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BLENDED LEARNING IN CHINESE HIGHER EDUCATION: ATTITUDES, ENGAGEMENT, AND ITS IMPACT ON EFL STUDENTS"

Maria Clara Santos Reyes
Lyceum of the Philippines University – Batangas, Batangas, Philippines

Abstract: As the modern education system evolves alongside the rapid expansion of the Internet, the integration of information technology and education has become increasingly prominent. Within this landscape, blended learning emerges as a fundamental tool driving the digitization of education and the modernization of Chinese higher education. Blended learning combines the strengths of traditional and e-Learning approaches, harnessing their respective advantages to enhance educational outcomes.

While blended teaching empowers both teachers and students, allowing for greater autonomy and creativity, it faces challenges in the context of English as a Foreign Language (EFL) students with varying levels of proficiency. This paper explores the evolving attitudes of students towards blended learning and the observed decline in engagement, which has raised concerns about the efficacy of blended classrooms.

Furthermore, colleges and universities are adapting their instructional methods to cater to the tech-savvy Gen Z and millennial students who seek technology-integrated social learning experiences. The educational landscape is shifting to accommodate the learning preferences of non-traditional students, marked by a significant increase in online course enrollment. This paper examines these educational transformations, highlighting the growing role of technology in reshaping the student learning ecosystem.

Keywords: Blended learning, Modernization of higher education, Student engagement, Gen Z and millennials, Online course enrollment

1. Introduction

With the rapid development of Internet and the modern education system reform continued to deepen, practitioners and researchers paid more and more attention to the diffusion of mobile technology. Information technology and education are deeply integrated, blended learning acts as a basic means to promote the digitization of education, and an crucial tool to promote the modernization of Chinese higher education[13]. Blended learning is the combination of the advantages of traditional learning and e-Learning(e.g, digital or networked learning) to complement each others advantages in order to obtain better teaching results. Meanwhile, blended teaching can give full play to the autonomy of teachers and students, and fully reflect the initiative, enthusiasm and creativity of students as the subject of the learning process. In 2021, China's Ministry of Education proposed blended teaching should become the future trend. Blended teaching does have many advantages, but for EFL students with a relatively weak foundation, there are also some problems with blended learning. However, with the

innovation and development of education, students' attitudes toward blended learning is weakening, engagement seemed insufficient, and the problems of inefficiency of learning in blended classrooms appeared more obvious. The advantage of blended learning is gradually disappearing.

At colleges and universities across the country, student-centered and technology-enabled instruction is shifting to meet the needs of Gen Z, millennials and other non-traditional students[6]. As the learning characteristics of Gen Z or millennials are more tech-savvy and want technology to be part of their social learning experience, colleges and universities are changing the way they teach and the student learning ecosystem[3]. An annual survey reported that 7.1 million college students took at least one online course during the fall of 2013, a dramatic increase from the 1.5 million students in 2002[1].

The Oxford English Dictionary defines "blend" as "to mix, mingle; to unite intimately; to form a uniform or harmonious mixture." Blended learning is not a new term, since humans began teaching thinking, there was the concept of mixing different learning experience.Its novelty lies in the injection of web-based technologies into the learning and teaching process.These technologies for the student to obtain real learning materials, interaction with peers, teachers and experts, the management of their learning process, and both inside and outside the classroom to show their products created a new opportunity to learn. In the late 1990s, blended teaching emerged as a kind of new teaching method which came from E-learning. In the 1990s, the world began to witness the Internet and information technology greatly driving development and change in many fields, especially in education. The research of blended on teaching in foreign countries started earlier and achieved rich results. It has been rapidly promoted in the practice of higher education to ensure the best results that the universal education cost lower. Moreover, three theoretical systems of blended teaching have been gradually established. In China, scholar He Kekang first proposed the concept of Blended learning in a speech at the Global Chinese Conference on Computers in Education in December 2005. And he put forward blended learning combined the advantages of traditional learning methods and digital learning, which not only exerts the leading role of teachers in monitoring, guiding, and inspiring the teaching process, but also stresses the initiative, enthusiasm and creativity of students as learning subjects[5].

The disruption of learning has demonstrated its momentum with the presence of a pandemic outbreak that has plagued all countries in the world. The spread of the Novel Corona-virus pandemic swept the globe with incendiary speed, having an impact not only on social and economic aspects but also on education[7]. Especially, in higher education, students are self-directed learners, and the way academics interact with their cohorts significantly affects the students' motivation to study. It is no doubt that as a result of the COVID-19 pandemic, the primary mode of delivery has shifted from the lecture, or seminar-based to online teaching formats[9].

In a word, blended learning is increasingly becoming the expected norm of content in many teaching institutions.

2. Literature Review

This research has been carried out in this context with a practical and concrete purpose to evaluate students' attitudes toward blended learning, examine Chinese students engagement in blended English classes, and the effectiveness of blended learning, to provide applicable suggestions for blended English teaching and learning in China.

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2.1. Learning Attitudes

As the American famous orator and writer, Zig Ziglar once said, “Your attitude, not your aptitude, will determine your altitude.” It can be found that learning attitude plays an important role in students’ learning process. Therefore, schools must cultivate students' learning attitude, so that students continue to make efforts to contribute to the motherland.

The definition of attitude can be traced back to the western literature in the eighteenth century. According to the philosophers Herbert Spencer and Alexander Bain, attitude refers to the inner stage of action preparation. Attitude is a term that is widely used in academic field. In the process of language learning, learner's attitude plays an important role. Attitude is an important category of psychological research, which is defined as the evaluation of people, objects or events.

The resources of online education has become the general trend of college teaching reform and construction because of the enhancement of digital technology and network. MOOCs, as the main form of online teaching, have quickly become the mainstream resources of college online education. China's Ministry of Education has urged universities to strengthen the construction, application and management of MOOCs, while emphasizing the innovation of multiple mixed online and offline teaching models. Blended teaching combining the digital platform learning has become a teaching mode, which has the online digital courses with offline classroom teaching. With the help of online MOOCs resources and digital technology, it promoted learners' learning autonomy, ability and identity. Teachers play the role of design, guidance and evaluation in blended teaching so as to achieve efficient learning results. However, part of the teaching content of blended teaching requires students to complete MOOCs learning online. If the autonomy of learners is not strong, the teacher's monitoring and interaction with students are insufficient, or the evaluation of student’s online and offline learning process is vague, the teaching effect will be directly affected. Therefore, it is necessary to adjust and revise teaching strategies by understanding learner’s' online and offline learning attitudes and methods.

2.2. Students Engagement

Students’ engagement is another essential part for consideration, which is multifaceted, characterized by behavioral, emotional, and cognitive engagement. Student’s engagement is an important factor of a vigorous school climate, so a lot of research linking it to academic achievement. Student engagement has been identified as an influential intermediary between the quality of classroom interaction and adolescent learning outcomes [10]. The student engagement is a broad construct that researchers have studied through three primary domains: cognitive, emotional, and behavioral engagement [4]. First, the behavioral engagement is described in terms of persistence, participation, and task behavior. Second, emotional engagement refers to the positive emotions accompanied by students in the process of carrying out learning behaviors and cognitive activities. Third, the cognitive component, in turn, is conceptualized in terms of motivation, self-regulation, and learning styles [11]. Within a given classroom, on any given day, the levels of engagement for each student fluctuate across these three types.

To some extent, the students grasp the opportunity, mode of interaction between teachers and students can change, to the participation of more or less. How participants study together can support students' values toward learning,

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as well as their belief that they can succeed, their willingness to participate, and their relationships with others. Therefore, how teachers and students participate in classrooms is central to students' academic engagement [12].

2.3. Learning Effectiveness

Since the beginning of teaching, people have been pursuing the effectiveness of teaching and learning. For a long time, Western educational theorists generally believe that "education is art". Under the influence of behaviorism and psychology, people began to use scientific methods such as observation and experiment to learn and teach, and the concept of "education is science" was deeply rooted in people's minds. There is no consensus on the meaning of learning effectiveness. Domestic and foreign scholars have defined learning effectiveness from different perspectives.

Learning effectiveness is the holistic process by which students engage in a high-quality learning experience. A great deal of research has been done on the effectiveness of online learning and the challenges and limitations it can present to students have been considered. Higher education scholars mainly focus on how colleges and universities operate and what forces drive their changes. However, most policy makers (and the majority of the public) not only want to understand systems, but also want to know how to make them operate better than they currently do. Because colleges and universities are central institutions in American society, their effectiveness should be considered a topic of national priority [2]

Different understanding of effective learning reflects different scholars' views on effective teaching. Zhou and Fu [14]proposed that all teaching behaviors conducive to students' development and the realization of expected teaching effects are called effective teaching. Liu [8] agreed with the statement that teaching that promotes students' progress and achieves expected teaching goals is effective teaching and gives the following definition of effective teaching: On the basis of following the objective laws of teaching activities, teachers facilitate the integration, coordination, sustainable progress and development of students on the "three-dimensional goal" with the best efficiency, aiming to effectively obtain the expected teaching objectives, realize the educational value (needs of society and individuals), and organize the implementation of teaching activities.

To sum up, as China continues to open to the outside world, people from all walks of life pay more and more attention to the ability to communicate in English. Students of all majors are required to master English skills in a convenient, flexible, and feasible way. It is very necessary to investigate the attitudes toward blended learning, students' engagement and effectiveness of blended English learning. Hence, the targeted learning program can be proposed for Chinese college EFL students.

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3. Methodology

3.1. Participants

In this study, the respondents were Chinese EFL college students from three different universities. The total sample of participants was composed of 426 students, and all set in a multicultural classroom. This research spent over five months in blended teaching and learning. The research was carried out at the Anhui Xinhua university, Anhui Foreign Language university and Anhui Binhu university in the first semester of academic year 2023. In this study, in order to get learners' perception on Blended classroom, 426 students who were willing to participate in this study.

3.2. Instrumentation

Questionnaire method is one of the most used data collection methods in applied linguistics.

Questionnaires can be used to measure behaviors, attitudes, and facts. All three aspects are involved in this study: the basic situation of blended college English teaching is a matter of fact; Learners' attitude toward blended learning, participation and effectiveness of blended learning are behavioral problems. The factors that affect learners' attitude, participation and effective learning include learners' gender, age, major, English learning time and so on is about the fact. Therefore, questionnaire method was used in this study to investigate these contents, and multiple-choice questions and LikertScale were mainly used to collect data.

3.3. Research Design

The study used a quantitative method. The data were gathered through standardized survey questionnaires that suited the problem set in the study. The analysis of study is descriptive for it described the personal and professional profile of the respondents. Through the questionnaire survey, this paper aims to discuss the students' attitudes toward blended learning, engagement and effectiveness in blended learning.

3.4. Data Collection Procedure

After carefully checking, a total of 426 valid questionnaires were obtained and 24 records invalid and deleted. The response rate of 94.66 percentage, which met the requirements of statistical analysis. As shown in the figure: according to the Wechat IP and basic information of the respondents, the survey area includes the Shushan district, Binhu district and Baohe district of Hefei city, so the samples are well representative.

4. Results

Table 1: Percentage Distribution of the Respondents Profile

Sex	**Frequency**	**percentage**
Male	136	31.9
Female	290	68.1
Age		
18 years old and below	39	9.2
19 years old	130	30.5
20 years old	153	35.9
21 years old and above	104	24.4

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English Learning Experience		
1-5 years	66	15.5
6-10 years	173	40.6
11- 15 years	158	37.1
16-20 years	29	6.8
Highest degree you want to get		
Doctor	34	8.0
Master	30	7.0
Bachelor	205	48.1
Other	157	36.9
Major		
Project management	62	14.6
Science and engineering	80	18.8
Finance and economics	57	13.4
Foreign languages	146	34.3
Medicine	63	14.8
Marine	18	4.2
The software you often use for English study		
QQ classroom	45	10.6
Rain classroom	187	43.9
Mosoteach classroom	26	6.1
Tencent classroom	123	28.9
Superstar Learning APP	28	6.6
MOOC classroom	17	4.0

The study mainly explored learners' attitudes toward blended learning, engagement and effectiveness of blended learning among Chinese college EFL students. In order to realize the target, the research posed the following research questions: Does blended learning have a significant influence on Chinese EFL learners' learning attitudes, engagement, and effectiveness of blended learning?

The data were analyzed using independent samples, which assumes normality of the data and was met for the present data. As displayed in Table 1, the distribution of the respondents' profile from six indicators, including sex, age, English learning experience, highest degree, major and the software used for English study. The 426 respondents participated in the survey. The first profile variable displayed the influence of sex. There are 68.1percentage of respondents who were female and 31.9 percentage were male, indicating that female students accounted for the vast majority of English learners.

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In terms of age, most respondents are aged 19 to 20 years old, accounting for 35.9 percentage. While those aged 18 and below are the least, accounting for 9.2 percentage. Besides, the respondents aged 18 to 19 are 30.5 percentage, and those age 21 or above are 24.4 percentage. It indicated that majority of participants are physically, mentally and intellectually mature senior college student who have finished two years English learning.

4.1. Students' Attitudes toward Blended Learning

Table 2 shows a summary assessment of respondents' attitudes toward blended learning. The comprehensive average is 3.01, indicating that in terms of learning attitude, students are positive towards blended teaching in terms of self-independence, learning ability and subjectivity (M>3). In the three-dimensional attitude structure, students' subjective consciousness scores the highest. This shows that in the information age, blended teaching changes students from passive recipients to active masters of learning. The second is the attitude towards ability improvement, which indicates that students can improve their learning ability to some extent under the blended teaching mode. Attitudes toward learning independence scored lowest, but were also above the average overall. The results of the questionnaire show that secondary dimensions, such as network quality, learning equipment, learning content and self-control affect students' independent attitude.

Table 2: Summary on Attitudes toward Blended Learning

Indicators	**Weighted Mean**	**Verbal Interpretation**	**Rank**
1. Developing Autonomy	3.00	Agree	3
2. Developing Competence	3.01	Agree	2
3. Establishing Identity	3.02	Agree	1
Composite Mean	**3.01**	**Agree**	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

4.2. Students Engagement in Blended Learning

Table 3 presents a summary assessment of the learning engagement of Chinese college EFL students in the Blended classroom. The comprehensive Mean is 2.99, which showed that the evaluations of all projects are consistent, among which cognition engagement ranks first, with a weighted average score of 3.00. On the whole, most of students have a certain degree of cognition of online and offline blended teaching and hold a relatively optimistic attitude.

Table 3: Summary on the Learning Engagement in the EFL Blended Classroom

Indicators	**Weighted Mean**	**Verbal Interpretation**	**Rank**
1. Behavioral Engagement	2.98	Agree	3
2. Emotional Engagement	2.99	Agree	2
3. Cognition Engagement	3.00	Agree	1
Composite Mean	**2.99**	**Agree**	

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Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

4.3. Learning Effectiveness of Blended Class

Table 4 shows that the weighted means on respondents' learning acquisition, teaching satisfaction, and classroom atmosphere. As discussed about the previous three tables, it is clear that Chinese EFL college students are more clear about the function of blended learning than other learning models.

The data in Table 4 show that the effectiveness of Chinese students in the blended classroom is at a medium level (M = 3.00), and the learning acquisition of blended learning (M = 3.01), and teaching satisfaction (M = 3.00), and classroom atmosphere was also at a medium level (M = 3.00).

This indicates that Chinese EFL college students' degree of their satisfaction to learn in the blended classroom is relatively high, meaning that respondents think that the blended learning is full of effectiveness.

Table 4: Summary on Effectiveness of Blended Learning

Indicators	**Weighted Mean**	**Verbal Interpretation**	**Rank**
1. Learning Acquisition	3.01	Agree	1
2. Teaching Satisfaction	3.00	Agree	2.5
3. Classroom Atmosphere	3.00	Agree	2.5
Composite Mean	**3.00**	**Agree**	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

4.4. Construct Validity

Table 5 shows the association between Learning Engagement of Chinese students in the blended classroom and effectiveness of Chinese students in the Blended classroom. It was observed that the computed r-values indicates a very significant correlation and the resulted p-values were all less than the alpha level. This means that there is significant relationship between three variables and implies that the more engagement is involved in learning, the more effective in blended classroom will be obtained.

Table 5: Relationship between the Learning Engagement and effectiveness of Blended learning

Behavioral Engagement	**r-value**	**p-value**	**Interpretation**
Learning Acquisition	.727**	0.000	Highly Significant
Teaching Satisfaction	.683**	0.000	Highly Significant
Classroom Atmosphere	.690**	0.000	Highly Significant
Emotional Engagement			
Learning Acquisition	.834**	0.000	Highly Significant
Teaching Satisfaction	.776**	0.000	Highly Significant
Classroom Atmosphere	.789**	0.000	Highly Significant

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Cognition Engagement			
Learning Acquisition	.886**	0.000	Highly Significant
Teaching Satisfaction	.826**	0.000	Highly Significant
Classroom Atmosphere	.810**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

As displayed in table 6, the relationship between learning engagement of Chinese students in the blended classroom and the attitudes toward blended learning. It was observed that the computed r-values indicates a significant relationship and the resulted p-values were all less than the alpha level. This meant that there was significant relationship exists and revealed that the more attitudes students hold toward blending learning, the more students will engage in.

Table 6: Relationship between the Engagement and Attitudes

Behavioral Engagement	**r-value**	**p-value**	**Interpretation**
Developing Autonomy	.699**	0.000	Highly Significant
Developing Competence	.722**	0.000	Highly Significant
Establishing Identity	.644**	0.000	Highly Significant
Emotional Engagement			
Developing Autonomy	.751**	0.000	Highly Significant
Developing Competence	.773**	0.000	Highly Significant
Establishing Identity	.700**	0.000	Highly Significant
Cognition Engagement			
Developing Autonomy	.772**	0.000	Highly Significant
Developing Competence	.753**	0.000	Highly Significant
Establishing Identity	.704**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

As illustrated in table 7, the association between effectiveness of Chinese students in the blended classroom and the attitudes toward blended learning. It was observed that the computed r-values
indicates a very significant correlation and the resulted p-values were all less than the alpha level. This meant that there was significant relationship exists and indicated if students have the positive attitudes toward blended learning, the better effect will be achieved.

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Table 7: Relationship Between effectiveness of Blended learning and Attitudes toward Blended Learning

Learning Acquisition	**r-value**	**p-value**	**Interpretation**
Developing Autonomy	.782**	0.000	Highly Significant
Developing Competence	.733**	0.000	Highly Significant
Establishing Identity	.701**	0.000	Highly Significant
Teaching Satisfaction			
Developing Autonomy	.825**	0.000	Highly Significant
Developing Competence	.758**	0.000	Highly Significant
Establishing Identity	.693**	0.000	Highly Significant
Classroom Atmosphere			
Developing Autonomy	.830**	0.000	Highly Significant
Developing Competence	.768**	0.000	Highly Significant
Establishing Identity	.734**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

5. Conclusion

Based on the above analysis, the following conclusion can be drawn: gender, age, major and English learning experience have a major impact on Chinese students' blended learning, engagement and development. There is significant difference between behavioral engagement and cognition engagement when grouped according to sex. It was found out that female students have better assessment than male ones. Meanwhile, there is also significant difference between cognition when grouped according to age at 21 and above. For the effectiveness, there is a significant difference between the majors. Students from finance and economics are more favored to the blended learning atmosphere. Therefore, this study suggests that, students' blended English learning attitude should be corrected to make their learning process meaningful; the more attentions should be paid to the construction of bilingual curriculum and teaching system; the construction of curriculum content and teaching methods should be rich and interesting, so that students can actively participate in; online and offline interaction, presentation and evaluation system should be promoted, so that students can learn effectively.

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