



THE EVALUATION OF THE BLENDED LEARNING IMPLEMENTED AT AL-AHGAFF UNIVERSITY, YEMEN: A STUDENTS' PERSPECTIVE

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ABSTRACT

Abstract—Numerous universities worldwide have implemented the blended learning as students prefer other complementary approaches of content delivery. Recently, blended learning has become the most popular educational approach that universities apply due to the involvement of information communication technology (ICT). This study aims to evaluate the blended learning implemented at Al-Ahgaff University, Yemen from the students' perspective. A survey questionnaire was used to collect data from 28 students who involved in the blended learning, while thematic analysis technique was employed for data analysis. The students' perspective has measured in terms of getting benefits from the blending learning, their motivation towards the blending learning, their acceptance for the environment of the blending learning, and the advantages and disadvantages of the blending learning. The evaluation results reveal that blended learning method is a modern approach for learning that assists in activating the discussion between lecturer and students, and in improving their abilities and skills in research. Nevertheless, the majority of students confirm that the blended learning environment is not suitable due to external reasons. The electricity and Internet disconnection have a negatively impact on implementing the blended learning.



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I. INTRODUCTION

It must define the problem and importance of the research carried out, it presents a (not very extensive) review of the literature on the subject of the article, including the authors' contributions to the state of the art. If you use abbreviations or acronyms, first write the words that identify them and then, in parentheses, the acronym. This set also establishes the research question, the objectives of the work and hypothesis, if necessary, the importance and limitations of the study.

There are different learning approaches that can effectively influence the learning process and present the learning content for various students [1]. For many decades, the traditional teaching approach was the main way for course delivering in universities [2]. However, the advancement of information communication technology (ICT) has recently impacted universities students to prefer other complementary approaches of content delivery [3]. Accordingly, blended learning has become the alternative approach

of complementing conventional face to face learning and online learning [2]. In this regard, Ali, et al. [4] confirmed that blended learning has become the most popular educational approach that universities apply to teaching and learning due to the involvement of ICT.

The blended learning is defined as the new approach of teaching and learning that combines the classroom learning with the online learning platform [2]. It is the alternative learning approach that incorporates the advantages of online learning and face- to-face learning to support educational differentiation [5]. In addition, Kacetla and Semradovaa [1] defined the blended learning as the term that is employed in teaching and learning process with a combination of numerous activities such as face-to-face instruction and live e-learning. Oweis [6] stated that the blended learning combines both direct and indirect approaches of online learning that usually involves the internet and intranet, whilst indirect learning conducted concurrently within traditional classes. In addition, the blended learning integrates different learning

methods with various teaching methods, objectives, environments, and resources [5],[7].

Several publications have confirmed that blended learning has many benefits. For instance, it can offer flexibility and efficiency [4], as well as make the teaching and learning process more interactive [3]. In addition, it can increase students' knowledge and skills [8] and academic performance [5]. Other studies suggest that blended learning is a solution to classroom insufficiency [4], and it can solve the problems of traditional and online learning [9]. Musawi and Ammar [8] stated that blended learning utilizes appropriate ICTs to combine times and modes of learning and integrate the best aspects of face-to-face and online interactions, while indicated that blended learning can provide individual learning opportunities for both students and lecturers [4].

According to [8] stated that implementing the blended learning in universities worldwide has proven successful. In addition [5] reported that the blended learning has been applied in numerous courses, for example, nursing, mathematics business, and English learning. However, [10] confirm that it is important to explore the students' perspective on the blended learning. In this context, the blended learning has been implemented in the Faculty of Computer Science and Engineering, Al-Ahgaiff University, Yemen [11]. Al-Ahgaiff University is a none profit university established in 1994, and it has started adopting the online learning during the Covid-19 pandemic [12].

Lately, several studies have been carried out to examine the students' perspective on the blended learning implemented in different universities, such as University of Bisha [2], Muni University [4], and South East European University [13]. These studies motivated the current study to explore the students' perspective of Al-Ahgaiff university on the blended learning. Therefore, this study aims to evaluate the blended learning implemented at Al-Ahgaiff University. In particular, it examines their perception on the learning method, benefits, and environment suitability. Then, it focuses on identifying the advantages and disadvantages of the blending learning from their perspective.

The contents of the remaining sections are organized as follows. Section II reviews the literature and highlights the related works. Section III describes the research method employed in achieving the study objective. Section IV presents and discusses the study results. Section V concludes the findings and suggests some remarks for forthcoming work.

II. RELATED WORK

The enumerations of citations in the body of the article must be sequenced in the order in which they appear, according to the example shown below.

Recently, blended learning has attracted the attention of university teachers and students over the world. Therefore, numerous studies have been conducted to review and examine the effectiveness of the blended learning implemented in different universities.

According to [5] conducted a systematic review to evaluate the effects of blended learning in physical education among university students. The study discussed the problems with traditional physical education and the advantages of the blended learning model over traditional instructional methods. A focus was directed to the effects of blended learning on motor skills, satisfaction, learning interests, and learning attitudes. The results demonstrated that blended learning effectively improves students'

physical performance, and significantly improves students' academic performance, satisfaction, and interest in learning.

For [2] carried out a study to find out the effect of blended learning on students' performance and satisfaction in South East European University. A structured questionnaire was used to gather data from 319 students. The results of the analysis show that blended learning has an impact on both students' performance and students' satisfaction. The course management and interaction have a positive significant effect on students' satisfaction and performance, with the latter having a stronger effect on both satisfaction and performance outcomes from blended learning. Finally, the study shows that there is a correlation in on hand between blended learning and students' improved performance, and on the other hand a positive correlation between satisfaction and performance.

According to [3] carried out a study aimed to investigate the effect of using Google Classroom's on blended learning on English ability of university students at STMIK-AMIK Riau in Pekanbaru-Riau, Indonesia. A quasi-experimental design was employed, and experimental and control group were conducted with 68 students. Quantitative data were collected through an instrument consists of multiple-choice questions. Pre-test and post-test were used to measure the students' English ability before and after conducting the treatments in both groups. The study results indicated that blended learning through Google Classroom improves students' English ability. However, the study claimed to conduct further studies in using of Google Classroom on different domains.

According to [4] conducted study that analyzed the strengths, weaknesses, opportunities and threats (SWOT) of blended learning in the Public Universities of Uganda, in a case study of Muni University. A questionnaire was employed with 25 lecturers and 189 students and the data collected were analyzed using SPSS. This paper provides a baseline study to help government and public universities that would like to implement or newly incorporate blended learning to identify strengths, weaknesses, opportunities and threats associated with the blended learning approach. As a result, the study provided a baseline to help government and public universities that would like to implement or newly incorporate blended learning. The study recommended that for a successful implementation of blended learning, steady power supply should be provided, internet accessibility should be improved. In addition, the university should provide blended learning training for both students and lecturers. Finally, policies, rules and standards pertaining to blended learning should be enacted for both the government and university.

For [8] conducted a study aimed to examine the effect of different blending levels of traditional and e-learning delivery on academic achievement and students' attitudes towards blended learning at Sultan Qaboos University, Oman. Three educational programs based on blended learning were designed to be delivered to students attending the "introduction to educational technology" course, whereby each program differs in its blending proportion between traditional and online learning. The study focused on determining the most suitable blending ratio between the two delivery formats for this course, and comparing the effectiveness of the three blending levels to the traditional instruction in terms of developing students' academic achievement and their attitudes towards using blended learning. The results indicated a statistically significant difference at the level of <0.05 between the mean scores of all the experimental groups and the three control groups in the post academic achievement test. However, the study recommended using a blended learning strategy with all blending ratios in teaching and developing different learning variables.

[10] conducted a study investigated the perceptions and obstacles faced by EFL learners in the implementation of blended learning in an abnormal learning system. In the study, a semi-structured open-ended questionnaire and semi-structured interviews were conducted with 48 undergraduate EFL students from University of Tadulako, Indonesia. The participants perceived that learning through blended learning needs more experiences in utilizing online learning mode and requires more study times to make them get used to the internet. Some learners perceived the implementation of blended learning as easier, helpful, flexible, and fun. However, the learners reported that they face different problems on the implementation of blended learning, such as unclear online instruction, poor internet connectivity, and delay to respond questions on the online learning classes.

A survey study conducted by [13] to examine students' perceptions and satisfaction towards the three components of a blended learning environment: multimedia learning materials, assessment, and interactive activities in the College of Arts & Sciences, Al-Namas, the University of Bisha, Saudi Arabia. Quantitative data was collected in the form of 12 Likert items in which 22 Saudi students are asked to evaluate their learning experiences. The researcher's observation was used to decode, and explain the responses of the participants qualitatively. The result revealed that learners prefer illustrated text materials to video, plain text and audio materials, flexible assessments to non-flexible assessment, and blended communication tools like WhatsApp, blogging, wikis, collaborative activities, and discussion forum.

According to [14] conducted to explore the students' perspective and to investigate the effects on the grammar performance of EFL students when using blended learning at Irbid National University, Jordan. A quasi-experimental design was employed, whereby 28 students involved in pre and post tested, and divided into two groups. Only 13 students were in a blended learning group and they completed structured interviews; however, the remaining 15 were in a control group. The study result revealed that the post test results of the students in the blended learning group were higher than the post test results of the students in the control group. It confirmed that blended learning improved the students' digital skills as well as provided them with flexibility and easy access to learning materials, and attracted their attention. The blended learning also encouraged the interactions between the students themselves and their teachers.

Overall, it is clear that several evaluation studies have been carried out to examine the students' perspective on the blended learning implemented in different universities. Particularly, the blended learning has been evaluated in the University of Bisha, Saudi Arabia [2], Pekanbaru, Riau, Indonesia [3], Muni University, Uganda [4], Sultan Qaboos University, Oman [8], University of Tadulako, Indonesia [10], South East European University, North Macedonia [13], and Irbid National University, Jordan [14]. Therefore, the current study aims to evaluate the blended learning implemented at Al-Ahgaff University, Yemen.

III. METHODOLOGY

The study uses a mixed-method design of research to investigate the perspective of students who have participated in the blended learning implemented at Al-Ahgaff University on the academic year 2022-2023. It mainly focuses on examining the student's perception through answering the following research questions (RQs):

- RQ1: To what extent students got benefits from the blending learning approach?

- RQ2: To what extent students were motivated towards the blending learning approach?
- RQ3: To what extent the environment of the blending learning was suitable and appropriate?
- RQ4: What are the advantages and disadvantages of the blending learning from student's perspective?

A survey questionnaire was used to collect data from Al-Ahgaff University students who involved in the blended learning. The survey questionnaire is a useful and powerful technique that is used for data collection to measure opinions and perceptions [15]. The survey questions were adopted from the related work, such as [2],[3],[8],[10],[13], and [14], while the survey instrument was validated by three experts from the relevant area, as argued by [16]. The survey instrument consisted of six sections. Section 1 is for obtaining the participants demographic information. Sections 2 to 5 are for answering the identified RQs, while section 6 is for getting the participants comments and suggestions. Sections 2 to 4 have different questions in which the students are asked to respond. They have a Likert scale survey with 3-scale points: 'Agree,' 'Neither Agree nor Disagree,' and 'Disagree.' They choose the option as per their learning experiences and preferences during the classes. The 3-scale points is selected as it is the most widely used approach to scale the responses in survey research. It is simple for the students to decide if they like or dislike, it minimizes their confusions, and it is easy to measure.

In this study, data were collected on 9-10 October 2023 with the promise that the collected data would be kept confidential and only be used for research purposes. However, to analyze the collected data, the researchers applied thematic analysis by Clarke and Braun [17], which describes an iterative process of going from messy data to a map of the most critical themes in the data. The process of thematic analysis is familiarizing the researcher with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Results and discussion are detailed provided in the next section.

IV. RESULTS AND DISCUSSIONS

The empirical findings of this study are structured into six sections start by presenting the participants demographic information, then provide answers to the four research questions, and followed by student's comments and suggestions as analyzed below.

IV.1 STUDENTS' DEMOGRAPHIC INFORMATION

This study was conducted in the department of Information Technology (IT) at the Faculty of Computer Science and Engineering, Al-Ahgaff University, in Yemen in the academic year 2022-2023. Twenty-eight (28) students (64% males and 36% females) were undergraduates between the age group of 19 to 22 years. Participants were enrolled in Fundamentals of Information Technology, a course in IT Bachelor's program. The semester consisted of 16 weeks in which the course had three credit hours a week. Participants took face-to-face classroom an hour and a half a week, while taking an online class on the other hour and a half.

IV.2 STUDENTS' DEMOGRAPHIC INFORMATION

Around 90% of the participants emphasized that lessons become difficult and unclear during implementing the blended learning. In addition, 82% of the participants acknowledged that they prefer traditional learning, and they do not effectively learn

during the blended learning. Overall, 75% of the participants indicated that they did not get benefits of the blended learning.

However, 61% of the participants emphasized that blended learning makes the lecturer focus on particular lessons and pre-identified points. Moreover, two-thirds (65%) think that the success of blended learning is related with the type of subject, in which 68% confirmed that blended learning do not help students getting satisfied marks in comparing with other subjects' marks that are taught with traditional approach. Furthermore, only 22% of the participants agreed that blended learning helps in acquiring new knowledge and skills, while 56% of them were disagreed and the remaining (22%) indicated that they are "neither agree nor disagree". Besides, 43% of the participants agreed that blended learning reduces the time of learning comparing with the traditional approach, whilst 50% of them were disagreed and the remaining (7%) indicated that they are "Neither agree nor disagree".

IV.3 STUDENTS' MOTIVATION TOWARDS BLENDED LEARNING METHOD

Only 14% of the participants agreed, and same percentage are don know, that blended learning provides satisfaction similar to the traditional learning although the majority of students were disagreed. Additionally, 82% of the participants affirmed that blended learning does not support different teaching methodologies, such as lecture, discussion, focus groups. However, 79% of the participants indicated that blended learning is impossible to be implemented in practical classes of the information technology (IT) program.

Although 64% of the participants acknowledged that lecturer has paid care on student's differences during performing classes in the blended learning; however, two-thirds of them emphasized that lecturer did not make them like the blended learning. Therefore, 57% stated that they did not give more interest for classes of the blended learning. They confirmed that blended learning does not support self-study and grant the confidence. Nevertheless, only 26% claimed that blended learning provides motivation for learning and make it interesting comparing to the traditional approach, whilst 15% are "Neither agree nor disagree" and the remaining (59%) were disagreed on that claim.

IV.4 SUITABILITY OF LEARNING ENVIRONMENT WHEN APPLYING BLENDED LEARNING METHOD

Initially, 58% of the participants affirmed that the existing environment for implementing the blended learning was not suitable as it does not help students to focus on the lecturer explanation. In this context, 57% acknowledged that necessary tools and software for conducting classes within blended learning were not available. On the other hand, 79% of the participants affirmed that preparing the environment for blended learning classes consumes too much time, whereby 90% of them confirmed that external reasons, for example electricity and Internet disconnection, have a negatively impact on implementing the blended learning.

Regarding to the used approach, 71% of the participants acknowledged that using of Intranet (without Internet) at the beginning of the semester was not suitable for implementing the blended learning classes. Nonetheless, 61% of them affirmed that using commercial software, such as Zoom, at the middle of semester, was better. In addition, 71% of the participants affirmed that the absence of lecturer in one of the two classes helps students on careless, whereby half of the participants (50%) acknowledged

that they can use the microphone for discussion and interaction with lecturer who is in the other classroom.

IV.5 STUDENTS' PERSPECTIVE ON ADVANTAGES AND DISADVANTAGES OF BLENDED LEARNING METHOD

This subsection presents students' perspective on advantages and disadvantages of blended learning method.

For the advantages, some students stated that blended learning method helps in distance learning, and it improves self-study concept. They also considered that recorded video classes are the most advantage of the blended learning method. Some students indicated that using the blended learning method has benefits for the lecturers and students. It reduces the lecturer effort and assists students to focus on the classes. Besides, some students affirmed that blended learning method has helped them in activating the discussion between them, and following their lessons consequently. It also aided them in improving their abilities and skills in research. They confirmed that blended learning method is a modern approach for learning, it might be applied to the none core subjects.

For the disadvantages, around 70% of students stated that lecturer in the blended learning focuses only on the students who are in the classroom. Thus, a big and notable careless for students who are sit on the other classrooms. This leads to less interaction with those students and would generate none active students whom do not care to their lessons. In addition, 40% indicated that the disconnection of the electricity and Internet are the key disadvantages of employing the blended learning method. A group of students acknowledge that blended learning needs a lot of time to review lessons comparing to the traditional learning. Additionally, some students added: "the technical issues in addition to the disconnection of the electricity and Internet lead to loss much time of the class. This is a clear sign indicates that the environment is not suitable for implementing the blended learning." Moreover, other students wrote: "the blended learning has difficulty impacts understanding lessons, and to some extent, there is no interaction and discussion between lecturer and students."

IV.6 STUDENTS' COMMENTS AND SUGGESTIONS

This section presents the students' comments and suggestions. A student wrote: "blended learning method should be applied with theoretical subjects nor practical classes". Another student also suggested applying the blended learning method at most with one subject per semester conditionally with a theoretical subject. However, a student suggested that blended learning might be implemented via recorded video classes and then show it for students in the classroom. Besides, two students wrote: "the class room for blended learning should be well prepared. Also, it is better to use Zoom instead of Intranet". Further, some students claimed to find a way to allow students to ask questions during the class or provide them a specific time for their questions at the end of the class.

V. CONCLUSIONS

This paper presented and discussed the evaluation results of the blended learning implemented at Al-Ahgaff University, Yemen. In the current study, 28 students from the Faculty of Computer Science and Engineering, who involved in the blended learning, have participated to express their opinion and perspective.

Students' perceptions were collected by using a survey questionnaire, while thematic analysis technique was employed for data analysis.

The findings of the current study confirm that blended learning method is a modern approach for learning that assists in activating the discussion between lecturer and students. In addition, blended learning makes the lecturer focus on particular lessons and pre-identified points. Moreover, it can improve the research abilities and skills of students. However, the majority of students acknowledged that they prefer traditional learning as they did not get benefits from the blended learning. Furthermore, they affirmed that the blended learning environment is not suitable due to external reasons. For instance, electricity and Internet disconnection have a negatively impact on implementing the blended learning.

Future work will focus on evaluate the blended learning implemented at Al-Ahgaff University from the lecturer's and technicians' perspective through conducting interviews with them. The interview is the suitable method to explore such in-depth sensitive topics on human behavior and social interactions.

VI. AUTHOR'S CONTRIBUTION

Conceptualization: Hamzah Alaidaros, Omer Salim Bakahakam, and Asma Abdulrhman.

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