

# Examining the relative effectiveness of online, blended and face-to-face teaching modes for promoting EFL teacher professional development

QIANG SUN

*Henan Polytechnic University, China*

LAWERENCE JUN ZHANG (Corresponding author)

*University of Auckland, New Zealand*

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**ABSTRACT:** Teacher professional development (PD) is an essential part for teachers' professional growth for the quality provision of education to their students. Nonetheless, we need to find out effective ways of professional development. This study was conducted to achieve this goal by exploring the effectiveness of three teaching modes, online, blended, and face-to-face delivery, of an EFL course in a Chinese university, with the ultimate aim of promoting their PD. Three intact English classes were treated differently with Class 1 receiving online teaching, Class 2 receiving blended teaching, and Class 3 receiving face-to-face teaching. Their learning outcome was measured by an end-of-semester test. One-way ANOVA results showed that the face-to-face (onsite) teaching class performed significantly better than the other two classes. Focus group interviews of students revealed more drawbacks of online teaching than benefits. The findings suggest that online teaching, as a new teaching mode that has gained popularity due to the pandemic, cannot replace face-to-face teaching in terms of students' learning outcomes and their perceptions toward online teaching currently. Such findings provide food for thought for EFL teachers with regard to their own professional development.

**Keywords:** online teaching, blended teaching, face-to-face teaching, teacher professional development, English as a foreign language (EFL)

**Examinar la eficacia relativa de los modelos de enseñanza en línea, mixta y presencial para promover el desarrollo profesional de los profesores de idiomas extranjeros.**

**RESUMEN:** El presente trabajo trata de averiguar a través de un estudio experimental la eficacia de tres modalidades de enseñanza, a saber, la modalidad en línea, la mixta y la presencial, en las aulas de inglés universitarias chinas, con el fin de ayudar a los profesores de inglés a conocer las ventajas y desventajas de las modalidades referidas y, de ahí facilitar su desarrollo profesional. En el experimento se han seleccionado primero tres grupos de estudiantes con los que se han adoptado respectivamente la modalidad de enseñanza en línea, la combinada y la presencial, para luego examinar el rendimiento de los estudiantes en el examen semestral. Los resultados del análisis de la varianza con un factor (ANOVA) conducen a la conclusión de que el grupo que ha recibido la modalidad de enseñanza presencial ha rendido mejor en comparación con los otros dos grupos, mientras que las entrevistas

en grupo con los estudiantes dejan en claro que las modalidades tanto en línea como mixta constan de más perjuicios que beneficios. Los resultados del estudio demuestran que, siendo un modelo pedagógico emergente y popular en la epidemia, la enseñanza en línea aún no es capaz de reemplazar la enseñanza presencial en términos del rendimiento y la cognición de alumnos en el estudio. Y las conclusiones de este artículo sirven como referencias para el desarrollo y la formación de los profesores de inglés

**Palabras clave:** enseñanza en línea, enseñanza mixta, enseñanza presencial, el desarrollo y la formación del docente, inglés como lengua extranjera

## 1. INTRODUCTION

Online teaching, also known as distance teaching or internet-based teaching, is to teach students via digital technology. Through the network, students and teachers can carry out teaching activities even if they are thousands of miles away. Compared with traditional classroom teaching, online teaching sets no strict time and space limitations, supplies considerable high-quality learning resources, and provides vast flexibility and convenience for teaching (Kebritchi *et al.*, 2017; Shonfeld & Ronen, 2015; Torres-Vallejos *et al.*, 2021). Online teaching, however, is critiqued by teachers and educational researchers who claim online teaching cripples teacher-student interaction (DeLacey & Leonard, 2002; Kelly *et al.*, 2009; Smith, 2016; Ubell, 2017), and fails to equip young students with the necessary emotional and social skills for their comprehensive development (for example, Dong *et al.*, 2020; Mumtaz, 2001; Yan *et al.*, 2020). To solve these problems, a new teaching model, blended teaching, was introduced as an alternative to online teaching. Blended teaching, by its name, integrated online teaching with face-to-face teaching, which aimed to employ the benefits of computer-based technology and facilitate teacher-student interaction to the utmost (Graham *et al.*, 2005). After two new teaching modes emerged, educational researchers and practitioners conducted a series of studies to compare the effect of them with traditional face-to-face teaching on students' learning outcomes. However, multiple results are obtained (Du *et al.*, 2022; Larson & Sung, 2019; Pei & Wu, 2015). The results are not surprising because Technology Acceptance Theory informs us that a new application can be accepted only if it is perceived as useful and easy to use.

In China, the Ministry of Education launched a new national education plan entitled "6-Excellent and 1-Top" to promote the development of university education (Ministry of Education of the People's Republic of China, 2019). The plan calls on Chinese universities to build high-quality online teaching and blended teaching courses by using various outstanding online educational resources while developing first-class offline teaching courses (also "face-to-face" teaching). It suggests that universities should adopt an appropriate teaching method from among online teaching, face-to-face teaching, and blended teaching, to better suit students' needs. Against this background, this study explored the effectiveness of three language teaching approaches, online teaching, blended teaching, and offline teaching, in a Chinese EFL University English course in order to help teachers understand the pros and cons of these teaching modes, with the ultimate aim of promoting their professional development (PD).

## 2. LITERATURE REVIEW

### 2.1. Technology Acceptance Model

Based on the theory of Reasoned Action, Davis (1986) proposed the Technology Acceptance Model to predict the acceptability of a tool. This model suggests that two factors, perceived usefulness and perceived ease of use, determine the acceptability of a tool. Perceived usefulness is defined as the extent to which a person believes that the use of a system will enhance his performance while perceived ease of use is termed as the degree to which a person believes that the use of a system will be effortless (Davis, 1989). The Technology Acceptance Model advocates that an application perceived to be more useful and easier to use will be more likely to be accepted by users.

In this study, the Technology Acceptance Model was employed to elucidate the comparison results among three teaching modes, online teaching, blended teaching and face-to-face teaching and the way students perceive two new teaching modes, online teaching and blended teaching. According to the Technology Acceptance Model, the acceptability of new technology is determined by two factors, perceived usefulness and perceived ease of use. Likewise, a new teaching method will be only accepted if students believe that using the new teaching method will improve their learning outcome and the new teaching method will not be troublesome for them to use.

### 2.2. Online teaching

Online teaching refers to any educational undertaking that predominantly utilizes the Internet to deliver coursework, assessments, and assignments from teachers to students. Through the network, teachers and students can carry out all types of teaching activities even if they are thousands of miles away. Online teaching is popular due to its multiple benefits such as its flexibility and convenience (Kebritchi *et al.*, 2017). Online teaching renders students an option to complete their course lectures from a multitude of accessible sites and gives no time constraint to access course learning (Shonfeld & Ronen, 2015). Online teaching is also applicable to environments where face-to-face teaching is infeasible owing to the occurrence of fatal infectious diseases such as COVID-19. Meanwhile, online teaching also has drawbacks. Online teaching requires students to be highly self-disciplined, manage their time properly and avoid being distracted by the external environment since teachers are not able to supervise them as they do in the on-site courses. Besides, online teaching does not develop students' verbal communication skills as face-to-face teaching does. In online teaching courses, students do not need to attend class, discuss with their classmates and answer questions in classrooms. Thus, they are not well-trained in their verbal communication skills.

As online education is widely adopted throughout the world, educational researchers also began to explore the effect of online teaching. Rusanganwa (2013), for example, explored whether blended teaching with ICT integrated facilitated language teaching and learning by comparing two teaching modes, computer-assisted language teaching and traditional classroom teaching, in delivering English technical words in an ESP course to Rwandan

undergraduates. Rusanganwa came to the conclusion that using multimedia had a significant effect on improving students' vocabulary learning outcomes. Miyazoe and Anderson (2010) investigated the effectiveness of various online writing activities in an English as a foreign language (EFL) course in a Japanese university. They found that the multiple online writing activities indeed improved students' ability to differentiate English writing styles, intrigued students' learning interests and met their other various demands.

### **2.3. Blended teaching**

In contrast to online teaching and traditional face-to-face teaching, blended teaching integrates traditional face-to-face teaching with internet technology which is based on information communication technologies with the purpose of striking a balance between online teaching and traditional face-to-face teaching (Dziuban *et al.*, 2018; Garrison & Kanuka, 2004). Compared with online teaching and face-to-face classroom teaching, blended learning makes use of a wide range of learning resources, including some effective online learning materials, which enriches students' learning content and improves their learning satisfaction (Dziuban *et al.* 2011; Liu *et al.*, 2022; Means *et al.*, 2013). It also provides opportunities for students to have face-to-face discussions on the spot if they cannot carry out their learning task online or they still have questions that cannot be resolved on the internet.

Blended learning, hailed as a new normal way in contemporary education, is widely applied in diverse ways throughout the world since its emergence (Alshawish *et al.*, 2021; Dziuban *et al.*, 2018; Jiang *et al.*, 2021). Studies around the effect of blended teaching in the field of language teaching were extensively reported accordingly. These studies almost encompassed all language skills. For example, Jiang *et al.* (2021) employed an intervention study in an English listening course to explore whether the blended teaching mode could enhance Chinese EFL junior high school students' learning outcomes. The result showed that blended teaching had a great impact on enhancing students' listening performance. Kazakoff *et al.* (2018) also reported that the blended learning mode was conducive to the development of English learners' reading ability by investigating primary school students in the USA.

### **2.4. Research on comparing online teaching, blended teaching and face-to-face teaching**

With the emergence of online teaching and blended teaching, researchers embarked on multiple studies to compare them with traditional face-to-face teaching in mainstream education. Most of these studies compare three teaching modes in early childhood, mathematics, medicine education, and multiple results are obtained (Atwa *et al.*, 2022; Larson & Sung, 2019; Yen *et al.*, 2018; Zhang *et al.*, 2022). For example, Yen *et al.* (2018) made a comparison of face-to-face, online, and blended teaching modes in an undergraduate Child Development course to examine whether there were differences in student learning outcomes among the three modes. It is revealed that no significant differences were made in students' academic outcomes by three modes. Similarly, Larson and Sung (2019) conducted a study to compare three teaching modes in delivering a mathematics course, reporting that there were no significant differences among the three modes. Atwa *et al.* (2022) explored teachers and students' preferences of the three modes, online education, blended education and face-to-face

education by doing a mixed-method study on medical students and teachers. The conclusion was that medical students and teachers perceived that blended learning and face-to-face learning were acceptable in medical education while online education was only acceptable in theoretical teaching and in some clinically oriented teaching. Zhang *et al.* (2022) conducted a comparative study on online teaching and face-to-face teaching for cultivating Chinese students' innovative abilities and pointed out that the two modes had their own advantages and disadvantages. Based on this result, they suggested that a blended teaching combining online teaching and face-to-face teaching might better promote the cultivation of students' ability for creative idea generation.

From what has been discussed, it is noted that few studies were conducted to explore three teaching modes in foreign language teaching. In order to remedy this gap, we are going to make a comparative study about the effectiveness of three teaching modes on Chinese university students who learn English as a foreign language in China. We attempt to address the following two questions:

1. Are there significant differences in students' examinations in terms of three teaching modes in EFL classrooms?
2. What are students' perceptions about online teaching and blended teaching in university EFL learning?

### **3. RESEARCH DESIGN**

This study adopted an explanatory sequential mixed methods design which included collecting quantitative data first and then collecting qualitative data to help explain or elaborate on the quantitative results (Creswell & Plano Clark, 2011). The study contained a quantitative component (scores from the semester test) and a qualitative component (focus group discussions for students). Specifically, this study set up three experimental conditions where online teaching, blended teaching and face-to-face teaching were operated in three intact classes respectively. The quantitative phase of the study was followed up with focus group discussions to explore students' perceptions about online and blended teaching.

#### **3.1. Context**

The study was conducted in a Chinese comprehensive university located in the central part of China, where an English undergraduate programme lasting four years was offered. All students enrolling in this programme had learned English for 9 years approximately and had possessed fundamental English knowledge and skills, belonging to upper intermediate English learners in a general sense. In order to obtain a bachelor's degree, students majoring in this programme had to complete a group of English courses. One of the core compulsory courses was Comprehensive English, taught in the first two years, whose goal is to enlarge students' vocabulary, strengthen their grammar knowledge, promote their reading skills, listening and speaking ability, and develop their writing and translation skills. Accordingly, in this all-embraced course, almost all language skills such as reading, writing, grammar, vocabulary, listening and speaking, were integrated and synthesized and students needed

to cover all of the above-mentioned language skills and knowledge in their classes. This course was taught in the first two years and there were two semesters for each year. And Comprehensive English covered four semesters. For each semester, there were 32 sessions and two sessions each week, totaling 64 hours of in-class instruction. At the end of each semester, there was a standardized English test to evaluate students' course performance.

### **3.2. Participants**

Participants in this study were ninety EFL sophomores from three parallel intact classes majoring in English at a BA programme enrolled in a Comprehensive English course in this university with thirty students from each class. One class acting as the control class still adopted traditional face-to-face teaching while the other two classes working as experimental classes utilized online teaching modes and blended teaching mode respectively. Students were of the same age range between 19 and 22, who were supposed to have learned English for eleven years since they were third-grade primary school students. Students were assured that their participation would be completely voluntary and had the right to attend the class without participating in the study whereby their grades would not be included in the study. As a result, all students volunteered to participate in the study and their consent forms were obtained. Six students in online teaching class and five in blended teaching class voluntarily sat focus group interviews to explore their views about three teaching modes.

### **3.3. Instruments for data collection**

In Phase one, a testing paper was used to assess students' course learning outcomes. The testing paper designed in accordance with the goals of this course basically examined students' language knowledge including their vocabulary, grammar, reading and translation skills. It includes six parts: Reading Comprehension, Grammar and Structure, Word Formation, Paraphrase, Figure of Speech and Translation. All testing items were assigned a certain number of points ranging from 1 to 3. Regarding scoring criteria, it was not difficult for markers to score students in objective questions such as multiple-choice questions. Since a clear-cut answer was offered, students got points if they selected the correct answer or got no points if selecting a wrong answer. For subjective questions, students were deducted 0.5 points for each mistake if they had in their answers until the total score of that question was run out. Mistakes encompassed various types, such as word spelling mistakes, grammar mistakes, punctuation mistakes and other mistakes. The final score of students was composed of their separate points in the six parts.

In Phase two, two focus group interviews were made onto six and five students out of the two classes adopting online teaching and blended teaching respectively. The purpose of focus group interviews was to identify what attitudes students had about online teaching and blended teaching separately. The whole interview process was audio-recorded after researchers sought students' permission. The data yielded were transcribed and subjected to a content analysis.

### 3.4. Procedures

As above mentioned, this study aimed to compare whether three teaching modes had significant effect on students' learning outcomes in Comprehensive English course. This course covered four semesters in students' first two years and the experiment was conducted in Semester 3. We chose this semester because the first year, covering Semester 1 and 2, was a transitional period for students who just graduated from secondary school and took their time to adapt to the new university learning environment including learning styles, course requirements, and teachers' teaching patterns. In Comprehensive English course, students used the same textbooks and were evaluated by the same testing paper at the end of the semester. Students were not told that they were going to participate in an experiment. Before the experiment, the results of ANOVA in three classes' testing scores in Semester 2 showed that there were no significant differences among the three classes in terms of their scores  $F(2,87) = 1.663, p = 0.196 > 0.05$ . Three parallel classes were assigned the experimental conditions randomly. Finally, Class One was assigned an online teaching mode, Class Two was blended teaching mode and Class Three still adopted the traditional face-to-face teaching mode. Students in Class One learned Comprehensive English courses via Massive Open Online Courses (MOOCs) platform. Students attended the asynchronous online English course and do the assignments online. Should they have questions, they could raise them on the discussion board to seek course teachers' help or discuss them with their fellows. All students' learning activities were undertaken online and they learned the course online for a total 32 sessions, 64 hours. Students in Class Two learned the Comprehensive English course by adopting the blended teaching mode. They attended the asynchronous online English course but only learned online for 16 sessions accounting for a half of the whole 32 sessions and they had face-to-face learning for the other 16 sessions. The autonomous learning tasks in the online courses were mainly language learning activities including vocabulary study, sentence structure analysis, and online reading and writing practice. The offline courses referred to some language use activities, for example, discussion and presentation. This meant that students received teachers' instruction electronically and physically. They were able to have direct interaction with teachers while they enjoyed the convenience of online teaching. In contrast with Class One and Class Two, students in Class Three still clung to traditional classroom face-to-face teaching for the whole semester. They received their teacher's lecture delivery in the classroom for the whole 32 sessions.

In Phase Two, two focus group interviews were conducted onto six students from Class 1 where the online teaching mode was applied and the other five students in Class two where the blended teaching mode was employed.

### 3.5. Data analysis

For the quantitative data generated in Phase One, Statistical Package for the Social Science (SPSS) for Windows, version 27 (SPSS 27) was used to conduct the data analysis. A one-way ANOVA and Turkey's post-hoc analysis were undertaken in order to compare the means of the three different experiential groups of the study. We set  $p < 0.05$  as a cut-off point of statistical significance. As for the qualitative data yielded from focus group inter-

views, content analysis was used to code, interpret, and make sense of the data (Miles & Huberman, 1994). We strictly adhered to qualitative data analysis procedures: organizing the data, transcribing data, reading and coding data, and noting emerging patterns and themes. Specifically, all interview data stored in one folder were transcribed and later translated into English versions verbatim (Creswell, 2012). Then, all English versions were returned to participants for seeking their comments. The participants commented on the translation and provided their suggestions on the English versions. The final version was ready to be coded through several rounds of revisions of the English versions. The data were manually coded and analyzed in a sequential and recursive way and both of the two authors coded the data in order to improve coding reliability. When disputes on coding between us arose, we recoded till a consensus was reached.

#### 4. RESULTS

##### 4.1. Results of RQ 1: Comparison of Online teaching, Blended teaching and face-to-face teaching on students’ course learning outcomes

In order to examine whether there were significant differences in students’ examinations in terms of three teaching modes, a one-way ANOVA was conducted. Before doing that, we checked whether the data met the three assumptions for running the parametric test of ANOVA. First, the results of the Kolmogorov-Smirnov normality test showed that the sample was normally distributed ( $p = 0.08 > 0.05$ ). Second, the results of Levene’s test showed that the assumption of equality of variances was not violated ( $p = 0.165 > 0.05$ ). Finally, the assumption of independence of the observations was also met in the study for no participant attended more than two classes. Since three assumptions were met, we run a one-way ANOVA to look at whether the differences between the three groups were significant. The results of the comparison are summarized in Table 1.

**Table 1.** Comparison of three teaching modes on course testing scores

	ONLINE TEACHING		BLENDED TEACHING		FACE-TO-FACE TEACHING		<i>F</i>	<i>p</i>
	M	SD	M	SD	M	SD		
COURSE SCORES	72.97	7.71	73.33	8.47	79.37	10.38	4.865	.010

\* $p < 0.05$

Table 1 shows that three classes performed significantly differently in semester testing scores ( $F(2,87) = 4.865, p = 0.01 < 0.05$ ). Turkey’s post hoc procedure indicated that face-to-face teaching class ( $M = 79.37$ ) got significantly more scores than online teaching class ( $M = 72.97$ ) and blended teaching class ( $M = 73.33$ ) in the semester examination. There was no significant difference in testing scores between the online teaching class and the blended teaching class.

## 4.2. Results of RQ 2: Students' perceptions about Online teaching and Blended teaching

As mentioned earlier, two focus group interviews were respectively conducted to examine students' perceptions about online teaching and blended teaching, especially about the comparisons between them and face-to-face teaching.

### 4.2.1. Students' perceptions about online teaching

In the online teaching focus group interview, when students were asked their views about online teaching, they responded that they had mixed feelings about it. On the whole, they thought that online teaching's drawbacks outweighed their benefits in language learning.

Students firstly believed that online education, as a new teaching method of incorporating digital technology and internet into education, brought great benefits to them. Online teaching provided one more option for education via digital technology. For example, one participant said that the greatest advantage of online teaching was it was a good standby of face-to-face teaching. Online teaching broke the limitations of time and space which made teaching possible when traditional face-to-face teaching could not be carried out. A good case was online teaching almost replaced classroom teaching throughout the world when COVID- 19 pandemic disrupted regular classroom teaching.

While students pointed out the benefits that online teaching had, students also highlighted the drawbacks of online education. Firstly, they stated that online teaching posed substantial technological challenges to students. For example, one focus group participant remarked that online education sometimes was not reliable because it relied upon internet connection excessively and was easily adversely influenced by unstable network signal. It was quite disappointing when students were focusing on video learning when the video was in stuck due to the slow internet connection.

Secondly, participants also claimed that students' self-discipline was strongly needed in online teaching classes. They clarified that students sometimes were inclined to distract their attention without teachers' supervision in online teaching classes. One participant remarked,

"I feel online interaction is quite restricted. Well, students can still interact with teachers and their classmates. However, it is not as good as offline interaction. Students talked to teachers and students directly while online interaction is time consuming. Sometimes, even students get through online with their teachers and classmates but the voice quality is not good. Anyway, it is quite troublesome to make online interaction." (Online-teaching focus group interview)

### 4.2.2. Students' perceptions about blended teaching

In the online teaching focus group interview, when students were asked their views about blended teaching, the same result was acquired and participants had complicated feelings about it. They acknowledged that blended teaching was a new attempt in education trying to combine the advantages of both online teaching and face-to-face-teaching. However, just like online teaching, blended teaching also had its limitations.

All participants highlighted the benefits of blended teaching. They said that blended teaching combined both features of online teaching and face-to-face teaching, enabling students

to attempt different teaching modes. Another benefit of blended teaching reflected by participants was its flexibility and convenience which was also revealed by online teaching class.

In comparison with their positive attitudes toward blended teaching, participants expressed more negative views about blended teaching especially about its on-line part. Firstly, some participants responded that blended teaching was redundant and unnecessary. They stated that blended teaching was a new attempt but not necessary because they could watch the recorded videos out of classes. Using classroom time to watch videos online was a waste of time for them.

Secondly, some participants replied that in order to complete blended learning, they were forced to purchase electronic products which were not needed in face-to-face teaching and learning. The purchase would undoubtedly increase students' financial burden. Besides, students had to bother to learn how to use these electronic devices. For instance, one participant said,

“Blended teaching is a big problem for students who are from low-income families. They don't have enough money to buy smart phones or tablets and laptops to carry out online teaching. They are forced to buy those devices by borrowing money or using their living expense. For them, blended teaching is a burden. What's more, even they had those devices in hand, they had to learn how to use them which takes their time and efforts.” (Blended teaching focus group interview)

Finally, students pointed out the on-line part of the blended teaching asked students to be highly self-disciplined which is also mentioned by participants receiving online teaching.

## 5. DISCUSSION

This study was conducted to compare the effects of online teaching, and blended teaching and face-to-face teaching modes on EFL university course learning. It also aimed at exploring the overall attitudes of Chinese university students toward online and blended learning and their preferences when three options were available: online, face-to-face and blended teaching.

As for the first research question, the results showed that there were significant differences among online teaching, blended teaching and face-to-face teaching. The further study revealed that face-to-face teaching were significantly better than online teaching and blended teaching and there were no significant differences between online teaching and blended teaching. The results were inconsistent with substantial previous studies which advocated that the use of the online teaching mode enhanced students' course learning outcomes (AlShahrani & Talaue, 2018; Bazelais & Doleck, 2018; Pei & Wu, 2015; Yen *et al.*, 2018). The results also contradicted many prior studies which indicated that blended teaching worked better than face-to-face teaching (Caruso *et al.*, 2017; Jiang *et al.*, 2022) or worked equally with face-to-face teaching (Alshawish *et al.*, 2021). The results seem to suggest that digital technologies are helpful and useful in teachers' teaching and students' learning, but they are not transforming the nature of teaching and learning. Worth noting is that the challenges teachers faced with regard to technology use were not brought to the fore (see e.g., Gao & Zhang, 2020).

Regarding the second research question, the results showed that students had both positive attitudes and negative attitudes toward online teaching and blended teaching which both involved the use of digital technologies and internet. They all stated that online teaching and

blended teaching possessed advantages in language teaching. They explained that two teaching modes, as innovative ways in language teaching, could substitute traditional face-to-face teaching especially when face-to-face teaching was not viable due to the spread of some infectious diseases such as COVID 19 pandemic. Meanwhile, two novel teaching modes rendered huge flexibility and convenience to students. This result is supported by a great number of previous studies (Miyazoe & Anderson, 2010; Richards, 2015; White, 2017). However, students also highlighted the limitations that online teaching had. They reported that online teaching was restricted by technological infrastructure and led to poor student-student and teacher-student interaction affecting students' learning satisfaction and outcomes, as reported in many previous studies (Almahasees et al, 2021; Atwa *et al.*, 2022; Muthuprasad et al, 2021; Wut & Xu, 2021).

Students' perceptions towards online teaching and blended teaching might justify why students receiving face-to-face teaching performed significantly better than those who received online teaching and blended teaching. When they were asked about their preferred teaching approach, most of them opted for face-to-face teaching. This signals that students did not accept the online teaching. According to the Technology Acceptance Model, students' acceptability of new technology is determined by two factors, perceived usefulness and perceived ease of use (Davis, 1986). In this study, students indeed reported that online teaching was helpful and useful; however, when they were asked about the drawbacks of online teaching, they also indicated that online teaching had massive problems as described above, which made them believe that the new teaching mode, online teaching was not effective when compared with face-to-face teaching.

## 6. CONCLUSION AND IMPLICATIONS

This study was undertaken to examine whether online teaching, blended teaching and face-to-face teaching modes had significant differences in an EFL learning course. Students' perceptions toward new online teaching modes were also explored. The study revealed that the face-to-face teaching class performed significantly better than the online teaching and blended teaching classes. Focus group interviews with the online class and the blended class revealed that while students agreed on the benefits of online learning, they also pointed out their substantial drawbacks. The qualitative findings from the group interviews seemed to support the quantitative result. Based on the results, we conclude that online teaching, as a new teaching method, cannot replace face-to-face teaching when students' learning outcomes and their perceptions toward online teaching are taken into consideration.

Our findings provide implications for promoting Chinese EFL teacher professional development. Chinese EFL teachers have to be aware that traditional face-to-face teaching would more likely lead to higher English course scores than online teaching and if they have options to choose the teaching method, they should adopt the face-to-face teaching. Even though they are forced to employ online teaching (e.g., due to the spread of COVID 19), they should do their best to solve the problems arising from online teaching. They have to create a favorable internet-based environment so that students get access to online teaching with ease. They also have to consider how to motivate students to get engaged in online learning which is not students' preference. In addition, they have to think about how to compensate for what is lost in online teaching, for example, student-teacher interaction, which is easily available as a strong feature in face-to-face teaching. In summary, Chinese

EFL teachers are supposed to take proactive part in teacher education programmes involving how to teach in the digital technology era so that students are willing to accept new technology and improve their learning outcomes.

What needs to be acknowledged is that the quasi-experimental study is conducted in one university, which might limit the generalizability of the study findings. In China, education resources are unevenly distributed and if this study took this factor into consideration, the result would be more generalizable. In addition, the sampled students are from one major and whether the result applies to students in other majors is also unknown. In the future, a comparative study is suggested to examine whether there will be differences in terms of different places and majors.

## 7. REFERENCES

- Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and students' perceptions of online learning during covid-19. *Frontiers in Education*, 6, 638470. <https://doi.org/10.3389/feduc.2021.638470>
- AlShahrani, F., Talaue, G.M. (2018). Traditional versus blended learning method: A comparative study on its effectiveness in business communication course. *International Journal of Advanced Information Technology*, 8 (6), 1–18. <https://doi.org/10.5121/ijait.2018.8601>
- Alshawish, E., El-Banna, M. M., & Alrimawi, I. (2021). Comparison of blended versus traditional classrooms among undergraduate nursing students: A quasi-experimental study. *Nurse Education Today*, 106,105049. <https://doi.org/10.1016/j.nedt.2021.105049>
- Anthony, B. Jr., Kamaludin, A., Romli, A., Raffei, A. F. M., Phon, D. N. A. L. E., Abdullah, A., et al. (2019). Exploring the role of blended learning for teaching and learning effectiveness in institutions of higher learning: an empirical investigation. *Education and Information Technologies*, 24, 3433–3466. <https://doi.org/10.1007/s10639-019-09941-z>
- Atwa, H, Shehata, MH, Al-Ansari, A, Kumar, A, Jaradat, A, Ahmed J and Deifalla A. (2022). Online, face-to-face, or blended learning? Faculty and medical students' perceptions during the COVID-19 pandemic: A mixed-method study. *Frontiers in Medicine*, 9:791352. <https://doi.org/10.3389/fmed.2022.791352>
- Blau, G., Drennan, R. (2017). Exploring differences in business undergraduate perceptions by preferred classroom delivery mode. *Online Learning*, 21(3), 222–234.
- Caruso, M., Gadd Colombi, A., & Tebbit, S. (2017). Teaching how to Listen: Blended learning for the development and assessment of listening skills in a second language. *Journal of University Teaching & Learning Practice*, 14(1). <https://doi.org/10.53761/1.14.1.7>
- Cheung, A. (2021). Synchronous online teaching, a blessing or a curse? Insights from EFL primary students' interaction during online English lessons. *System*, 100, 102566. <https://doi.org/10.1016/j.system.2021.102566>
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4<sup>th</sup> ed.). Pearson.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.
- Davis, F.D. (1986). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Unpublished doctoral dissertation, MIT Sloan School of Management, Cambridge, MA, USA.

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during covid-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review*, 118, 1-9. <https://doi.org/10.1016/j.childyouth.2020.105440>
- Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: The new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1), 1–16. <https://doi.org/10.1186/s41239-017-0087-5>
- Du, X., & Jia, Li. (2020). Correlation analysis of middle school students' self-efficacy and online learning burnout during the period of suspension of classes and non-stop. *Mental Health Education in Primary and Secondary School*, 11, 44–46.
- Gao, L.X., & Zhang, L.J. (2020). Teacher learning in difficult times: Examining foreign language teachers' cognitions about online teaching to tide over COVID-19. *Frontiers in Psychology*, 11(49653), 1-14. <https://doi.org/10.3389/fpsyg.2020.549653>
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95-105. <https://doi.org/10.1016/j.iheduc.2004.02.001>
- Graham, C. R., Allen, S., & Ure, D. (2005). Benefits and challenges of blended learning environments. In D. B. A. Khosrow-Pour (Ed.), *Encyclopaedia of Information Science and Technology* (pp. 253–259). Idea Group. <https://doi.org/10.4018/978-1-59140-553-5.ch047>
- Henderson, M., Selwyn, N., Aston, R. (2015). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. *Studies in Higher Education*, 42(8), 1567–1579 <https://doi.org/10.1080/03075079.2015.1007946>
- Ho, V. T., Nakamori, Y., Ho, T. B., & Lim, C. P. (2016). Blended learning model on hands-on approach for in-service secondary school teachers: Combination of e-learning and face-to-face discussion. *Education & Information Technologies*, 21(1), 185-208. Doi:10.1007/s10639-014-9315-y
- Jiang, Y., Chen, Y., Lu, J., & Wang Y. (2021). The effect of the online and offline blended teaching mode on English as a foreign language learners' listening performance in a Chinese context. *Frontiers in Psychology*, 12, 742742. <https://doi.org/10.3389/fpsyg.2021.742742>
- Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology*, 23(1), 1-13. <https://doi.org/10.3402/rlt.v23.26507>
- Kazakoff, E. R., Macaruso, P., and Hook, P. (2018). Efficacy of a blended learning approach to elementary school reading instruction for students who are English learners. *Educational Technology Research and Development*, 66, 429–449. <https://doi.org/10.1007/s11423-017-9565-7>
- Khatak, S., & Wadhwa, N. (2020). Online versus offline mode of education –is India ready to meet the challenges of online education in lockdown? *Journal of the Social Sciences*, 48(3), 404–413.
- Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems*, 46(1), 4–29. <https://doi.org/10.1177/0047239516661713>
- Larson, D. K., & Sung, C. H. (2019). Comparing student performance: online versus blended versus face-to-face. *Journal of Asynchronous Learning Networks*, 13, 31–42. Doi: 10.24059/OLJ.V13I1.1675

- Liu, H., Zhu, J., Duan, Y., Nie, Y., Deng, Z., & Hong, X., *et al.* (2022). Development and students' evaluation of a blended online and offline pedagogy for physical education theory curriculum in China during the covid-19 pandemic. *Educational Technology Research and Development*, 1-20. <https://doi.org/10.1007/s11423-022-10131-x>
- Lord, G., & Lomicka, L. L. (2004). Developing collaborative cyber communities to prepare tomorrow's teachers. *Foreign Language Annals*, 37(3), 401–408. Doi: 10.1111/j.1944-9720.2004.tb02698.x
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1–47. <https://doi.org/10.1177/016146811311500307>
- Ministry of Education of the People's Republic of China. (2019). *The "6-Excellent and 1-Top" education plan*. Retrieved from [http://www.moe.gov.cn/jyb\\_xwfb/gzdt\\_gzdt/moe\\_1485/201904/t20190429\\_380009.html](http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201904/t20190429_380009.html)
- Miyazoe, T., & Anderson, T. (2010). Learning outcomes and students' perceptions of online writing: Simultaneous implementation of a forum, blog, and wiki in an EFL blended learning setting. *System*, 38(2), 185-199. <https://doi.org/10.1016/j.system.2010.03.006>
- Miles, M. B., and Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
- Mumtaz, S. (2001). Children's enjoyment and perception of computer use in the home and the school. *Computers & Education*, 36, 347–362. [https://doi.org/10.1016/s0360-1315\(01\)00023-9](https://doi.org/10.1016/s0360-1315(01)00023-9)
- Muthuprasad., T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences & Humanities Open*, 3(1): 1-11. <https://doi.org/10.1016/j.ssaho.2020.100101>
- Owston, R., York, D., Murtha, S. (2013). Student perceptions and achievement in a university blended learning strategic initiative. *The Internet & Higher Education*, 18, 38–46. <https://doi.org/10.1016/j.iheduc.2012.12.003>
- Paul, B., & Tenzin, D. (2018). Blended learning and traditional learning: a comparative study of college mechanics courses. *Education and Information Technologies*, 23(6), 2889–2900. <https://doi.org/10.1007/s10639-018-9748-9>
- Pei, L., & Wu, H. (2019). Does online learning work better than offline learning in undergraduate medical education? a systematic review and meta-analysis. *Medical Education Online*, 24(1), 1666538. <https://doi.org/10.1080/10872981.2019.1666538>
- Richards, J. C. (2015). The changing face of language learning: Learning beyond the classroom. *RELC Journal*, 46(1), 5–22. <https://doi.org/10.1177/0033688214561621>
- Rusanganwa, J. (2013). Multimedia as a means to enhance teaching technical vocabulary to physics undergraduates in Rwanda. *English for Specific Purposes*, 32(1). <https://doi.org/10.1016/j.esp.2012.07.002>
- Shonfeld, M., & Ronen, I. (2015). Online learning for students from diverse backgrounds: Learning disability students, excellent students and average students. *IAFOR Journal of Education*, 3(2), 13–29.
- Short, J., Williams, E., & Christie, B. (1976). *The Social Psychology of Telecommunications*. Wiley.
- Smith, B. (2003). Computer-mediated negotiated interaction: An expanded model. *The Modern Language Journal*, 87(1), 38–57. <https://doi.org/10.1111/1540-4781.00177>
- Tao, J., & Gao, X. (2022). Teaching and learning languages online: Challenges and responses. *System*, 107, 102819. <https://doi.org/10.1016/j.system.2022.102819>

- Torres-Vallejos, J., Juarros-Basterretxea, J., Oyanedel, J.C., & Sato, M. (2021). A bifactor model of subjective well-being at personal, community, and country levels: A case with three Latin-American countries. *Frontiers in Psychology, 12*, 641641. <https://doi.org/10.3389/fpsyg.2021.641641>
- Yan, L., Du, Y., Yu, Z., & Zhao, M. (2020). Survey on the psychological status of primary school pupils in online learning during the pandemic. *Mental Health Education for Primary and Secondary Schools, 18*, 11–14.
- Yen, S. C., Lo, Y., Lee, A., and Enriquez, J. M. (2018). Learning online, offline, and in-between: comparing student academic outcomes and course satisfaction in face-to-face, online, and blended teaching modalities. *Education and Information Technology, 23*, 2141–2153. <https://doi.org/10.1007/s10639-018-9707-5>
- Wang, Z., Jiang, Q., & Li, Z. (2022). How to promote online education through educational software: An analytical study of factor analysis and structural equation modelling with Chinese users as an example. *Systems, 10*, 100. <https://doi.org/10.3390/systems10040100>
- White, C. (2017). Distance language teaching with technology. In C. Chapelle, & S. Sauro (Eds.), *The handbook of technology and second language teaching and learning* (pp. 135–148). Wiley & Sons.
- Wut, TM., & Xu, J. (2021). Person-to-person interactions in online classroom settings under the impact of COVID-19: A social presence theory perspective. *Asia Pacific Education Review, 22*, 371–383. <https://doi.org/10.1007/s12564-021-09673-1>
- Zhou, C. (2018). Empirical study on the effectiveness of teaching model of college English writing within blended learning mode. *Educational Sciences: Theory and Practice, 18*(5). <https://doi.org/10.12738/estp.2018.5.009>
- Zhang, J., Dai, Y., & Zhao, F. (2022). Comparative Study on Online and Offline Teaching for Creative Idea Generation. *Frontiers in Psychology, 13*, 872099. <https://doi.org/10.3389/fpsyg.2022.872099>