

# The Impact of a Blended Course on Yemeni University Students' Perceptions and Collaborative Knowledge Construction Performances

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**Abstract:** This descriptive study surveyed the perceptions and the attitudes of a group of Yemeni student teachers towards technology use in a blended course (BC). It also aims at finding out whether the student teachers differ in their perceptions and attitudes towards blended learning based on their gender. The sample of the study consisted of (128) Yemeni EFL student teachers of the third level who are studying Morphology and Syntax at the Department of English in the College of Education in Sana'a University. The study attempted to answer research questions regarding (a) their perceptions about technology use in a blended classroom, and (b) if the participants' perception about technology use differ based on their gender. The researchers collected the data via a questionnaire whose results showed positive perceptions about the face-to-face classroom and a negative attitude towards the Web course. The results of the current study showed that the highest mean average among the six domains of the attitudes towards technology use was the domain of Web course ( $M = 3.85$ ), followed by the domain of Engaging ( $M = 3.16$ ) and the domain of effectiveness ( $M = 3.05$ ). In the fourth place came Motivation ( $M = 3.01$ ). The last two domains with the lowest means were the domain of proficiency ( $M = 2.91$ ) and the domain of performance ( $M = 2.48$ ). Moreover, the differences between the attitudes of the male and female students were not statistically significant. The findings of the current study present some pedagogical implications and suggestions for future research studies.

**Keywords:** Blended Classroom, Perceptions, Attitudes, Academic Achievement, Gender

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## 1. Introduction

Since the mid 1990s, teachers have begun using computers, mobile phones and the internet resources for a variety of teaching and learning purposes and blending online platforms in which the learners can take responsibility of their own learning, work collaboratively, and deliver presentations about topics in their course to demonstrate what they have learned. Blended learning classes have gained popularity among teachers, educators and researchers and have become alternatives to the traditional classes [2, 17, 23, 4]. Blended learning is a student-centered approach which is centered around

creating a learning experience in which the student interacts with the teacher, with other students, and with content through meaningful combination of face-to-face and web environments [11, 2, 4]. Thus, blended learning classes are those which allow the students to prepare their own presentations and papers using online materials and to be taught by a formal teacher at the same time [16].

Friesen defines blended learning as the possibilities of combining both the Internet and digital media with classroom environments that require the physical presence of the students and their teacher [11]. Furthermore, Friesen defines blended learning as a method of instruction that combines web educational materials and possibilities for communication on the web with traditional face-to-face

classroom methods [11]. In blended learning it is mandatory that the presence of both the students and their teacher with some components of student control over time, path, place or pace.

According to the Dream Box Learning, in the blended classroom, the teacher creates technology based lectures and activities in order to teach his/her students academic concepts outside the classroom. The students come to the classroom well prepared which enables the teacher to get the students practice more collaborative and engaging activities that make the information gathered outside the classroom more meaningful [7]. The teacher can also utilize the class time to diagnose the difficulties and problems that the students may have and help them overcome such difficulties [14].

A number of researchers have mentioned the unique characteristics and advantages of blended learning. According to Glazer, a significant portion of the activities occurs in two areas: online and in the classroom [13]. Furthermore, Ughade and Badre report a number of advantages of blended learning such as continuous learning, time saving as well as reducing costs [22].

The blended classroom becomes effective and successful when the students are accountable and do their assignments online and take part in the in class discussion activities [6, 14].

### **1.1. Previous Studies**

Several studies have been conducted to explore the effects of blended learning on academic performance and motivation of learners in different parts of the world. In a recent study conducted in Germany, Bock, Kniha, Goloborodko, Lemos, Rittich, Möhlhenrich, Rafai, Hölzle, and Modabber tried to compare the effectiveness of three methods of teaching dental students: blended learning, face-to-face and electronic learning on the students' gain of information in dentistry. Their study involved 37 dentist students. The researchers divided the participants into three groups. They taught the first group through the blended learning; the second through the traditional face-to-face. They also taught the third one through the e-learning. Then they administered an achievement test to evaluate the performance and information gain of the three groups. The results indicated that the blended learning group outperformed the other two groups in theoretical knowledge gain [4].

In Jordan, Oweis studied the effect of blended learning on the learners' performance and motivation. His study sample consisted of 34 students. They studied a course of the English in the German Jordanian University. The researcher divided the participants into two groups, namely: the experimental and the control groups. The students of the experimental group were exposed to blended learning as well as the traditional one. On the other hand, the researcher taught the students of the control group through the traditional method of instruction. His findings showed a statistically significant differences in the achievement and motivation of the students. The differences were in favor of the students of the experimental group [20].

In Nigeria, Gambari, Shittu, Ogunlade and Osunlade conducted a study to investigate the effect of the blended learning and the online learning methods of teaching on the academic achievement of Nigerian students. Their sample consisted of 30 university students. The researchers divided the participants into three groups: two experimental and a control group. The students of the control group were taught through the traditional face-to-face method. While the two experimental groups were taught through blended learning and web learning methods of instruction respectively. They used a test to collect their data and the results showed that there were significant differences in the academic achievement of the students of the three groups. The differences were in favor of the students who were taught utilizing the blended mood of instruction [12].

In Yemen, Al-Mekhlafi investigated the effect of using an EFL online program on the oral skills of level one students who study English at the Department of English in the College of Education in Sana'a University. The sample of the students consisted of 50 students who were divided into two groups, namely: the Experimental and the Control groups. The researcher taught the students of the experimental group through the blended learning method. However, the Control group was taught through the traditional face-to-face method of instruction. The results of the study showed statistically significant differences between the means of the students of the two groups. The differences were in favor of the students of the experimental group in the three oral sub skills: fluency, accuracy and pronunciation [2].

In Iran, Hashemyolia and Ayub explored the effectiveness of using an English language courseware on school learners' academic achievement. Their subjects were 62 secondary school students. They divided the subjects into two groups, namely: the experimental group and the control group. The researchers taught the students of the experimental group using an educational software named: RSELC. They also taught the students of the control group through the traditional method of instruction. Their results showed statistically significant differences in favor of the students of the experimental group [15].

Another study was conducted in Iran by Shabani, Parseh, and Gerdabi. They studied the effectiveness of chat on the vocabulary retention of Iranian students. Their subjects were 60 students who were divided into two groups, namely: the experimental and the control groups. The researchers taught the students of the control group through traditional vocabulary teaching. They also taught the students of the experimental group through vocabulary retention by means of chat. Their results revealed that the teaching of vocabulary by means of chat had significant effectiveness on vocabulary retention than that of the traditional method of instruction [21].

However, some research studies reached opposing conclusions. For example, Elmer, Carter, Armga, & Carter reported that their results showed no significant differences between the assignment grades of the students of the blended learning strategy and those of the traditional one [8].

### 1.1.1. Students' Perceptions Towards BL

Bordoloi, Das and Das surveyed the perceptions of 120 students and instructors in some Indian colleges and universities about the use of blended learning in the Indian universities. The researchers collected their data via structured questionnaires. Their results showed that 50% of the participants agreed that utilizing blended learning techniques has helped them gain information and skills during the lockdown of COVID 19 [5].

Ughade and Badre investigated the perceptions of 75 Indian students in higher educational institutions towards the use of blended learning method. They used a structured questionnaire to collect their data. Their results showed that 57% of the participants agreed that the blended learning method of instruction was superior than the traditional one and had direct effects [22].

Adas and Abu Shmais explored the perceptions of Palestinian students towards the use of blended learning environment at An-Anajah University. Their subjects were (92) students who were studying a general course. They collected their data using questionnaires. They found that the learners' attitudes towards using blended learning environment were positive [1].

### 1.1.2. Gender Differences

Gender and its rule on the performance and perceptions and attitudes of learners is still controversial. Different studies report contradicting findings. For example, Gambari, Shittu, Ogunlade and Osunlade reported that there were no statistically significant differences based on gender found in the achievement of undergraduate students who were taught utilizing both the blended learning method of instruction and the traditional one [12]. However, Adas and Abu Shmais and Mahmoud, Ahmed and Mirna found significant differences in the academic achievement of male and female learners who were exposed to blended learning strategies [1, 18].

### 1.2. Purpose

The purpose of the present study was to explore the perceptions and the attitudes of Yemeni student teachers towards using a blended course.

### 1.3. Research Questions

This research paper attempts to address the following questions:

- a) What are the attitudes and perceptions of Yemeni university students towards the blended classroom?
- b) Are there any similarities and differences between the attitudes of both male and female Yemeni students towards the blended classroom?

### 1.4. Limitations of the Study

The scope of the present study is limited to explore the perceptions and the attitudes of Yemeni university student

teachers towards the blended classroom. Furthermore, the sample of the present study is limited to the students who were studying the Morphology and Syntax course in the Department of English, College of Education in Sana'a University during the second semester of the academic year 2019-2020. The participants of the present study were an available sample who were not chosen randomly. Therefore, caution should be kept in mind when making generalizations of the results of this study to other similar university contexts.

## 2. Methodology

### 2.1. Participants

The researchers used the total enumeration sampling technique. Thus, (128) Yemeni university students participated in this study. A hundred and twelve (87.50 %) of the students were females and the other sixteen (12.50 %) were males. Their ages were between 21 and 26 years old with an average mean of 22.52 years old and the Arabic language was their mother tongue. They were enrolled in a Morphology and Syntax course at the Third Level in the Department of English, College of Education in Sana'a University during the second semester of the academic year 2019-2020. The participants of the study had mixed abilities in English proficiency. They are exposed to the English language only inside the classroom.

### 2.2. Research Instrument

To answer the research questions of this study, the researchers collected data about the participants' attitudes towards using the blended classroom. They used a closed ended questionnaire. The researchers developed the items of the questionnaire To answer the research questions of this study, the researchers collected data about the participants' attitudes towards using the blended classroom. They used a closed ended questionnaire. The researchers developed the items of the questionnaire depending on the relevant research studies with specific reference to [9, 14, 19].

The researchers used these studies as sources of inspiration to construct the items of the questionnaire.

The questionnaire consisted of 30 items using a Likert scale format with response categories of: strongly agree, agree, neutral, disagree and strongly disagree. The 30 items of the questionnaire were organized into six domains, namely: Proficiency, Performance, Effectiveness, Motivation, Engaging and Web-course. The researchers translated the items of the questionnaire into the students' mother tongue, Arabic, for the sake of clarity and avoidance of misunderstanding. The questionnaire items provide knowledge about the perceptions and the attitudes of the Yemeni university students about the blended classroom. The final copy of the research instrument consisted of thirty items distributed on six domains as illustrated in Table 1 below.

**Table 1.** Distribution of Questionnaire Items on the Six Domains of the Scale, the Number of Items and Samples.

Domain	Number of Items	Sample
Proficiency	5	I have experience in using technology.
Performance	4	The use of technology makes course material easier to learn.
Effectiveness	11	I found the Web-Quest helpful in learning English Morphology.
Motivation	4	The use of Google Classroom impacted my motivation to learn English Morphology
Engaging	2	I found the Web-Quest engaging in learning English Morphology.
Web-course	4	I would rather take a course on the Web than in a traditional classroom.
Total	30	

The content and the face validity of the items of the questionnaire were verified by giving them to three experts who are specialized in Applied Linguistics. To verify the reliability of the questionnaire, the researcher piloted it to a sample of twelve students of the third level at the Department of English in Al-Hikmah University. Using the SPSS program, the researchers calculated the reliability scores of the instrument (Cronbach's alpha). The Alpha score obtained was (0.90). It indicates high reliability of the instrument. According to Frankel and Wallen, the reliability scores of the questionnaire must be 0.70 and above [10].

### 2.3. Data Analysis

After the collection of the survey questionnaires, the researchers analyzed their data quantitatively. The data were computer-coded using the Statistical Package for Social Sciences (SPSS) Program. Descriptive statistics were calculated for each item of the questionnaire as well as the means and standard deviations. It might be worth noting that the significance level in the current study was set at  $P < 0.05$ .

## 3. Results and Discussion

The researchers of the present study asked the Yemeni student teachers to express their own perceptions and attitudes towards the technology use in the blended classroom using the following five point Likert-type scale: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree. The researchers also divided the means of the Likert-type scale as follows: (1 - 1.80) means strongly disagree, (1.81 - 2.60) means disagree, (2.61 - 3.40) means neutral, (3.41 - 4.20) means agree, and (4.21 - 5) means strongly agree. Then the participants' responses to the 30 items of the questionnaire were classified into six domains, namely: Web-course, Engaging, Effectiveness, Motivation, Proficiency and Performance. The data collected through the questionnaires allowed the researchers to describe how the Yemeni university students rate the six domains of the

current study in a descending order and gave information about which domain of the technology scale the Yemeni student teachers rank most and least. The means and the standard deviations of the six domains are shown in Table 2 below.

**Table 2.** Mean and Standard Deviations of the Six Domains of the Study.

Domain	N	Mean	St. Deviation
Web-course	128	3.85	0.43
Engaging	128	3.16	0.86
Effectiveness	128	3.05	0.58
Motivation	128	3.01	0.81
Proficiency	128	2.91	0.87
Performance	128	2.48	0.93
Total	128	3.08	0.75

Table 2 above, makes it clear that the total mean of the six domains is (3.08). The Table also shows the Web-course domain came in the first place with a mean of (3.85) with a standard deviation of (0.43). The Engaging Subscale came in the second place with a mean of (3.16) and a standard deviation of (0.86). The Effectiveness Subscale came in the third place with a mean of (3.05) and a standard deviation of (0.58). The Motivation Subscale came in the fourth place with a mean of (3.01) and a standard deviation of (0.81). Next came the Proficiency Subscale with a mean of (2.91) and a standard deviation of (0.87). In the last place came the Performance Subscale with a mean of (2.48) with a standard deviation of (0.93). The following sections will present an analysis of the participants' perceptions related to each subscale.

### 3.1. The Web-Course Subscale

Table 3 below shows us the means and the descending order of the four items of the student teachers' perceptions about the type of classes they prefer: face-to-face classes or courses on the Web. The scores shown in Table 3 below represent the means and the percentages for each statement of the subscale.

**Table 3.** Means, Percentages and the Statements of the Web-course Subscale.

N	The Web-course Subscale	Agree	Neutral	Dis-agree	Mean	%	Degree of Agreement
1	I have a better understanding of the material when the instructor lectures to the class.	118	4	6	4.60	92	Strongly Agree
2	I prefer classes which allow face-to-face interaction with my instructor	118	6	4	4.55	91	Strongly Agree
3	I prefer classes which allow face-to-face interaction with my classmates.	112	9	7	4.46	89.2	Strongly Agree
4	I would rather take a course on the Web than in a traditional classroom.	15	7	106	1.79	35.8	Strongly Disagree
	Average				3.85	77	Agree

Table 3 above shows how the Yemeni university students rate

the four items of the Web-Course Subscale. The bulk of the

Yemeni university student teachers (92%) with a mean of (4.60) agree that they have a better understanding of the material when the teacher lectures to the class face-to-face. Similarly, the majority of the Yemeni student teachers (91%) with a mean of (4.55) agree that they prefer classes that allow face-to-face with their instructors. The mean ratings for the item "I prefer classes that allow face-to-face interaction with my classmates" were very high (89.2%). This implies that the respondents prefer the traditional classes than the blended classes.

While, the minority of the Yemeni university student teachers (35.8%) with a mean of (1.79) agree that they would rather take a course online than in a traditional environment. In other words, the Yemeni EFL student teachers prefer the traditional classes (face-to-face) than the Web courses. It

seemed that negative feelings towards the Web courses were shared among the group of Yemeni student teachers. This finding does not lend support to the findings reported by Ughade, and Badre [22].

### 3.2. The Engaging Subscale

The researchers of the present study calculated the means and the percentages of the two statements relating to the Yemeni university students' perceptions on the engaging subscale. The statements, and the participants' responses, are shown in Table 4, below. They are reordered to reflect how strongly the Yemeni university students felt about each statement, in a descending order.

*Table 4. Means, Percentages and the Statements of the Engaging Subscale.*

N	The Engaging Subscale	Agree	Neutral	Disagree	Mean	%	Degree of Agreement
1	I found the in-class presentations engaging in learning English Morphology	95	17	16	3.88	77.6	Agree
2	I found the Web-Quest engaging in learning English Morphology	19	36	73	2.45	49	Disagree
	Average				3.16	63.2	Neutral

Table 4 above shows how the Yemeni university student teachers rate the statements of the engaging subscale. The total mean of the subscale is (3.16) with a percentage of (63.2%). The majority of the Yemeni university students (77.6%) with a mean of (3.88) agree that they found the in-class presentations engaging in learning English Morphology and Syntax. Similarly, the minority of them (49%) with a mean of (2.45) agree that they found the Web-Quest engaging in learning English Morphology.

### 3.3. The Effectiveness Subscale

The Yemeni student teachers have varying scores on the eleven items of the effectiveness domain. The Yemeni university students had an average mean score of 3.05 (61%). Table 5 below shows the Yemeni university students' responses to the eleven items of the questionnaire expressed as means out of five-Likert scale.

*Table 5. Means, Percentages and the Statements of the Effectiveness Subscale.*

N	The Effectiveness Subscale	Agree	Neutral	Disagree	Mean	%	Degree of Agreement
1	I found the in-class presentations helpful in improving my English speaking skills	104	9	15	4.10	82	Agree
2	I found the in-class presentations helpful in learning English Morphology	103	12	13	4.05	81	Agree
3	I found the in-class presentations helpful in improving my English writing skills	68	28	32	3.39	67.8	Neutral
4	I found the Web-Quest challenging in learning English Morphology	60	32	36	3.23	64.6	Neutral
5	I found the Google Classroom helpful in improving my English writing skills	63	25	40	3.17	63.4	Neutral
6	I found note taking while using the Web-Quest helpful in learning English Morphology	34	41	53	2.84	56.8	Neutral
7	I found answering the questions provided while using the Google Classroom helpful in learning English Morphology	39	34	55	2.76	55.2	Neutral
8	I found the Web-Quest helpful in learning English Morphology	30	32	66	2.60	52	Disagree
9	I found working along with the Google Classroom helpful in learning English Morphology	24	35	69	2.53	50.6	Disagree
10	I found the Google Classroom helpful in improving my English speaking skills	28	18	82	2.43	48.6	Disagree
11	I found the in-class presentations challenging in learning English Morphology	26	15	87	2.39	47.8	Disagree
	Average				3.05	61	Neutral

The Table 5 above shows that the total mean of the effectiveness subscale is 3.05 out of 5. It also indicates that the Yemeni student teachers' perceptions and attitudes towards the statements of the effectiveness subscale. About 82% of the Yemeni university student teachers "agreed" and "strongly agreed" that they found the in-class presentations helpful in improving their English speaking skills with a mean of (4.10). The Table also shows the item of the questionnaire which states that they found the in-class presentations challenging in learning English Morphology

and Syntax came last with a mean of 2.39 (47.8%) students teachers agree with the statement.

### 3.4. The Motivation Subscale

Table 6 below displays the means as well as the descending order of the four items of the Yemeni university students' perceptions about the motivation subscale. The scores represent means and percentages for each item of the subscale.

**Table 6.** Means, Percentages and the Statements of the Motivation Subscale

N	The Motivation Subscale	Agree	Neutral	Disagree	Mean	%	Degree of Agreement
1	The use of in-class presentations impacted my motivation to learn English Morphology	99	13	16	4.00	80	Agree
2	The use of quizzes impacted my motivation to use the Google Classroom	44	36	48	2.87	57.4	Neutral
3	The use of tests impacted my motivation to use the Web-Quest	33	30	65	2.60	52	Disagree
4	The use of Google Classroom impacted my motivation to learn English Morphology	30	35	63	2.58	51.6	Disagree
	Average				3.01	60.2	Neutral

The Table 6 presented above shows that the means of the items associated with the motivation domain ranged between (4.00) and (2.58) in the student teachers' sample. The highest rating of the student teachers was given to the statement: The use of in-class presentations impacted my motivation to learn English Morphology, while the lowest rating of the student teachers was given to the statement: The use of Google Classroom impacted my motivation to learn English Morphology.

### 3.5. The Proficiency Subscale

The researchers of this study calculated the means and the percentages of the five items relating to the Yemeni university student teachers' perceptions on the proficiency subscale. The items, and the participants' responses, are shown in Table 7, below. The items of the questionnaire are ordered to reflect how strongly the Yemeni university student teachers felt about each item, in a descending order.

**Table 7.** Means, Percentages and the Statements of the Proficiency Subscale.

N	The Proficiency Subscale	Agree	Neutral	Disagree	Mean	%	Degree of Agreement
1	I am motivated to learn new technology.	71	23	34	3.44	68.8	Agree
2	I like using technology.	54	24	50	3.05	61	Neutral
3	I expect my personal experience with technology to help me accomplish the outcomes required in my class.	53	23	52	2.99	59.8	Neutral
4	I have experience in using technology.	32	48	48	2.81	56.2	Neutral
5	I am comfortable using technology in my class.	20	23	85	2.26	45.2	Disagree
	Average				2.91	58.2	Neutral

The Table 7 shown above presents the means of the items associated with the proficiency domain ranged between (3.44) and (2.26) in the Yemeni university student teachers' sample. The highest rating of the Yemeni student teachers was given to the item: *I am motivated to learn new technology*, while the lowest rating of the Yemeni university student teachers was given to the item: *I am comfortable using technology in my class*. The Table also shows that the average mean of the Yemeni

university student teachers was 2.91 (58.2%).

### 3.6. The Performance Subscale

The Yemeni university students were asked to respond to four items of the questionnaire relating to the performance subscale. The items of the questionnaire, and the Yemeni participants' responses, are shown in Table 8 below in a descending order.

**Table 8.** Means, Percentages and the Statements of the Performance Subscale.

N	The Performance Subscale	Agree	Neutral	Disagree	Mean	%	Degree of Agreement
1	When my instructor uses technology, it helps me organize my class notes.	42	32	54	2.85	57	Neutral
2	When my instructor uses technology, it helps my performance in the class.	23	32	73	2.45	49	Disagree
3	When my instructor uses technology, it helps me organize my course material.	27	21	80	2.34	46.8	Disagree
4	The use of technology makes course material easier to learn.	23	17	88	2.28	45.6	Disagree
	Average				2.48	49.6	Disagree

Table 8 above presents the Yemeni university students' perceptions and attitudes towards the four items of the performance subscale. About 57% of the Yemeni university EFL students "agreed" and "strongly agreed" that *when their instructor uses technology, it helps them organize their class notes* with a mean of (2.85). The Table also shows that the item which states that *the use of technology makes course material easier to learn* came

last with a mean of 2.28 (45.6%) students teachers agree with the statement.

### 3.7. Gender Differences

The second research question of this study aims at finding gender differences between the male and female student teachers. The results are shown in Table 9 below.

**Table 9.** Mean, Standard Deviations and Gender Differences.

	Gender	N	Mean	Std. Deviation	t	Sig.
Performance	Male	32	2.06	0.76	0.62	0.83
	Female	96	1.96	0.74		
Proficiency	Male	32	3.16	0.89	1.83	0.98
	Female	96	2.83	0.86		
Motivation	Male	32	3.04	0.87	0.19	0.79
	Female	96	3.01	0.79		
Effectiveness	Male	32	3.08	0.62	0.39	0.55
	Female	96	3.03	0.57		
Engaging	Male	32	3.13	0.96	-0.27	0.59
	Female	96	3.18	0.84		
Webcourse	Male	32	3.83	0.34	-0.41	0.38
	Female	96	3.86	0.46		
Total	Male	32	3.05	0.74	0.62	0.69
	Female	96	2.98	0.71		

The Table 9 above indicates that the average mean of the female Yemeni students on their perceptions of the blended classroom was 2.98 while the average mean of their male counterparts was 3.05. The means of the males and females were compared using a t- test. The t value was (0.62) ( $P < 0.69$ ). The P score was higher than 0.05 which means that the gender differences were not statistically significant. This result clearly shows that the male student teachers' perceptions on the blended classroom were the same as that of the females. This finding lends support to the results reported by Adas and Abu Shmais, and Gambari, Shittu, Ogunlade, and Osunlade who concluded that there were no significant differences between the achievement of male and female learners who were taught using the blended learning strategy of instruction [1, 12]. On the other hand, this finding does not support the findings of Adas and Abu Shmais, and Mahmoud, Ahmed and Mirna who reported significant gender differences [1, 18].

## 4. Conclusion

The main objective of the current study was to explore the impact of a blended course and technology use on the perceptions and collaborative knowledge construction performances of (128) Yemeni university student teachers who are enrolled in a Morphology and Syntax course at the Department of English in Sana'a University in Yemen during the second semester of the academic year 2019-2020. They were mixed of male and female students who study English as a foreign language and plan to be English teachers after graduation. Their ages ranged between 21 and 26 years old with an average mean of 22.52 years old. The data were collected by means of a closed ended survey questionnaire that consisted of 30 items using a Likert scale format. The researchers developed the items of the questionnaires based on the literature review with special reference to [9, 14, 19]. The researchers verified the content and the face validity of the questionnaire by giving it to three experts who were specialized in Applied Linguistics. Furthermore, the researchers piloted the questionnaire to a sample of twelve

students of the third level at the Department of English in Al-Hikmah University. Using the SPSS program, the researchers calculated the reliability scores of the instrument (Cronbach's alpha). The Alpha score obtained was (0.90) which indicates high reliability. The results of the study show that the Web-course domain came in the first place with a mean of (3.85) with a standard deviation of (0.43). The Engaging Subscale came in the second place with a mean of (3.16) and a standard deviation of (0.86). The Effectiveness Subscale came in the third place with a mean of (3.05) and a standard deviation of (0.58). The Motivation Subscale came in the fourth place with a mean of (3.01) and a standard deviation of (0.81). Next came the Proficiency Subscale with a mean of (2.91) and a standard deviation of (0.87). In the last place came the Performance Subscale with a mean of (2.48) with a standard deviation of (0.93). The findings of the study also revealed positive perceptions about the face-to-face classroom and a negative attitude towards the blended classroom. Furthermore, the gender differences were not statistically significant. In other words, the male students' perceptions on the blended classroom were the same as that of the females.

## 5. Pedagogical Implications

This study aims at raising the awareness of the Yemeni policy makers and English instructors with the importance of the perceptions and attitudes of the Yemeni EFL student teachers towards the use of technology in a blended classroom. The findings of this study might have some pedagogical implications for the people concerned about the Yemeni teaching of English as a foreign language (TEFL). It may also present some suggestions for future research.

The Yemeni EFL instructors should congratulate their students who are doing well and help the students that are struggling with the use of technology. They should also take advantage of the results obtained in the present study to minimize their students' fear of technology use. The Yemeni instructors should realize that group assignments and making presentations in class are a good way to encourage

collaboration and team work among students. They should set up a positive and welcoming environment to facilitate the use of technology. They should also give their students a sense of ownership and control. They should also enhance online learning by engaging students and fostering community building. Teachers should keep their eyes open to the new technologies such as Google Classroom and try to convince their students with the advantages of such technologies.

As the main thrust of this study was limited to explore the attitudes and the views of the Yemeni student teachers at Sana'a University, it is suggested that the teachers of English who teach at the private universities in Sana'a can use the same instrument used in the present study to examine the attitudes of their students towards technology use and to shed more light on the topic. A similar study with a large sample size from different public and private universities in Yemen should be replicated using both quantitative and qualitative methods to ascertain if the results are consistent among different samples of learners. Furthermore, future research studies can explore the attitudes of the teachers towards technology use at the training programs in Yemen.

## References

- [1] Adas, Dana and Abu Shmais, Wafa. (2011). Students' Perceptions Towards Blended Learning Environment Using the OCC. *An - Najah University Journal*, 25 (6), 1681- 1710.
- [2] Al-Mekhlafi, A. A. (2014). The Effect of Using EFL Online Program on the Oral Skills of Level One Students, Department of English, Faculty of Education, Sana'a University, Unpublished M. A. Thesis: Sana'a University, Yemen.
- [3] Bergmann, J. & Sams, A. (2012). *Flip your Classroom. Reach every Student in every Class every Day*. Washington, DC: International Society for Technology in Education (ISTE).
- [4] Bock, Anna; Kniha, K.; Goloborodko, E.; Lemos, M.; Rittich, A.; Möhlhenrich, S.; Rafai, N.; Hölzle, F and Modabber, A. (2021). Effectiveness of Face-to-Face, Blended and e-Learning in Teaching the Application of Local Anaesthesia: A Randomized Study, *BMC Medical Education*. Retrieved on 10th May, 2021 from: <https://doi.org/10.1186/s12909-021-02569-z>
- [5] Bordoloi, R.; Das, P. and Das, K. (2021). Perceptions towards Online/Blended Learning at the Time of Covid-19 Pandemic: An Academic Analytics in the Indian Context, *Asian Association of Open Universities Journal*, Retrieved on 10th May, 2021 from: <https://www.emerald.com/insight/2414-6994.htm>
- [6] Chen-Hsieh, J. S., Wu, W.-C. V., & Marek, M. W. (2017). Using the Flipped Classroom to Enhance EFL Learning. *Computer Assisted Language Learning*, 30, (1–2), 1-21. <https://doi.org/10.1080/09588221.2015.1111910>.
- [7] Dream Box Learning (2013). Five Benefits of Blended Learning. Retrieved on April, 26th, 2021. <https://www.dreambox.com/blog/five-benefits-of-blended-learning#sthash.GFzwZkKu.dpuf>
- [8] Elmer, S. J., Carter, K. R., Armga, A. J. & Carter, J. R. (2016). Blended Learning within an Undergraduate Exercise Physiology Laboratory. *Advances in Physiology Education*, 40(1), 64-69.
- [9] Enfield, J. (2013). Looking at the Impact of the Flipped Classroom Model of Instruction on Undergraduate Multimedia Students at CSUN. *Tech Trends*, 57(6), 14-27.
- [10] Frankel, J.R. & Wallen, N.E. (2006). *How to Design and Evaluate Research in Education*. (6th ed.). The McGraw-Hill Companies, Inc.
- [11] Friesen, Norm. (2012). Report: Defining Blended Learning. Retrieved on 26/4/2021 from: [https://www.normfriesen.info/papers/Defining\\_Blended\\_Learning\\_NF.pdf](https://www.normfriesen.info/papers/Defining_Blended_Learning_NF.pdf)
- [12] Gambari, A.; Shittu, A.; Ogunlade, O. and Osunlade, O. (2017). Effectiveness of Blended Learning and E-Learning Modes of Instruction on the Performance of Undergraduates in Kwara State, Nigeria. *Malaysian Online Journal of Educational Sciences*, 5 (1), 25-36.
- [13] Glazer, Francine S. (2012). *Blended Learning across the Discipline*, across the Academy Stylus, Publishing LLC.
- [14] Grazian, Kevin J. and Hall, John D. (2017). Flipped Instruction with English Language Learners at a Newcomer High School, *Journal of Online Learning Research*, 3 (2), 175-196.
- [15] Hashemyolia, Shayeshteh and Ayub, Ahmed. (2014). The Effects of Utilizing English Language Courseware on Secondary School Students' Performance in Iran. *Journal of Educational and Social Research*, 4 (3).
- [16] Hunt, Veronica. (2016). Pros and Cons of Blended Learning at College, *eLearning Industry*. Retrieved on April 28th, 2021 from: <https://elearningindustry.com/pros-cons-blended-learning-at-college>
- [17] Jaster, Robert. (2017). Student and Instructor Perceptions of a Flipped College Algebra Classroom. *International Journal of Teaching and Learning in Higher Education*, 29 (1), 1-16.
- [18] Mahmoud, A. N., Ahmed, A. and Mirna, N. (2012). Evaluating Student Satisfaction with Blended Learning in a Gender-segregated. *Environment Journal of Information Technology Education: Research*, (11), 193.
- [19] Njoroge, Joyce; Andrew, Norman; Diana, Reed, and Inchul, Suh. (2012). Identifying Facets of Technology Satisfaction: Measure Development and Application, *Journal of Learning in Higher Education*, 8 (2), 7-17.
- [20] Oweis, T. I. (2018). Effects of Using a Blended Learning Method on Students' Achievement and Motivation to Learn English in Jordan: A Pilot Case Study. *Hindawi Education Research International Journal*. 1-7. Retrieved on 10th May, 2021 from: <https://doi.org/10.1155/2018/7425924>
- [21] Shabani, M.; Parseh, F. and Gerdabi, A. (2014). The Impact of Chat on the Vocabulary Retention of Iranian EFL Learners. *International Journal of Language Learning and Applied Linguistics World*. 5(3).
- [22] Ughade, P. and Badre, S. (2020). Blended Learning- A Study on Students' Perceptions about suitability of the Framework for Higher Education. *The Online Journal of Distance Education and e-Learning*, 8 (2), 72-79.



- [23] Zengin, Y. (2017). Investigating the Use of the Khan Academy and Mathematics Software with a Flipped Classroom Approach in Mathematics Teaching. *Educational Technology & Society*, 20 (2), 89–100.