pp. 106-110.

Al-Karami, A.M.,&Al-Ali,N.M.(2009).''E-learning: then ewbreedofeducation,''in Education development through utilization of technology: UNESCO Regional Office for Education in the Arab States, V. Billeh and A. Ezzat, Eds., pp.49–63

Alzahrani1, M.G. & O'Toole, J.M. (2017).The Impact of Internet Experience and Attitudeon Student Preference for Blended Learning. Journal of Curriculum and Teaching,6(1), 65-78

Brew, L. S. (2008). The role of student feedback in evaluating and revising a blended learning course. Internet and Higher Education, 11,98-105

Chih-Hua, K. (2008). Design in ganon line writing system: Learning with support. RELC Journal, 39, 285-299.

Clark, M., & Olson, V. (2010). Scientific method: Ablendedinstructionalmodel. Journalof College Teaching and Learning, 7,35-38.

Colakoglu, O., &Akdemir, O. (2010). Motivational measure of the instruction compared: Instruction based on the ARCS motivation theory vs traditional instruction inblended courses. Turkish Online Journal of Distance Education,11,73-89.

Coswie P.&M.Nichols.(2010).The clashof cultures: Hybrid learning course development as management of tension. Journal of Distance Education 24(1).77-90.

Davies, R.S.(2011).Understanding technology literacy: Aframe work for evaluating educational technology integration. Tech Trends, 55(5),45-52.

Dziuban,C.D.,Hartman,J.L.,&Moskal,P.D.(2004). Blended learning.Educause Center For Applied Research, 2004(7), 4. Retrieved from http://net.educause.edu/ir/library/pdf/ERB0407.pdf

Dziuban,C.,Graham,C.R.,Moskal,P.D.,Norberg,A.,&Sicilia,N. (2018). Blended Learning: The New Normal and Emerging Technologies. International Journal of Educational Technology in Higher Education, 15 (3),1-16.

El - Ghalayini, H., & El - Khalili, N. (2012). An approach to designing and evaluating blended courses. Education and Information Technologies, 17(4), 417 - 430.

Francis, R., & Shannon, S. J. (2013).Engaging with blended learning to improve students' learning outcomes. European Journal of Engineering Education, 38(4), 359-369.

Graham, C. R. (2006). Blended learning systems: Handbook of Bl ended Learning. Pfeiffer Publisher, San Francisco, CA, USA.

Ghahari, S., &Ameri - Go lestan, A. (2013).The effect of blended learning vs. Classroom learning techniques on Iranian EFL learners' writing. International Journal of Foreign Language Teaching & Research, 1(3), 63 - 71.

Hussain, I., Cakir, O., Candeger U. (2018). Social Media as a Learning Technology for University Students. International Journal of Instruction , 11(2), 281 - 296.

Harahap, F., Nasution, N. E. A., &Manurung, B. (2019).The Effect of Blended Learning on Student's Learning Achievement and Science Process Skills in Plant Tissue Culture Course. International Journal of Instruction, 12(1), 521 - 538.

Kanuka, H., &Rourke, L. (2014). Using blended learning strategies to address teaching development needs: How does Cana da compare? Canadian Journal of Higher Education , 43(3), 19 - 35.

Liu, M., Moore, Z., Graham, L., & Lee, S. (2002). A look at the research on computer - based technology use in second language learning: a review of literature from 1990 - 2000. Journal of Research on Technology in Education, 34 (3), 250 - 273.

Olejarczuk, E. (2014). The E - learning component of a blended learning course. Teaching English with Technology, 14(3), 58 - 68.

Quadri, N. N., Muhammed, A., Sanober, S., Qureshi, M. R. N., & Shah, A. (2017).Barriers effecting successful implementation of e-learning in Saudi Arabian Universities.International Journal of Emerging Technologies in Learning (iJET), 12(06), 94-107.

Ramani, S. (2015). The internet and education in the developing world – hope and reality: Smart learning environment. iTech Digest: International Electronic Newsletter, 5(3), 2-16.

Robroo, I. (2019). The effect of using e-learning for enhancing active learning of pre-service teachers.International Journal of Information and Education Technology, 9(11), 803.

Sahin, I., & Shelley, M. (2008).considering students' perceptions: the distance education student satisfaction model. Educational Technology & Society, 11(3), 216-223.

Sari, F. (2020). Students' experiences in using online learning applications due to covid-19 in english classroom. Studies in Learning and Teaching, 1(2), 112-121.

Seage, S.J., &Türegün, M. (2020).The effects of blended learning on STEM achievement of elementary school students. International Journal of Research in Education and Science (IJRES), 6(1), 133-140.