

# Factors Affecting the Online Learning : A Case Study of ESL College Students

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**Abstract:** Online learning has become an important avenue for college students to learn English in the digital era. Therefore, this project investigates the current status of college students' online English learning, explores the influencing factors, and provide empirical evidence and corresponding suggestions for improving the effectiveness of college students' online English learning. In this project, random sampling was used to collect research samples across the country. The participants were college students from grades 1 to 4, including both humanities and science students, with a large and diverse sample size. Descriptive analysis, correlation analysis, and regression analysis were conducted using statistical analysis software SPSS. Results showed that variables such as teaching resources, instructional organizers, teaching activities, teaching evaluation and teaching conditions were significantly correlated with the learning effect of college students online learning ( $p < 0.01$ ). Results also revealed the most important influencing factor was the instructional organizer ( $\beta = 0.408$ ). The present findings suggest the learning outcomes of college students' online learning may be the result of multiple factors. Teachers might enhance the effectiveness of college students' online learning by strengthening teacher-student interaction, providing instructional feedback, and other aspects.

**Keywords:** Online learning; Influencing factors; College students

## 1. Literature review

### 1.1. Online Learning

The advancement of technology and the Internet has resulted in a transition from traditional classrooms to online learning, also known as e-learning or distance learning. The definition of online learning varies among individuals. Stephenson believes that online learning involves engaging learners in the learning process through the use of Internet and digital media (Stephenson, 2018). In the same vein, Rodrigues et al. defined e-learning as an innovative web-based system invented based the use of digital technologies and various choices of learning resources and materials which aimed to give a conducive, learner-centered, and interactive environment to students (Rodrigues et al., 2019).

Online learning has emerged as an alternative to traditional face-to-face learning, expanding the possibilities beyond the confines of classrooms, offering numerous benefits that attract learners (Devisakti & Ramayah, 2019). Real-time interactive platforms allow students to engage with each other and receive online lessons, accompanied by practical examples (Basilaia & Kvavadze, 2020). Grading and providing feedback on assignments or tests can be easily done by teachers online, enabling them to monitor students' progress. In comparison to traditional classroom practices, online learning possesses the benefit of reaching a larger number of students, who can access knowledge in any time and at any place. Provided that they have a reliable internet connection and a functional electronic device, online learning poses no challenges for the users.

### 1.2. Students' perceptions of online learning

Since the onset of the COVID-19 pandemic, educational researchers have focused on students' perspectives on online learning. Many students found the transition challenging due to difficulties in maintaining focus on educational content, a lack of engagement, the absence of opportunities for collaboration and support, and the instability of internet connections (Bozkurt & Sharma, 2020; Gumasing, 2022). Not all students had negative perceptions of online learning. A study conducted with university students in the Philippines found that the availability of various online learning spaces

facilitated by the progressive development of social learning technologies transformed interactions between lecturers, students, and peers. This allowed students to achieve academic success at their own convenience, both online and offline (Santos et al., 2021). Similarly, a research conducted by Gonzalez et al. investigated the influence of the COVID-19 pandemic on the academic performance of university students at Universidad Autónoma de Madrid in Spain. The results suggest that these circumstances prompted the development of students' learning strategies, effectiveness, and accomplishments (Gonzalez et al., 2020). Related studies have identified factors that influence the effectiveness of online learning. Kauffman H (2015) proposed that ultimately the factors that affect satisfaction with online learning were teaching and course design. Effective online learning relies on support from factors such as technology and teachers (Muljana & Luo, 2019). The design of online courses, including teaching content and activities, is crucial for online learning (Hammond & Shoemaker, 2014; Garrett-Reed et al., 2016; Goh et al., 2017; Liu & Pu, 2023). Research has also emphasized the importance of timely interactive feedback provided by teachers in online learning, as it meets learners' expectations and has significant implications for learner satisfaction and improved learning outcomes (Song et al., 2004; Ruey, S., 2010; Ladyshewsky, 2013; Kang M, Im T., 2013; Kauffman H., 2015; Eom & Ashill, 2018; Lee & Huang, 2018; Shah & Cheng, 2018; Liu & Pu, 2023).

## **2. Methodology**

### **2.1. The instrument**

The survey instrument employed in this study was a questionnaire which based on relevant research findings both domestically and internationally and taken into full consideration the characteristics of English learning among Chinese college students and the factors of information technology environment. The first draft of the online English learning influencing factors survey for college students was formed after several revisions and improvements on the basis of several in-depth interviews with students and expert consultations. The initial part consists of ten items regarding Student Characteristics data. The subsequent part investigates the effect of online English learning of college students and its influencing factors. This set of items was derived from Technological Pedagogical Content Knowledge (TPACK) subscales designed by Schmidt et al. (Schmidt et al., 2009). The questionnaire employed the 5-point scale response mode of (1) Strongly Agree, (2) More or Less Agree, (3) Undecided, (4) More or Less Disagree, and (5) Strongly disagree. The questionnaire underwent additional refinement through small-scale pretesting. The reliability of the survey was confirmed by Cronbach's alpha values ranging from .60 to .95, which indicate an acceptable level of reliability (Ursachi et al., 2015). The survey demonstrated a Cronbach's alpha value of 0.924, indicating its reliability.

### **2.2. Participants**

Participants who responded to the survey were freshmen, sophomores, juniors, or seniors, recruited from Shandong, Hebei, Guangdong and other provinces in eastern, central and western China, covering diverse majors such as Aviation Management, Biology, Psychology and Communications & Networks. This study employed a random sampling method to collect questionnaire data, utilizing an online survey platform. The survey was conducted through various media, such as the internet and mobile phones, and participants used their mobile phones to scan the QR code posted in WeChat groups to complete the questionnaire. The survey results show that the male to female ratio is approximately 1:1.68, and the distribution of participants across academic levels was as follows: freshmen (36.2%), sophomores (32%), juniors (21.7%), and seniors (10.1%).

## **3. Results**

### **3.1. Descriptive Analysis**

Table 1 presents the means and standard deviations of the variables based on the questionnaire results.

*Table 1: Descriptive analysis for the variables.*

Variables	Mean	Std.Deviation
Teaching Organizers	3.750	0.881
Teaching Resources	3.760	0.944
Teaching Activities	3.735	0.888
Teaching Evaluation	3.810	0.863
Teaching Conditions	3.623	1.206

The results presented in Table 1 are based on objective influencing factors. It was found that the teaching evaluation variable had the highest mean value ( $M = 3.810$ ) compared to other variables. Among them, the mean value of the item “In online English learning, timely feedback and comments from teachers on student activities and assignments have a significant impact on my learning effectiveness” is almost the highest. The teaching conditions variable had the lowest mean value among the variables ( $M = 3.623$ ). Despite being the lowest, the difference with the teaching evaluation variable was only 0.237. Among the items of the teaching conditions variable, the item “In online English learning, the stability and smoothness of the teaching platform has a great impact on the effectiveness of my learning” had the highest mean value among all the items. However, On the other hand. The item “In online English learning, my phone/pad/cellular data has a big impact on my learning effectiveness” had the lowest mean value, which influenced the overall low mean value of the teaching conditions variable. The descriptive analysis of the results highlighted the contribution of each item to the respective variable. This analysis directly and indirectly explained the relationships between the variables and supported the hypothesis results.

### 3.2. Correlation Analysis

In this study, Pearson correlation analysis was employed to assess the statistical relationship between two continuous variables. It is recommended that factor loadings should exceed 0.50. The correlation between factors can be observed in Table 2.

*Table 2: Correlation of factors.*

	TR	TO	TA	TE	TC
TR	1				
TO	.761**	1			
TA	.782**	.782**	1		
TE	.698**	.720**	.817**	1	
TC	.388**	.414**	.427**	.484**	1

Note: TR = Teaching Resources; TO = Teaching Organisers; TA = Teaching Activities; TE = Teaching Evaluation; TC = Teaching Conditions; \*\*: Correlation is significant at the 0.01 level.

The results presented in Table 1 are based on objective influencing factors. It was found that the teaching evaluation variable had the highest mean value ( $M = 3.810$ ) compared to other variables. Among them, the mean value of the item “In online English learning, timely feedback and comments from teachers on student activities and assignments have a significant impact on my learning effectiveness” is almost the highest. The teaching conditions variable had the lowest mean value among the variables ( $M = 3.623$ ). Despite being the lowest, the difference with the teaching evaluation variable was only 0.237. Among the items of the teaching conditions variable, the item “In online English learning, the stability and smoothness of the teaching platform has a great impact on the effectiveness of my learning” had the highest mean value among all the items. However, On the other hand. The item “In online English learning, my phone/pad/cellular data has a big impact on my learning effectiveness” had the lowest mean value, which influenced the overall low mean value of the teaching conditions variable. The descriptive analysis of the results highlighted the contribution of each item to the respective variable. This analysis directly and indirectly explained the relationships between the variables and supported the hypothesis results.

### 3.3. Regression Analysis

Regression analysis was employed in this study to examine the impact of teaching resources, teaching organizers, teaching activities, teaching evaluation, and teaching conditions on learning effectiveness. The results of the regression analysis, specifically the relationship between the factors and learning effectiveness (LE), are presented in Table 3.

The results from Table 3 indicate that all independent variables significantly influenced learning effectiveness. According to the beta value of the standardization coefficient ( $\beta$ ), the most important

variable is the teaching organizer ( $\beta = 0.408$ ). Interviews on the usage of online learning among college students also revealed that teaching organizers played a crucial role in enhancing learning effectiveness in online learning. College students believe that online learning under the guidance of teachers can improve their academic performance and learning efficiency. Online learning is different from traditional standardized education models as it can meet students' personalized needs and allow them to focus on specific areas, enabling them to engage in more efficient studying and acquire more useful knowledge. It also provides more valuable learning experiences during their college studies.

*Table 3: Regression of Factors on Learning Effectiveness to Use (LE).*

	Standard Coefficients ( $\beta$ )	t-Value	Sig.
TR	0.103	3.022	0.003
TO	0.408	11.805	0
TA	0.187	4.53	0
TE	0.161	4.493	0
TC	-0.186	-8.31	0

Note: TR = Teaching Resources; TO = Teaching Organizers; TA = Teaching Activities; TE = Teaching Evaluation; TC = Teaching Conditions; LE = Learning Effectiveness.

## 4. Discussion

### 4.1. Factors Affecting Acceptance of Online Learning

The investigation revealed significant correlations between teaching resources, teaching organizers, teaching activities, teaching evaluation, teaching conditions, and learning effectiveness of college students in online learning. The participants' responses indicated that the level of teaching organizers (mean = 3.75), teaching resources (mean = 3.76), teaching activities (mean = 3.735), teaching evaluation (mean = 3.81), and teaching conditions (mean=3.623) in relation to online learning was moderate. The differences in means were not significant, suggesting that these variables had a similar impact on the learning effectiveness of college students in using online learning.

### 4.2. Factors Affecting Effectiveness of Online Learning

Out of the five factors examined, the teaching organizers' influence emerged as the most significant factor impacting students' learning effectiveness. Students enjoy being taught by teachers who are humorous and appealing, which is consistent with face-to-face offline teaching. The quality of teachers is a key factor in successful teaching. The findings of this study are consistent with those of Gumasing (2022) who suggested improvement of teachers' instructional techniques and development of appropriate instructional strategies to motivate learners in online learning. What's more, students believe that teaching activities and teaching evaluation have a great impact on the effectiveness of online learning. Instructional activities and evaluation are closely related. Items concerning instructional feedback score almost the highest among all items, indicating that it is an important concern for students and reflects their urgent demands. The results corroborate with the findings of previous work of Hattie et al.(2007) The inability to interact with teachers face-to-face in a timely manner is a drawback of online learning, which is determined by the fundamental characteristics of online learning compared to traditional classroom learning. In face-to-face teaching, teachers find it easier to provide timely guidance on students' learning difficulties and facilitate convenient teacher-student interaction. Therefore, more interactive activities such as discussion and question should be set up in online English teaching to strengthen teachers' timely comments and feedback on students' activities and assignments (Aguerreberre et al., 2018). Teaching organizers may support students effectively, actively participate in the discussion of students and be ready to answer students' questions online. This will strengthen interaction with students, provide effective support for students' online learning, and better meet their needs. The precise characteristics of the learners, learning environment, and the tasks should be taken in consideration in order to enhance the effectiveness of the feedback (Van der Kleij et al., 2015). Additionally, the average value of the item "In online English learning, teachers' comprehensive assessment of students (such as attendance, classroom presentations, and performance grading) in instructional evaluation variable also has a significant impact on my learning effectiveness" is relatively high. Many college students face problems of learning fatigue and lack of motivation. Therefore, in the process of online learning, teachers can strengthen the supervision and inspection of students' online learning tasks. The implementation of formative assessment by teachers can motivate students, enhance their confidence, help them better integrate into the learning

process, and achieve learning goals.

## 5. Conclusion

Through questionnaire survey, this study found the highlights and problems in college students' online English learning. Based on the research and analysis, the following conclusions and suggestions are made. Teaching resources, instructional organizers, teaching activities, teaching evaluations, and teaching conditions all have an impact on the effectiveness of online English learning. From the perspective of teachers, teacher support, teacher-student relationships, and teachers' instructional behaviors are particularly important in enhancing students' online learning outcomes. Therefore, the improvement of learning effect can be carried out from the following aspects: Firstly, closely monitor students' learning performance throughout the entire teaching process. Teachers provide comprehensive learning support by analyzing students' online learning behavior data, providing instructional feedback, and pay attention to individualized student needs as well. By combining both specific and general aspects of students, teachers can impart learning strategies and skills to students. Secondly, encourage teachers to treat students sincerely and friendly, creating a relaxed and pleasant atmosphere in which students can learn, share, and communicate, advocating for sharing and mutual assistance among students. Promote resource sharing, problem-solving, and collaborative learning between teachers and students, as well as among students, to enhance the attractiveness of teaching. Thirdly, it is essential for teaching organizers to improve teaching content, incorporate teaching technology, and enhance teaching methods. Furthermore, encourage students to explore the English learning information technology and provide them with diverse information and technological resources to enhance their information literacy. Fourthly, teaching evaluation should be improved in a diversified assessment model by combining formative assessment with summative assessment, as well as immediate and delayed feedback, which will stimulate students' enthusiasm and initiative in online learning. With a student-centered approach, the evaluation might comprehensively assess students' learning processes and outcomes. The integration of student peer assessment and teacher evaluation is essential. Guided by teacher evaluation, student peer assessment plays a central role in mobilizing students' self-awareness, active participation in the teaching process, self-regulated learning, and metacognitive enhancement. The evaluation criteria might be more diversified. For example, online learning participation, teacher-student interaction, student-student interaction, online assessment scores, and language output tasks should all be included in the evaluation system. So essentially it's something that has to come from a combination of formative and summative assessments, with a certain weight given to online learning performance in the overall student grades. In formative assessment, immediate and delayed feedback should be utilized effectively. Students could be encouraged to self-assess and peer-assess their preview task, objective question practice, reading comprehension, and oral presentation. Delayed feedback should be provided for subjective questions involving critical thinking and essay writing.

To sum up, the present findings suggest the learning outcomes of college students' online learning may be the result of multiple factors. Teachers might enhance the effectiveness of college students' online learning by strengthening teacher-student interaction, providing instructional feedback, and other aspects. In this study, we have extended previous work in online learning and propose strategies for improving it from multiple perspectives. The findings of this study could provide reference for optimizing the effect of online English learning. Clearly more students are needed to identify and characterize the influencing factor of online learning. Future work can attempt to broaden the scope of influencing factors and examine their effects.

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