

# Enhancing College Students' Satisfaction and Learning Interest When the Teacher Uses a Web-based Platform While Teaching

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**Abstract** This study investigated the relationship of students' satisfaction and learning interest when the teacher used a web-based learning platform. Participants were drawn from a tertiary institution in central Taiwan, ages ranging between 19 to 24 years old taken from two departments, the Department of Applied English and the Department of Computer Science and Information Engineering. Three hundred and two participants completed an online questionnaire, but only 225 questionnaires were valid when the data was analyzed. Data analysis was conducted descriptively, Pearson correlation, and ANOVA were computed to determine the answers to research questions posted in this study. The results of this study showed that students' satisfaction and learning interest when using a web-based learning platform were positively correlated at a significant level. The outcome could be thereby interpreted as the more a teacher used a web-based learning platform in teaching instruction; the more likely the students were satisfied with the class which also impacted their learning interest. Also, the results showed only students' satisfaction significantly differed in the aspect of students' ages. However, the results did not show statistical significance regarding gender and department. This result can be interpreted that no matter what the gender or major, students' experience of using a web-based learning platform for learning English was positive and valuable. In-depth discussions and pedagogical implications are addressed in the paper. At the end, the limitations of this study and future research directions are discussed as well.

**Keywords:** *web-based learning, e-learning platform, multimedia learning, satisfaction, learning interest*

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## 1. Introduction

Information technology nowadays definitely has given access to rich and innovative teaching and learning resources. Web-based platform provides so many English learning aids that are dynamic and effective for language teaching and learning. Technology is not simply contributing convenience or making authentic materials or having resources available twenty-four seven, but it also provides the learner with great access to the target language [11,15]. Moreover, by utilizing web-based platform learning resources, it prepares the students to become autonomous learners [17,19]. As an English teacher, no matter how uncomfortable one feels using technology in one's teaching instruction, it is a necessity for making students' learning more interesting. Technology use in education is on the rise and will likely continue increasing in use in education as a whole, including English teaching and learning. What is important to consider nowadays is whether English teachers are knowledgeable about technology or are willing to use it in their classrooms. Van Lier [30] argued that if technology is to have a positive impact on education, it should not be considered as an

alternative option to use in teaching but must be used as a means that facilitates meaningful and challenging teaching for the classes.

No teacher would argue that technological devices distract students from attentively participating in class. The more teachers forbid students from using i-phones, i-pads or smart phones, the more uptight the class atmosphere becomes. Furthermore, an unpleasant learning environment is formed. As studies indicated, a negative feeling while learning will impact poorly on interest toward the subject [10,26]. If most teachers of this new generation are encountering this phenomenon, then teachers should consider wisely utilizing technology support, including web-based platform access for teaching instruction. The primary purpose of this study is to investigate how students' learning satisfaction and learning interest can be affected by teachers use of web-based learning in their teaching instruction.

## 2. Literature Review

A group interview taken in the Class of Teaching English as a Foreign Language Theory and Practice [12], 39 students participated in this interview, stated the

average attention span of students in a classroom is 15 minutes. According to Tapscott [27], about 98% of the messages received by the human brain were from sensory stimulation, 87% of learners in the classroom prefer to learn visually and tactilely. In other words, if a teacher's main teaching method was by using the "hearing approach," then the method was doomed to failure. The outcome indicated that traditional teacher's teaching delivery skills and approaches that centered on a one-way lecture need to be changed. As Tileston [28] expressed, teachers know the richness of WWW learning resources; without using them to guide, encourage, and take students to a higher level of developing critical thinking, teachers are being unfair to the students.

Web-based learning has become the learning trend of the 21st century [31]. With the development of information technology, digital media has become a common teaching and learning tool in education [7]. The growth of the Internet and the World Wide Web has had a significant impact on education, business, economy, and personal lives as well, including students' ways of learning languages. It has enriched both teaching and learning experiences as well as made the learning outcome to be much more effective [20]. English learners need visual stimulation they processed and stored vocabulary in order to convey and deliver the messages they learn [28]. Because the Web environment is rapidly growing and has made learning resources easily accessible, it has become a popular support for language learners. Education institutions combining informational technology and teaching methodologies have gained much more attention than ever before [9]. By utilizing web-based learning platforms, more learning resources are provided to users [24]. It is probably fair to say that information technology has played a powerful role in education as well as flipped the classroom and teachers' teaching instructions.

## 2.1. World Wide Web

Among various types of information technology, the World Wide Web is the most convenient tool for increasing interoperability and information sharing. This new teaching approach, called web-based learning, has not only created diverse learning content but also fostered and delivered information through the World Wide Web without the limitation of time and space [2]. Classes can take place anytime and anywhere via the World Wide Web. Over 60 percent of the population having access to the Internet and it has increased year after year [32]. Therefore, more and more higher education institutions around the world have started to use the Internet technology as a classroom delivery method. According to Repetto & Trentin [24], network technologies are being widely used for course delivery in classrooms at universities all around the world. Web-based learning has become one of the most popular teaching and learning approaches. It is encouraging to see a study that showed teaching strategy and information technology have significant positive effect on students' knowledge management ability and learning achievement [23]. Web-based learning can be considered as an effective way to enrich learning experiences. Another study conducted by Hsu [11] also confirmed that students are more satisfied when teachers

use information technology, such as resources from web-based platform as a teaching approach instead of traditional blackboard teaching. The study findings indicated that students tend to have more positive feedback when using technology, web-based and e-learning resources, in classes. Hsu's study only focused on students from one single major, English, participants were so-called the researcher's convenient sample; the findings could have a possible drawback, resulting in a biased result. Therefore, this study expanded the participants, drawing them from more than one department. Students from the Department of Computer Science and Information Engineering were recruited. The reason this study was expanded to this particular major was due to the class mostly meeting in a computer lab, therefore it was logical to expect their English teachers to use web-based platform more while teaching.

## 2.2. Web-based Teaching Instruction & Web-based Learning

As Lin and Hsieh [16] explained, web-based teaching offers more opportunities to individual learners. This learning environment definitely is learner-centered. Learners decide what to view and how long to view the learning web links the teacher assigns. The learners control their learning strategies. Students are able to learn via web devices without being limited by space and time; in particular, the students can be situated in a real-world scenario associated with the learning themes [13]. Khan [14] also emphasized that learners received an immediate and direct feedback on their performance via web-based teaching instruction. Another key feature of web-based teaching instruction is creating higher possibility that offers to pass control of learning sequences from the instructors or the program designers [6]. However, web-based teaching instruction is not 100% default free. Learner-centeredness or self-control can create problems as well as incur benefits. The success of web-based teaching instruction will mainly rely on students' self-motivation.

Web-based learning (WBL) represents a further evolution of computer-assisted instruction [3]. The advantages of WBL include universal accessibility, ease in updating content, and hyperlink functions that permits cross-referencing to other resources [23]. Supporters claim WBL is superior to text-based, traditional lectures and teaching methodologies [9]. Reasons for promoting this teaching and learning approach include learner-centeredness, learner controlled content, lack of time and location limitations and in addition, enhancement of learning and efficiency, not to mention economic benefits [21]. However, as Chumley-Jones et al. [3] indicated, these potential advantages may not translate into significant improvements in educational outcomes. Through the Internet and web-based platform, people no longer need to sit face to face in the classroom; classes can take place anywhere and anytime. Therefore, students attach great importance to the issues of "how to learn." They can participate in inquiry-based education including self-paced learning [20]. Basically students learn "how" more than "what." All of these benefits give language teachers motivation to consider a different way of teaching.

### 2.3. Web-based Platform Learning Resources

Via the web-based platform, there are near limitless resources available, i.e. E-learning software, multimedia resources, web-based access to learning hyperlinks, online communication forums, and presentation software such as Youtube, Ted.com, bbclearningenglish.com, electronic textbooks, and more other well-designed learning apps. Also, the instructors demonstrate teaching content by using the Internet and deliver lectures by using PPT or other online software to enhance students' learning interest and further increase their motivation [11]. To date, almost all students have Smartphone, and many learning apps have been developed. These learning apps provided a friendly and diverse language learning environment. This takes classroom teaching and learning to a different level, thus promising change to be just around the corner.

### 2.4. Students' Satisfaction

Moore [18] explained that learner satisfaction in a web-based learning environment tends to be more positive and learners are more pleased with their learning experiences. Learner satisfaction in web-based learning is related to an interactive and connective learning environment, self-efficacy toward computer, and a degree of freedom toward self-paced learning [20,25]. Previous research indicated that students who participated in online courses expressed higher degree of satisfaction with their learning experience which resulted in enhancing the process of learning [4]. According to Alwehaibi [2], students who are more satisfied about the course, often participate more, show greater achievement, and have a strong will to continue the classes; furthermore, a web-based learning approach prepares the students to become autonomous learners [19]. More studies suggested that students' communication and perception of learning were taken to a greater level when the teacher engaged in more web-based teaching instruction [1,22]. On the other hand, Turman and Schrodt [29] claimed that students' satisfaction for the course and the instructor may be negative when the teacher uses too much or too little technology. It is a catch-22 situation. This report challenged all instructors to use the web-based platform resources wisely and sensitively.

### 2.5. Learning Interest

Why does learning interest matter to a language learner? First, a learner's interest is a psychological condition which includes focused attention, increased cognitive functioning, persistence and affective involvement [8]. It is a goal-related element that motivates people to learn, explore and seek for information on their own initiation [5]. Therefore, students' interest for the course is the important factor for motivation in learning. If a student shows strong interest for the course, they may have positive emotions which lead to learning-related behavior and create a successful learning outcome [11]. Hwang and Chang [13] particularly emphasized the importance of a well-design lesson via wireless communication, in this case, WBL it is. Again, from the study result they confirmed that WBL not only promotes the students' learning interest and attitude, but also raises the students'

learning achievement. Nowadays teachers are facing the challenge of integrating the use of technology while teaching. College students from this generation enter the classroom with certain expectations for their teachers to use technology to make their learning more interesting and diversified. Students respond with less positive feelings toward the course and teacher when their expectations are violated [29].

Based upon the literature review, this study intended to examine the answers to the following research questions:

RQ 1: How do students perceive their teachers when teachers utilize web-based teaching tools in teaching?

RQ 2: What kind of relationship exists between a teacher utilizing more web-based support devices in teaching and students' learning satisfaction?

RQ 3: Would students' learning satisfaction toward teachers who utilize web-based teaching support impact their English learning interest?

RQ 4: Do differences in the use of instructional technology correlate with students' gender, age, or major?

## 3. Method

### 3.1. Participants

Three hundred and two participants were drawn from a tertiary institution in central Taiwan. Participants were from six classes to participate in this study voluntarily and anonymously. Three classes majored in Applied English, and the other three classes majored in Computer Science and Information Engineering. They were asked to evaluate what they had experienced and observed when their English teachers used web-platform resources while teaching. The students' response to this questionnaire was focused on one particular teacher; they didn't need to indicate the subject nor the teacher's name. It was only 225 questionnaires were valid when the data was analyzed. One hundred and twenty-one participants (54%) were from the Department of Applied English, whereas one hundred and four (46%) were from the Department of Computer Science and Information Engineering. The gender composition of the participants in this study was 114 females (51%) and 111 males (49%). Participant's age ranged from 19 to 24 years old, but nearly 60% of participants in this study were between 20 to 21 years old, they were sophomores and juniors. No seniors participated in this study. The distributions of age group were: 18 years old (9.3%), 19 years old (25.3%), 20 years old (29.8%), 21 years old (29.8%), 22 year sold (4.5%), 23 years old and above (1.3%).

### 3.2. Questionnaire Development

This study adapted the questionnaire developed by Hsu [11], "Use of Internet and E-learning Student Satisfaction Survey." The original questionnaire has established a strong Chronbach's alpha reliability coefficient ( $\alpha = .876$ ). The content validity of this questionnaire was established in Hsu's study in 2014 [11]. In order to meet the purpose of this study, a couple of questions were removed and reworded to make them clear to the participants. There

were a few questions which originally emphasized “e-learning” were changed to “web-based” or “the Internet” instead for the purpose of clarity. It strengthened the reliability coefficient which showed to be  $\alpha=.910$  in this study. Item 7, 8, and 13 were reversed because these were focusing on a traditional teaching approach.

### 3.3. Procedure

A pilot study was conducted due to the changes of the questionnaire. There were 17 students who shared similar population characteristics that participated in the first phase of the pilot study. They were chosen from the author’s class and completed this new modified questionnaire. All questions were clear to the respondents, and the reliability was shown to be  $\alpha= .910$ , which was very high. No further changes were made after the pilot study. Then, all the questions were uploaded online so the participants were only given the link, clicked on it, and were able to finish the questionnaire within 7 to 10 minutes. The participants were considered as convenient samples that were already having their classes in the computer laboratory. First, the researcher got the permission from the teachers who were willing to give the last 15 minutes before the classes dismissed. Then, all participants were given clear instruction and explanation about the purpose of this study. They were given a choice to leave if they didn’t feel comfortable to participate. Last, the researcher gave the questionnaire link so the participants just clicked on it and answered this online survey. A 5-point Likert-type scale, ranging from 1 (strong disagree) to 5 (strongly agree) was used. They were asked to respond, according to their observation, and how often their English teachers used web-based resources while teaching. In nearly four weeks, data collection was finished and statistical analysis using IBM SPSS Statistic 23 was begun.

## 4. Results

To answer the first research question, “How do students perceive their teachers when teachers utilize web-based teaching tools in teaching?”, the frequency and the mean value was computed and compared. The result revealed the students “agreed” to “strongly agree” (65.7%~73.8%) that learning English via using the Internet, multimedia, and web-based learning resources did enhance their learning satisfaction and interest. The highest mean value ( $M=4.02$ ) falls on the item of “conveniences to use web-based learning resources,” 77.3% students stated “agree” to “strongly agree.” Comparing traditional classrooms and web-based learning settings, nearly double the number of students acknowledged they liked web-based learning more (19.6% vs. 38.6%). An interesting student response was that more than half, 50.7%, stated no comment on “hoping more teachers will teach English use Internet or web-based type of teaching.” This is a puzzling outcome. Also, this study showed that students didn’t much like turning in homework or taking quizzes via web-based platform (24% & 39.1%). Table 1 displays the detailed summary.

To answer research question two, “What kind of relationship exists between a teacher utilizing more web-based support devices and students’ satisfaction?”, the Pearson  $r$  was conducted. Items 1, 3, 10, 11, 15, and 16 were summed up as satisfaction variable. The analysis revealed that students’ satisfaction is positively correlated when the teacher utilized more web-based supported devices,  $r = .960$ ,  $p<.01$ . In order to understand the outcome for research question three, “Would students’ learning satisfaction toward teachers who utilize web-based teaching support impact their English learning interest?”, Pearson correlation  $r$  also showed a statistical significance in a positive way,  $r= .929$ ,  $p<.01$ . Items 2, 4, 6, and 9 were added up as learning interest variable. Table 2 provides the details of the findings.

**Table 1. Summary of Mean, Standard Deviation, and Frequency of Each Item**

Item Descriptions (short version)	Mean	SD	Frequency (agree-strongly agree)
1. Teacher’s feedbacks are faster due to the use of the Internet.	3.50	.89	52.0%
2. It makes me put more heart and effort into the course by using Internet.	3.41	.95	46.6%
3. Via web-based learning, it makes me more satisfied with the course.	3.42	.91	46.7%
4. It enhances my interest in learning by using Internet.	3.57	.94	57.4%
5. It is convenient to use web-based learning resources.	4.02	.96	77.3%
6. I like to use computer, the Internet, and multimedia to learn English.	4.00	.96	73.8%
7. I like the traditional way to learn English.	2.97	.98	22.7%
8. I don’t like to learn English through computer or multimedia.	3.60	.86	57.7%
9. I like using the web-based platform to interact with classmates and the teacher.	3.41	.94	44.0%
10. I like using the web-based platform to turn in or upload assignment.	3.14	1.13	39.1%
11. I like using the web-based platform to take a quiz or midterm exam.	2.83	1.17	24.0%
12. I hope more teachers will teach English using web-based teaching resources.	3.17	.95	31.1%
13. I personally prefer traditional classroom to the web-based learning.	2.86	.92	19.6%
14. I personally like the web-based learning more than traditional classroom.	3.31	.92	38.6%
15. I like the sense of diversity and richness of the web-based learning.	3.80	.88	65.7%
16. Overall, I am satisfied with the web-based learning.	3.59	.89	56.0%

In order to answer the research question four, “Do differences in the use of instructional technology correlate with students’ gender, age, or major?” The ANOVA test was conducted. The dependent variables were students’ satisfaction and learning interest, and the independent variables were students’ gender, ages, and majors. The result indicated only students’ satisfaction showed significantly on students’ ages,  $F(5, 218)=2.273, p=.048, p<.05$ . A further post hoc test using LSD and appeared group 1, 2, and 5 reached to a significant level; those are groups of age 18, 19 and 22 year olds. The differences of

genders and majors didn’t show significant outcome. The detail was displayed in Table 3.

**Table 2. Correlation Coefficient  $r$  Value between Students’ Satisfaction and Learning Interest with Teachers Utilizing Web-based Teaching Instruction**

Correlation	Web-based learning Instruction	$p$
Students’ satisfaction	.960**	.01
Learning interest	.929**	.01

Notes. \*\*  $p<.01$ .

**Table 3. Summary of ANOVA Results on Students’ Gender, Age, and Major on Satisfaction and Learning Interest**

Dependent Variable	Independent Variable	Sources	SS	df	MS	F	Sig.
Sat.	Gender	Between	10.90	1	10.90	.584	.445
		Within	4141.65	222	18.66		
		Total	4152.55	223			
Lea.	Gender	Between	1.50	1	1.50	.153	.696
		Within	2152.96	220	9.79		
		Total	2154.46	221			
Sat.	Age	Between	205.78	5	41.16	2.273	.048*
		Within	3946.77	218	18.10		
		Total	4152.55	223			
Lea.	Age	Between	101.19	5	20.24	2.129	.063
		Within	2053.26	216	9.51		
		Total	2154.46	221			
Sat.	Major	Between	10.03	1	10.03	.538	.464
		Within	4142.52	222	18.66		
		Total	4152.55	223			
Lea.	Major	Between	6.41	1	6.41	.656	.419
		Within	2148.05	220	9.76		
		Total	2154.46	221			

Notes. \* $p<.05$ ; Satisfaction (Sat.), Learning Interest (Lea.).

## 5. Discussions

The purpose of this study was to investigate the relationship and its impact on students’ satisfaction and learning interest when the teacher used a web-based learning platform while teaching English. Four research questions were posed to further unveil the influence and understand the changes that might be brought to the students’ learning. The data analysis turned out to be very impressive; three different statistical analysis methods were computed to answer the research questions. First, a descriptive statistic test was conducted to understand students’ perception of teachers utilizing more web-based teaching tools in teaching instruction. The data appeared to be highly accepted or welcomed when the teacher was engaged in using web-based teaching approaches. More than 50% of students “agree” to “strongly agree” that their learning interest and satisfaction was enhanced. Additionally, 77% of students enjoyed the convenience of using a web-based learning platform, furthermore, 66% of participants indicated they like the sense of diversity and richness of using web-based learning. The interpretation for this result could be explained that the students’ perception for English teachers utilizing a web-based type

of teaching is positive and satisfactory. One reason is they tend to get a faster feedback from the teachers. Another finding should not be overlooked, that is, this study didn’t show a high percentage of turning in assignment or taking a quiz via web-based platform (39% & 24%). This may be a technical challenge both for teachers and students. Another explanation could be the students and the teachers probably still feel more comfortable and secure to use hardcopy and paper-and-pencil method to do the homework and test. What’s more, they interpreted teachers as more professional if the teachers utilized more web-based teaching tools. This perception should not be neglected, at the cutting edge era while flipped classroom has gained so much attention and popularity, any teacher who tries to meet the new generation needs and strives for providing interesting and effective English teaching, using a variety of web-based teaching technology is essential. This finding didn’t surprise the author at all. This just reconfirmed what Repetto & Trentin [24] stated that higher education institutions nowadays must consider using more Internet resources and a web-based platform to deliver course content for a diverse and effective teaching outcome.

Second, the Pearson correlation coefficient indicated high student satisfaction and learning interest that was

positively associated with teachers' use of a web-based platform to teach. These findings explain that this generation *does* expect different teaching instruction, that is, more use of web-based learning resources to enhance their learning. The students' satisfaction and learning interest are both likely enhanced when their teachers utilize a web-based teaching platform while teaching. As Larsen-Freeman and Anderson [15] stated, a language teacher should integrate technology resources into the curriculum. The bottom line is nowadays college students' average attention span for the class is only 15 minutes [12]. Therefore, a variety of teaching and learning ways is a must if a fruitful English learning outcome were still the ultimate goal for English education. The message is clear that nowadays technology has already shaped how we view the nature of teaching and learning.

Third, ANOVA analysis was used to examine if the use of instructional technology showed any differences among students' genders, ages, and majors. This study also highlights something that is very significant. The result didn't show statistical significance on students' gender and majors, but ages. Post hoc test showed those ages of 18, 19 and 22 years old showed a significant favor toward using a web-based learning platform than other age groups. It could be concluded that younger college students to senior college students are in favor of using Internet or web-based platform resources to learn English. However, the results suggest that students' preference for learning English via web-based learning platform has no differences among majors and genders. This result can be interpreted that no matter what gender or major the students belong, students' experiences of using web-based learning for English study is positive and valuable. Teachers should be aware of these significant findings and tailor their teaching lesson plans as well as teaching instruction to integrating more web-based resources [2].

Even though all statistical findings revealed a positive relationship among students' satisfaction, learning interest and teacher use of web-based platform in teaching instruction, a number of students still embrace traditional ways of teaching (22.7%). If we take a closer look at item 8, we find many students don't like to learn English through computer or multimedia (57.7%). This finding could suggest that English teachers who completely replace the traditional blackboard teaching method with a web-based approach may not be wise. There should be an interchange of diverse teaching methods. This study result confirmed Hsu's study in 2014 [11]. A profound finding approves that a traditional teaching approach still has its role to play. It is a challenge for a teacher who interchanges or combines these two different teaching approaches appropriately. The finding may ease some teachers' concern; a teacher's role cannot and will not completely be replaced by technology.

The last thought brought to the author's mind was students who seem to be more reserved to anticipate or suggest their English teachers give more web-based platform resources of learning. Item 12 showed 31% of students would hope to see more teachers use web-based teaching resources while teaching English. However, 50.7% of students indicated "no comment" on this. A possible rational explanation is college teachers mainly own their autonomy and freedom to teach what they like

to teach due to Taiwan higher education unique culture. Also, this is a very typical of Asian students' response. They would tolerate of unprofessional teaching and wouldn't suggest what would do better for their learning. They have fear to express what they would like due to the teacher's role or teaching approach in the classroom is indisputable.

## 6. Conclusion

### 6.1. Pedagogical Implications

This study results suggest English teachers need to be aware that students nowadays *do* expect their teachers to use web-based platform to make learning more interesting and diversified. English teachers need to know that web-based platform helps them to tailor their teaching approaches to meet students' individual learning styles. Surely, English teachers need to be willing to use web-based teaching approach in the classroom. The findings of this study again assured that students' learning satisfaction and learning interest were positively associated with teachers incorporating web-based teaching and learning materials in instruction. But that doesn't mean an end to the traditional methods of teaching. All English teachers should consider using a wide range of web-based teaching resources and make the learning to be interesting and diverse.

### 6.2. Limitations of this Study

There are some limitations that should not be ignored in this study. First, the sample section has its limitation. Therefore, the results of this study about the students' satisfaction and learning interest correlated with teacher's using web-based teaching approach can only be generalized to college students in central Taiwan College because of sample selection mainly from this area. Second, data collection was a challenge because most of the teachers were not willing to let students' participate in a study like this. Teachers who were willing to let their students participate only provided the worst time, for instance, the last 15 minutes before lunch, or time when students were about to go home. The participants' rush go to lunch or home could bias the results accuracy when completing the questionnaire. Third, sample size and sample diversity were also drawbacks in this study. Ideally, more majors will be considered in a future study. Though this study didn't show different majors have any differences for their preferences on teacher using web-based teaching. Due to the participants were all drawn from the same university, it has the potential to bias the outcome. Also, each age group should have approximately the same number of participants so a further investigation could reconfirm if age could really impact the outcomes. The last limitation of this study is "subject" that may influence the teachers' willingness to utilize web-based platform to teach.

### 6.3. Suggestions for Future Study

Due to experience gained from this study, future studies should consider a larger sample size with more majors, equal numbers of age groups from the student body

participating. Additionally, "subject" should be considered to add to the questionnaire for further investigation. Conversational class, writing, reading, and specialized subjects may require a different teaching approach. The need for using web-based platform may be varied. If at all possible, inappropriate times for completing questionnaires should be avoided. This study showed 77 incomplete questionnaires (25%) explained the message. Participants rushed to answer or finished all questions impatiently caused a great number of invalid questionnaire. Future studies could go further to investigate if students' cognitive learning really improved when the teacher used more web-based platforms in teaching. A duplicate study conducted elsewhere would be welcomed.

## References

- [1] Althaus, S. L. (1997). Computer-mediated communication in the university classroom: An experiment with online discussion. *Communication Education, 46*, 158-174.
- [2] Alwehaibi, H. O. (2015). The impact of using YouTube in EFL classroom on enhancing EFL students' content learning. *Journal of College Teaching & Learning, 12* (2), 121-126.
- [3] Chumley-Jones, H. S., Dobbie, A., & Alford, C. L. (2002). Web-based learning: Sound educational method or hype? A review of the evaluation literature. *Academic medicine, 77*(10), S86-S93.
- [4] Comac, L. (2008). Using audioblogs to assist English language learning. *Computer Assisted Language Learning, 21* (2), 181-198.
- [5] Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry, 11*(4), 227-268.
- [6] El-Tigi, M., & Branch, R. B. (1997). Designing for interaction, learner control, and feedback during web-based learning. *Educational Technology, 37* (3), 23-29.
- [7] Engelbrecht, E. (2005). Adopting to changing expectations: postgraduate students' experience of an e-learning Tax Program. *Computers and Education, 45*(2), 217-229.
- [8] Hidi, S. (2006). Interest: A unique motivational variable. *Educational Research Review, 1*(2), 69-82.
- [9] Homan, A. (2008). *The Web-based Classroom Versus the Traditional: Is There a Difference?* Saarbrücken, Germany: VDM Publishing.
- [10] Hsu, L. (2009). The relationship between teachers' verbal immediacy behaviors and students' affective learning for English. *Hwa Kang Journal of English Language & Literature, 15*, 107-130.
- [11] Hsu, L. (2014). How does the E-learning Web-based Platform Influence Students' Learning Satisfaction in English Classes? *Proceedings of 2014 International Conference and Workshop on TEFL & Applied Linguistics*, Taoyuan, Taiwan, 52-61.
- [12] Hsu, L. (2016). Attention span the majority of college students can give to teachers. Taichung City, National Taichung University of Science and Technology, Department of Applied English.
- [13] Hwang, G. J., & Chang, H. F. (2011). A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students. *Computers & Education, 56*(4), 1023-1031.
- [14] Khan, B. H. (1997). *Web-based instruction*. Englewood Cliffs: Educational Technology Publications.
- [15] Larsen-Freeman, D., & Anderson, M. (2011). *Techniques & Principles in Language Teaching (3<sup>rd</sup>ed.)*. New York: Oxford University Press.
- [16] Lin, B., & Hsieh, C. T. (2001). Web-based teaching and learner control: A research review. *Computers & Education, 37*(3), 377-386.
- [17] Lord, G. (2009). *The next generation*. London: Routledge.
- [18] Moore, J.C. (2009). A Synthesis of Sloan-C Effective Practices. *Journal of Asynchronous Learning Networks 16*(1), 91-115.
- [19] Nejati, M. (2010). *Annals of Language and Learning*. London: Universal.
- [20] Papanis, E. (2013). Traditional Teaching versus e-learning. Retrieved June 14, 2016, from [https://www.academia.edu/958026/\\_Traditional\\_Teaching\\_versus\\_e-Learning\\_Experimental\\_Approach\\_](https://www.academia.edu/958026/_Traditional_Teaching_versus_e-Learning_Experimental_Approach_).
- [21] Relan, A., & Gillani, B. B. (1997). Web-based instruction and the traditional classroom: Similarities and differences. *Khan, 62*, 41-46.
- [22] Rennie, F. (2012). *E-learning and Social Networking Handbook*. London: Routledge.
- [23] Renninger, A., Hidi, S., & Krapp, A. (2014). *The role of interest in learning and development*. Psychology Press.
- [24] Repetto, M. & Trentin, G. (2011). *Faculty training for web enhanced learning education in a competitive and globalizing world: Internet theory, technology, and applications*. New York: Nova Science Publishers, Inc.
- [25] Sinclair, J. K. (2011). Student satisfaction with online learning: Lessons from organizational behavior. *Research in Higher Education Journal 11*, 1-20.
- [26] So, H.J. & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education 51*,318-336.
- [27] Tapscott, D. (1998). *Growing up digital* (Vol. 302). New York: McGraw-Hill.
- [28] Tileston, D. W. (2011). *What Every Teacher Should Know About Media and Technology*. Psychological Publishing Co., Ltd.
- [29] Turman, P. D., & Schrodt, P. (2005). The influence of instructional technology use on students' affect: Do course designs and biological sex make a difference? *Communication Studies, 56*, 109-129.
- [30] Van Lier, L. (2003). A tale of two computer classrooms: The ecology of project-based language learning in J. Leather and J. van Dam (eds.). *The Ecology of Language Acquisition*, (pp.49-64), Dordrecht: Kluwer Academic.
- [31] Waits, T., & Lewis, L. (2003). *Distance Education at degree-granting postsecondary institutions: 2000-2001*(NCES 2003-017). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- [32] Han J. C. (February 1, 2010). Advanced Countries New Indicators Network Penetration Rate. China Credit Enterprise Co., Ltd. Retrieved June 10, 2016, from <http://www.credit.com.tw/newweb/Market/weekly/index.cfm?sn=46>.
- [33] Zhang Z. J. (2009). Research on the E - learning Effect from the Perspective of Personal Knowledge Management (Master 's Theses).System number 097NCUE5121003.