

Investigation into the Motives and Perceptions of Implementing Blended Teaching in a Chinese Higher Education Context

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DECLARATION REGARDING FINAL SUBMISSION

My submission for examination was temporarily bound.

I confirm that the contents of my final, approved submission are identical with the version submitted for examination, except where amendments have been made to meet the requirements of the examiners.



Signed

Date.....16 June, 2023.....

Abstract

As a pedagogical approach in practice, blended teaching is generating unprecedented opportunities in higher education, but also poses new challenges. Whether teachers' application of blended education can achieve steady and sustainable development is gaining increasing attention. This research examines whether teachers' application of blended education shows sufficient motivation for sustainable development, by exploring the motives influencing blended teaching practices; examining the effectiveness of a blended course design that integrates automated essay scoring online; and describing the specific blended teaching situation in the given context. This can help develop knowledge of the motives affecting the implementation of a hybrid approach, improve teaching performance and quality in the given context, and add more value to the pedagogical practice by concentrating on its implementation.

This dissertation includes a pilot study and three main experiments, as part of the project leading to a doctorate in Education. It employs quantitative and qualitative methods, and analyses the data collected from questionnaires, interviews, and triangular cross-verification of observations and informal conversations. The pilot study tested the feasibility of the intended qualitative thematic approach and provided parameters for designing the questions for the focus groups in the main study, through applying Creswell's thematic analysis approach.

Based on the pilot study results, the first experiment is a quantitative intervention in the given context. To apply the blended approach to college English writing as an intervention, a small-scale study involved 71 student participants divided into two groups, to compare an automated essay-scoring supported hybrid course design with traditional manual marking. This experiment examined the effectiveness of the blended approach and measured the attitudes of students with different scores. Statistical analysis reveals that students are not disadvantaged by the hybrid course ($p < 0.01$). Both groups showed a significant improvement in performance ($p < 0.05$). Students hold differentiated attitudes towards human scoring and automated essay scoring in a blended course design, correlating to their writing

performances ($p < 0.05$).

The second experiment conducted two online focus groups with 14 teachers; it used thematic analysis and pattern identification techniques to identify the motives influencing the adoption and implementation of blended teaching, based on the participants' narratives and descriptions. Between the two focus groups, the pandemic was found to affect the motive of technical skills, obliging all potentially suitable participants to practise online teaching for a whole semester. The two groups' data were analysed separately before being combined to extract the results. Thus, the eight identified motives were inductively categorized into three dimensions (attitude, external environment, and subjective controllability). The analysis further explores the themes of conundrums and tentative countermeasures identified from the second focus group, observations, and informal online conversations.

In the third experiment, a questionnaire survey, based on Neumeier's parameters, was distributed to 166 teacher participants. The results presented the specific situation of implementing blended teaching, such as online platforms, time spent online, and mixed course design. The influencing motives were tested and measured by multiple linear regression methods in SPSS, with data collected from 187 valid questionnaires. Finally, a regression equation model identified the degrees and ranking order of influences, with the motive of self-efficacy being dominant (0.464), followed by social pressure (0.216), and perceived utility (0.183).

Based on the research findings, this research proposes suggestions regarding blended teaching practices, such as resource construction and teachers' professional development.

Keywords: blended teaching implementation, effectiveness, attitude, motives, relationships

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My Relevant Published Thesis and Participation

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Glossary of Abbreviations

Automated Essay Scoring (AES)

Blended Learning (BL)

China's Ministry of Education (CMOE)

College English Teaching Guide (Guide)

Community of Inquiry (Col)

Deep Learning (DL)

Doctor of Education (EdD)

Face-to-face Teaching (F2FT)

Higher Education (HE)

Information and Communications Technology (ICT)

Mass Open Online Courses (MOOC)

Mixed-method Approach (MMA)

Multiple Linear Regression (MLR)

North American Council for Online Learning (NACOL)

Real Classroom Teaching (RCT)

Self-regulated Learning (SRL)

Research question (RQ)

Small Private Online Courses (SPOC)

Statistic Package for Social Science (SPSS)

Teaching and Learning (TL)

Technology Acceptance Model (TAM)

The Organization for Economic Cooperation and Development (OECD)

University of Hertfordshire (UH)

Chapter 1 Introduction

This chapter introduces the research background, definitions and boundaries of the key concepts. It also describes the research aim, objectives, significance, research questions, and the structure of the remaining chapters.

1.1 An Overview of the Broad Background

Since the 1990s, the rapid development of information communication technology (ICT) has caused tremendous changes to all aspects of society (Matheos & Cleveland-Innes, 2018). Massive information resources exist ubiquitously; they have gradually been accepted and adopted as critical social resources, which are closely related to human production and life (Lanka, 2020). According to the *41st Statistical Report on China's Internet Development*, released by the China Internet Network Information Centre (CNNIC) on 31 January 2018, as of December 2017, the number of Chinese net users had reached 772 million; the penetration rate of 55.8% was 4.1% higher than the global average (51.7%), and 9.1% higher than the Asian average of 46.7%. The information revolution, characterized by digitization, intelligence and networking, has brought us from the age of the industrial economy to an era of information and global knowledge economy, which has generated huge productivity that far exceeds the industrial revolution (Wu et al., 2022; Ren et al., 2021).

The improvement of ICT not only generates unprecedented opportunities in higher education (HE), but also poses new challenges. Currently, ICT requires the constant upgrading of computers and mobile devices, online applications and tools. Furthermore, fragmented learning has become the norm (Xu, 2022; Wang et al., 2020). The complete implementation of traditional face-to-face teaching (F2FT) can no longer fully meet the teaching needs (Song & Huang, 2022; Zhu, 2021; Kinzie, 2017). Although there is growing dissatisfaction among faculty members, students, institutions, and society with the quality of the teaching and learning (TL) experience, there has been little fundamental change in how we approach TL in HE with technology (Colina, 2018). Thus, we can see a contradiction between the fast-growing technology and the unsatisfactory TL experience (Garrison & Vaughan, 2013). The process of incorporating this technological progress into the educational

model poses new challenges to teachers and students worldwide, and leads to the appeal of educational system reform (Dahmash, 2020). As a result, many new teaching theories and practices have emerged, and the mixed teaching mode has emerged as a hot topic (Dziuban, 2018).

The successive introduction of macro education policies in China attests to the importance of education informatization at the national level, and also points out the direction for future educational reform. *The Outline China's National Plan for Medium and Long-term Education Reform and Development (2010–2020)* (CMOE, 2010), issued by China's Ministry of Education (CMOE), emphasizes accelerating the process of education informatization. The single teaching mode that depends on teachers' lecturing should be improved into a student-centred model, supported by modern internet technology, so that foreign language education can be free from time and place restrictions to a certain extent (CMOE, 2010, pp.59–60). Similarly, the most recent *Thirteenth Five-Year Plan for National Education Development (2017)* emphasizes that college English teaching should actively incorporate the latest information technology and curricula. Additionally, it should continue to play a crucial role in integrating modern educational technology into foreign language teaching (Hu, 2021; Yang & Lai, 2021). Thus, colleges and universities are required to revamp their traditional classroom structure, integrate ICT into instruction, and devise inventive teaching approaches to cultivate high-quality talents, according to Hu (2021). The deep integration of information technology and foreign language courses has become the demanded and inevitable trend of reforming the college English teaching model.

However, whether educational technology can bring revolutionary changes to teaching remains an unresolved issue; the desire to completely change the traditional teaching mode is still far from reality. From the 1920s to the 1990s, every advance in science and technology aroused people's enthusiasm to change the status quo of education. From slide and film technology, to radio and TV, then computer and Internet technology, people tried countless times to replace traditional schools and classrooms through technology, but all attempts failed (Scanlon, 2021; Garrison & Vaughan, 2013). The mode of resorting to MOOC (massive open online courses), which appeared around 2008, had high expectations from many educators, who

called it the most successful technology that might overturn traditional education (Noor & Aziz, 2020). However, only a small proportion of participants complete the MOOC courses, which have high dropout rates, plagiarism (Luik & Lepp, 2021; Soukaina et al., 2020; Hone & El Said, 2016), and turn out to be “problematic” (Dong et al., 2021). We thus notice the unexpected phenomenon that the application of information technology in education has shown insufficient motivation for sustainable development.

This mismatch phenomenon has attracted much attention. Some scholars (Simsek, 2020; Reiser, 2001) have studied it from the perspective of technology and instructional design, through a series of measures such as the improvement of information technology, the optimization of classroom instructional design, and the construction of information resources. A few researchers, such as Nakamura et al. (2021), argue that as long as the technology is advanced enough, its function is powerful enough, the teaching resources are rich enough, and the instructional design is satisfying enough, it will be accepted and used at a large scale in our HE. Although some positive results have been achieved, this mismatch still exists. This shows that simply through policy regulations, technological improvements, and the perfection of teaching design, we cannot guarantee the successful integration of technology in the curriculum. This raises the question of what else can be done to help HE take full advantage of modern technological advancements.

Teachers are participants in any teaching reform. Shuell (1996) regarded teachers as the goalkeepers of the classroom, meaning that any innovation must be accepted by them before it can be truly integrated in practice. Advanced educational technology is one of the factors in teaching effectiveness, but not the only one. It is also acknowledged that the teacher is a critical variable in instructional success (Sickel, 2019). Teachers play the leading role in teaching activities, and teachers’ reasonable use of information technology in teaching, and their independent creation, are the decisive factors of foreign-language teaching reform (Zheng & Davison, 2008). As pointed out by Imants and Van der Wal (2020), foreign-language teachers are the key actors in the deep integration of ICT and foreign-language curricula. In the reform process of information-based foreign language teaching, why do some new teaching modes become popular at first and then fade away subsequently?

We need to think about why teachers adopt a positive, negative, or neutral attitude towards blended teaching, and what motives influence their implementation. Can the technology-supported hybrid teaching approach gain steady and sustainable development in future? In the face of massive resources and increasingly updated information technology, it is necessary to conduct further research and discussion on these issues.

1.2 Definitions and Boundaries of the Key Concepts

The idea of combining face-to-face with online instruction in education is not new (Graham, 2006; Garrison & Kanuka, 2004). The first web-based training and learning approaches appeared around 1998, before which CD ROM was the preferred medium, from about 1992 (Barker, 2000). The precise term 'blended learning' (BL) was not adopted until the 2000s. There were several BL internet models, such as Web 2.0. In later years, e-learning 2.0 added a further dimension, with a social aspect and full connectivity (Capuano et al., 2009). Since ICT arose in education, the blended approach to TL has been implemented and studied repeatedly (Halverson et al., 2014). The main reason for this continued interest in designing effective blended environments is that combinations of face-to-face and online teaching activities can offer several new possibilities for optimizing TL (Spanjers et al., 2015).

Some scholars pay special attention to the extent of the blend. Niemiec and Otte (2009) suggest that courses with a substantial portion (24%–75%) of the content delivered online can be called a 'hybrid' mode. From a much broader perspective, according to Hrastinski's (2019) definition, blended learning incorporates a diverse range of methodologies, such as the integration of online and offline teaching, utilization of various instructional techniques and technologies, and many others. Likewise, some scholars argue that blended TL means the thoughtful fusion of F2F and online learning experiences (Garrison & Vaughan, 2007, p.5). Unlike in Niemiec and Otte's proposal, there is no requirement regarding the specific percentage or nature of the blended TL approach; hence, this term can be applied all the TL in our present HE without making people conscious of its essence (Smith & Hill, 2018).

In contrast to the previous point, some experts emphasize the complexity of blended courses. According to Garrison and Kanuka (2004), the adoption of

blended courses can be challenging due to the vast array of design options and applicability to different contexts, which make these courses more intricate (p.96). In addition, some literature defines blended courses from the perspective of teaching methods. To clarify, Craig et al. (2002) state that the blended context is the mixture of traditional didactic methods with online-based instructional methods. Cronje (2020) argues that BL should emphasize learning theory, direct instruction methods, and learning by doing.

BL is also regarded as a system. For example, some scholars prioritize the significance of computer-mediated instruction in a BL framework (Halverson et al., 2014). Evans et al. (2020) consider it a fusion of online learning using a Learning Management System, F2F meetings, and synchronous and asynchronous discussions. In addition, Rovai and Jordan view the blend as a flexible course design that allows for a combination of online and in-person learning, offering some of the conveniences of fully online courses but without the complete loss of F2F contact (2004, p.3). BL has been used interchangeably with other alternative or more descriptive terms, such as 'mixed mode TL', 'hybrid instruction', and 'technology-mediated or enhanced TL'.

Perhaps the most widely held understanding of blended courses is technology-mediated, whereby BL is considered to expertly combine in-person and computer-mediated instruction (Garrison & Vaughan, 2013, pp.24–28). As indicated by Garrison and Kanuka, the combination can result in adding web-based technologies to the dominant teaching method or approach (2004, p.97). Thus, it is a deliberate blending of F2F and online activities using technologies, intended to stimulate, elevate and support learning (Boelens et al., 2018).

Since 2012, blended course design has been a key factor in accelerating the trend of HE's technology adoption for several consecutive years (Baldassarri, 2022), as mentioned in the *New Media Alliance Horizon Report (Higher Education Edition)*. In an authoritative website publicizing the latest news on education connected with ICT in China, the blended approach is defined as a kind of 'online + offline' TL that combines the advantages of both. Through the organic combination of the two organizational TL forms, learners can be guided from shallow to deep learning (DL) (The Chinese Education

Information Website, 2021). This definition concentrates on serving the learners, and covers elements that are indispensable to this study, such as the advantages of both online and offline TL and deep-learning orientation; this aligns with the concrete situation of this study, and thus the definition is adopted.

This project was conducted with college English courses, confining the teachers' population to private colleges and universities in a Chinese HE context. There is an absence of consensus on defining research context; however, according to a few researchers' categorizations, the context for this project could be construed as a knowledge domain and location in a physical-geographical sense (Dohn et al., 2018). I use "a Chinese HE context" to relate to my profession and workplace: college English courses in private colleges and universities in Shanghai, China. This limit defines the context within which the research was conducted. This project is also partially supported by one of the institutions and its committee.

I have chosen this context because of the uneven development of HE institutions in China. For instance, the context of college English teaching at my workplace may be different from that of public ones; moreover, the context in other cities may differ greatly from Shanghai's. Shanghai is one of the most developed cities in China, and is relatively rich and well-developed in education (Ponzini, 2021). As a metropolis, it has unique advantages; however, it also faces problems in the process of designing, adopting and implementing blended teaching. Exploring these can shed light on similar problems in other colleges and universities in Shanghai and other cities. I use 'motives' and 'perceptions' to show that the research investigates teachers' perceptions of the core issue: motives for implementing blended teaching.

1.3 Research Aim, Objectives, Significance, and Research Questions

This study examines whether teachers' application of blended teaching practice shows sufficient motivation for sustainable development, by exploring their influencing motives. It aims to provide both theoretical support and a practical reference for teachers' professional development, and for the in-depth integration of blended instruction and foreign-language courses in HE.

Investigating the perceptions of blended education is not simply about developing an understanding of the underlying motives and mechanisms

influencing blended teaching, which can translate the notional blended mode into genuine pedagogical value. If we can obtain an extended comprehension of the influencing motives, the process, and their relationships, this will develop the potential to promote teachers' blended teaching performance and quality, and add more value to the pedagogical practice by concentrating on its implementation.

Therefore, I have designed the following research questions (RQ). In this dissertation, I will carry out a pilot study and three empirical studies to fulfil the research objectives.

RQ 1. What motives are perceived by college English teachers to influence their adoption and implementation of blended teaching?

Sub-question 1. Which motives are perceived as facilitators or barriers?

Sub-question 2. Which blended forms do teachers undertake, and what are their characteristics?

Sub-question 3. What are the relationships between the identified motives and the hybrid teaching practice?

To answer these RQs, a pilot study uses a small group interview to collect data and gain experience of using the thematic approach. Based on two online focus group discussions, observations, and informal online conversations, I will apply a thematic analysis approach to identify the motives affecting the adoption and implementation of hybrid teaching from the narratives and descriptions, including the blended forms, their characteristics, advantages, disadvantages, facilitators, and barriers. I will then induce dimensions of influencing motives, build a rough framework of influences, and deductively analyse conundrums and tentative countermeasures, to realize the objective of concretely exploring the influencing motives. Last but not least, based on the qualitative analysis results, I will test the correlations of the motives and their influence degrees through quantitative analysis, before constructing the regression equation model.

RQ 2. Can we observe significant differences in effectiveness and attitudes between a blended instructional design integrating an online writing marking system, and a traditional face-to-face one using human scoring?

Sub-question 1. Does the blended instructional design promote or restrict teaching effects?

Sub-question 2. What are students' attitudes towards them?

To answer these RQs, I will frame a blended course design that integrates automated essay scoring (AES) online as an intervention. By comparing it with traditional course design, I will adopt quantitative statistical methods to examine the effectiveness of and attitudes towards a blended instructional design.

1.4 The Structural Arrangement of the Remaining Chapters

This dissertation studies the motives influencing college English teachers' adoption and implementation of blended teaching at private colleges and universities in Shanghai. It aims to generate professional knowledge and develop blended TL practice. Accordingly, the remaining chapters are arranged as follows.

Chapter 2 reviews the relevant literature. It has two overarching goals: to build an analysis framework for studying blended TL, and to locate the area in which this project can contribute. The literature analysis consists of horizontal and vertical lines, with blended teaching in the centre. Finally, it constructs an analysis framework of blended teaching and elaborates on the components in the framework.

Chapter 3 describes the methodology, starting from mapping out my research journey. I clarify my philosophical stance and underpinning beliefs and values, including the philosophical umbrella, in terms of ontology and epistemology, and the research paradigm. I then justify every choice I have made and explore the methodological considerations, with discussions on ethical issues, trustworthiness, reliability, validity, and transferability. Furthermore, I elaborate on the experience and procedure of my pilot study, and highlight what I have learned from it about the intended approach. Then for the main study, I explain why I have adopted focus groups and quantitative testing, and how they are applied in my particular context. The reflexive issues on consent, authority, the rights of participants, and my underpinning values are all explained in detail in this chapter.

Chapter 4 presents the pilot study. It assesses the viability of utilizing the intended qualitative thematic approach, and provides indispensable insights for crafting well-constructed questions for the main study.

Chapter 5 is my published paper on this topic. It is a complete study in its

own right, and has been rewritten to adapt to this project. Based on the pilot study's results regarding the motives influencing teachers' adoption and implementation of blended teaching, this chapter investigates one of the important motives for teachers. It reports an empirical study undertaken with undergraduates in a Shanghai college, to investigate the effectiveness of and attitudes to a blended course that integrates an online AES system, designed as an intervention.

Chapter 6 contains the qualitative part of the main study. Based on the pilot study, I elaborate transparently on the compilation of instrument design of the questionnaires and discussion questions, data collection, and analysis processes, with thick step-by-step descriptions. The main study uses focus groups to collect data; it then then categorizes the repeated statements or concepts into a few themes and dimensions using thematic qualitative analysis, and examines them using multiple lenses, such as observations, and triangulating the results by quantitative methods. Thus, this chapter identifies the themes and dimensions of the motives influencing teachers' adoption and implementation of blended teaching in the studied context, before deconstructing it by vividly describing the current teaching situation, and testing the motives' relationships with hybrid teaching practice and their influence degrees.

Chapter 7 presents the quantitative part of the main study. It describes the specific blended teaching situation based on Neumeier's parameters, and then tests the identified themes or motives using statistical multiple linear regression methods.

Chapter 8 is devoted to a discussion and conclusion, and offers a detailed account of the research findings. The effectiveness of and attitudes to a blended course design are discussed in great detail, with a comprehensive summary of the themes of influencing motives, the specific blended teaching situation, motives' degrees of influence, and their ranking order. The study is envisioned as making noteworthy contributions to theory, practice, and policy. The chapter also generalizes the research implications, and expounds on the innovation and reflections that emerged. Finally, future research directions are proposed by providing valuable insights for future studies.

The next chapter reviews the relevant literature, categorizes the literature

into several areas, and draws a tree of an analysis framework for studying blended teaching.

Chapter 2 Literature Review

2.1 Introduction

Following Chapter 1, which described the warrant for this project, this chapter reviews previous pertinent literature relating to blended education.

Various core concepts are relevant to this project: namely, blended teaching, effectiveness, influencing motives, adoption, implementation, and the Chinese HE context. Through literature analysis consisting of both horizontal and vertical lines, with the blended approach at the centre, the chapter illustrates BL's rise and evolution, purpose and function in chronological order, and the definitions of key terms. It also looks horizontally at its readiness, design, adoption, implementation, and impact. This chapter finally constructs an analysis framework for blended education, which constitutes the study's research niche.

2.2 Perception, Attitude, and Behaviour

The philosophy of perception deals with the nature of our sensory experiences and investigates their relationship with reality (Fish, 2010). Brogaard (2012) defined it as a mental process of gaining meaningful information from reception of stimuli, and also focuses attention on specific objects within the influence of the social and cultural background of the research. Thus, we can safely infer that any of the internal and external stimuli can make an impact on perceptions, and cause different perceptions.

In a narrow sense, perception relates to attitude. Eagly and Chaiken (1993) divided attitude into three types: cognitive, affective, and behavioural; they defined it as an explicit psychological tendency of evaluating a particular entity with some degree of favour or disfavour. Hence, there is a common ground between attitude and perception – namely, the cognitive perspective. This is why some scholars interchangeably use the terms 'attitude' and 'perception'.

Furthermore, attitude influences behaviour. Svenningsson et al. (2022) showed that an individual's attitude to technology-supported education was correlated with behaviour and behavioural intention. Therefore, attitude may influence whether individuals decide to accept, adopt or reject certain behaviours. The behavioural perspective treats behaviour as a type of characteristic that indicates attitude; this was highlighted by Ajzen and

Fishbein's interpretation (1977) that an individual's unique attitude leads to their behaviour.

In a broad sense, perception influences attitude and actual behaviour, just as Covey (1989) stated that our perception "affects not only our attitude and actual behaviour but also how we see other people" (p.67). Therefore, teachers' perceptions can show whether they hold a positive or negative attitude towards blended teaching, whether they adopt the blended teaching, and how they implement actual blended teaching. However, their perceptions also indicate how they observe the students' behaviours in this context, and vice versa for the students' perceptions. For example, the positive attitude of teachers and students in the blended environment has embodied their positive perceptions of blended TL (Kgosietsile & Wanano, 2017).

2.3 Why Blend?

From the perspective of technology application, the current online TL is different from early distance education (Jajic & Jukic, 2021). Similarly, there are differences between the current blended design and earlier approaches (Nurhayati et al., 2021). However, the different understandings of the purpose and function of the hybrid approach have not led to diversified research focuses. Rather, in different periods and under various theories, most studies are concerned about the effects of the blended approach, and produce similar research findings.

2.3.1 The Theoretical Basis for the Blended Approach

Three major pedagogical theories underpin our TL design: behaviourism, cognitivism, and constructivism. However, there seems to be more debate than consensus on whether they complement each other in classroom practice, or whether they are manifestly incompatible and even mutually exclusive. Some argue that an ideal learning environment should incorporate the best practices of behaviourism, cognitivism, and constructivism (Bandono & Sri Suharyo, 2021). It should also include the direct instruction of the behaviourist classroom, the students' thinking process developed in the cognitive classroom, and the art of discovering learning through constructivism (Amineh & Asl, 2015). In reality, however, some instructional practitioners, developers and scientists support one approach or another, while some pedagogical experts do not think these three theories can be integrated into one unit

(Bandono & Sri Suharyo, 2021). A documentary analysis has found that in terms of these three perspectives' applicability to modern teaching, there is an apparent lack of agreement among pedagogists on their individual and collective values; Imenda (2018) concluded that there is ample space and purpose in today's classroom for the three perspectives to coexist and reinforce each other in the diversity of teaching settings, for the benefit of students.

When we design a blended course with the provision of learning resources, and to encourage students' engagement based on the theories of cognitivism and constructivism, this will be reflected in the learning effects: acquisition of knowledge and skills, enhancement of learning motivation, and improvement of the learning experience (Meylani et al., 2015). Hence, if the features of the BL environment are designed appropriately to incorporate the best of behaviourism, cognitivism, and constructivism, it can maximize the advantages of these different learning theories and minimize their disadvantages, in order to facilitate learning.

2.3.2 Evolution of the Purpose and Function of the Blended Approach

In the late 1990s, Professor Eric Mazur proposed the peer teaching method (Mazur & Somers, 1999), which addressed the previous limitation of only lecturing by teachers. It also used modern information technology to guide students to participate in the learning process independently. This approach was known as the prototype of blended education (Badaruddin et al., 2019).

On the function and purpose of the blended approach, the first viewpoint regards it as a substitution or auxiliary method. In the early stage, many organizations and scholars advocated online education for economic considerations, as it could replace real classroom teaching to save costs and improve convenience (Graham, 2019). According to this viewpoint, hybrid teaching, as a transitional method between F2FT and online, is an auxiliary or substitution, prevailing in the early stage of blended education.

Some scholars still favour this substitution or auxiliary theory. Even in recent years, in Europe and the United States, blended education has gained strong support from the government or colleges and universities (Hill & Smith, 2023). Some researchers and practitioners still believe that the fundamental function of hybrid teaching is to help solve the effectiveness problem arising

from large-scale class teaching and the shortage of classroom space, by replacing some classroom teaching with online education (Baepler et al., 2014).

Scholars and practitioners holding the 'substitution or auxiliary theory' viewpoint focus on whether a blended approach, as an alternative to traditional classroom teaching, can achieve the same effects. Before 2010, a considerable amount of research concentrated on this point. Most of the results show that blended TL under this approach can achieve the same effects as traditional classroom teaching, such as improvement of behavioural, intellectual and emotional interactivity (Wang et al., 2009).

After 2009, with the evolution of blended education, the concept of strengthening or improvement theory began to appear. The purpose and function of the hybrid approach are no longer the partial replacement of the face-to-face class or assistance for online teaching, but lie in promoting, improving and optimizing traditional on-site teaching. On the one hand, hybrid teaching under this theory intends to take advantage of both online teaching and the F2FT, and avoid their disadvantages (Yang et al., 2019). On the other hand, hybrid TL should promote the reform of teaching modes, by integrating mobile terminals, the Internet, and other ICT into learning activities and courses, and creating a student-centred learning environment (Hsiao et al., 2017). According to some studies, appropriate targeted TL support can be designed and chosen according to the needs of courses, students and teachers, and can provide students with a truly personalized learning experience (Troussas et al., 2021).

Therefore, research into the potential of blended teaching as a superior alternative to traditional in-person or online-only instruction is gaining momentum among proponents, scholars and practitioners who hold the view of intensification. The focus is on how blended learning can refine and elevate classroom instruction through the reinforcement or improvement theory. Current research and practical application demonstrate that this approach yields superior teaching outcomes, compared to the exclusive use of face-to-face or online instruction (Kayalar, 2020).

2.4 The Blended Approach's Development from the Late 1990s to the Present

Although the generally accepted definition of blended teaching is a mixture of online and F2FT, its concept has evolved since its rise in the late 1990s. It can be induced from the literature that BL consists of two dimensions: physical and pedagogical characteristics. From these perspectives, the historical development of the blended approach has undergone three stages.

2.4.1 From the Technological Perspective

Since it emerged in the 1990s, blended education has attracted the attention of scholars and practitioners. During the technology application stage (the late 1990s–2006), the blended approach mainly emphasized its physical characteristics. The most typical definition is by the Sloan Consortium, as the combination of two historically independent teaching modes: traditional F2FT and online teaching (Mahmud & Ismail, 2020). From a much broader perspective, some scholars state that it means “the thoughtful fusion of F2FT and online teaching” (Garrison & Vaughan, 2007, p.5).

In terms of teaching characteristics, BL is mainly understood as a new pedagogical mode, which emphasizes the core role of technology in TL. Scholars and practitioners regard blended teaching as a transitional stage between pure F2FT and single online teaching. The blend is a combination of the two, supported by ICT, and the degree of technology application becomes the key dividing standard.

2.4.2 From the Teacher’s Perspective

Since 2007, with the development of research and practice, blended education gradually moved into the technology integration stage (2007–2013).

Apart from the discussion on the blend proportion (see Section 1.2), blended instruction has undergone dramatic development. Scholars began to pay more attention to the pedagogical perspectives of teaching strategies and methods, and highlighted the teaching design. Therefore, at this stage, blended teaching focused on interaction, such as among the elements in a blended environment. The typical definition, given by Bliuc and his colleagues, describes it as a new way of TL, which realizes the combination of F2F on-site interaction and online interaction between students and students, students and teachers, and students and resources (Bliuc et al., 2007).

For this reason, Yen and Lee called the blended approach the fundamental change and redesign of the teaching model, and proposed three

characteristics of blended teaching: (1) the change from teacher-centred to student-centred; (2) the enhancement of the interactions between students and students, students and teachers, students and contents, and students and resources; and (3) an evaluation mechanism combining formative and summative evaluation (Yen & Lee, 2011).

2.4.3 From the Student's Perspective

With the rapid development of the Internet and mobile technology, especially the arrival of the Internet era, the application of mobile technology was formally incorporated into the concept of hybrid teaching. During the Internet stage (from 2014 to the present), the conceptual perception of blended teaching has evolved into a teaching situation based on mobile communication equipment, network learning environment, and classroom discussions. Some scholars explored the mobile BL course design, to facilitate the lecturing process (Suartama et al., 2019).

In the pedagogical dimension, blended teaching was interpreted as a new learning experience. After the first two stages of the technological perspective and teachers' perspective, people's perceptions finally adopted the students' perspective, focusing on the changes brought by the blend and its support for students' learning. Increasingly, scholars pointed out that the blended approach was not simply a mere amalgamation of technologies, but a truly highly participatory and personalized learning experience for students (Bouilheres et al., 2020). This approach is commonly known as student-centred teaching. It is of the utmost importance to incorporate diverse teaching methods in a student-centred learning environment, as emphasized by Goodyear and Dudley (2015). Thus, BT became a series of content blocks sequenced to create a new learning experience. It has received more attention because HE institutions are attempting to thoroughly reform the factory model inherited from the industrial age, to offer more customized learning experiences.

Overall, the following Table 1 shows that in the three-stage evolution of the blended approach concept over the past more than 20 years, the focus on its physical characteristics has gradually weakened, while attention to its pedagogical characteristics has strengthened.

Table 1 The Development of Blended Mode

Stages	Technology application	Technology Integration	The Internet
Physical dimension	Mixture of online and F2FT	Clear proportion	Combination of mobile technology, online and F2FT, and blocks of teaching design
Pedagogical dimension	Technology application	Instructional design	Learning experience
focus	ICT	Interactions	Student-centered
perspective	technology	Teachers	Students

2.4.4 Development of Blended Education in China

Since its rise, blended education has been growing quickly and massively in China (Wang & Nuttall, 2018). In 2003, Professor Zhu Zhiting from East China Normal University introduced the concept of BL into distance education (Shi & Zainuddin, 2020). In the same year, Professor He Kekang also promoted BL at the Seventh Congress on the Application of Chinese Computer Education in the World, introducing how to integrate mixed teaching into curriculum design (Li, 2020). In 2004, Professor Li Kedong's report creatively suggested eight steps to implement mixed education (Wang, 2008). Subsequently, Professor Huang Ronghuai of Beijing Normal University proposed that BL was a way of learning that at the right time, through the application of appropriate learning techniques and styles, the targeted abilities can be passed on to the appropriate learners, to achieve the optimization of the learning effect (Dede et al., 2017).

The blended mode became increasingly notable in Chinese HE, as it was used during and after the COVID-19 pandemic, supported by the prevalence and popularity of Mass Open Online Courses (MOOC), Small Private Online Courses (SPOC), and flipped classrooms during the last few years (Dong et al., 2021). However, a few problems have arisen in the TL reform using the blended approach. Researchers, institutions and practitioners are still struggling with the practice of blended course design (Brown, 2016). For many teachers, this kind of new practice requires them to have an accurate and in-depth grasp of its theory and essential rules, some of which are ideologically biased (Yang, 2017). Thus, the appropriate and seamless integration of online and offline activities becomes an issue in the blended course design. Despite the practice on a large scale, we cannot say it has been applied successfully at the forefront of HE in Shanghai, the most modern city in China. Therefore, it is necessary to explore the concrete situation of blended teaching, and the

conundrums regarding the adoption and implementation in this Chinese HE context.

2.5 Research on Prerequisites for Adopting and Implementing Blended Education

Most of the research on blended education started with curriculum preparation. It remains the focus today; however, we notice that attention is increasingly turning to institutional, teachers' and students' readiness, and also, policy promotion (Graham et al., 2013).

2.5.1 The Flip and SPOC

The flipped classroom approach transfers knowledge via students' independent learning after class, whereas this used to be completed in class. It reserves the classroom for knowledge consolidation, internalization, and other activities (Fung et al., 2021). Wesley Baker, an American professor, proposed the flip and the flipped classroom model at the 11th International Conference on University Teaching in 2000 (Baker, 2000). In this method, students watch teaching videos after class, and discuss, collaborate and solve problems in class. In 2006, Salman Khan posted his micro-videos of mathematics teaching on the Internet, which gained many clicks and had far-reaching influence. Later, he founded the Khan Academy, whose micro-videos played a crucial role in the rapid promotion of flipped classrooms and turned learning through micro-videos into a widely used BL mode (Russo, 2011).

At present, many universities have put SPOC into practice. The term SPOC stands for 'small private online courses' or 'small access online courses'. It belongs to a teaching model that comes into being after reflecting on the problems of MOOC (Guo, 2017). 'Small' means much smaller than MOOC's 'massive', i.e. usually less than 500 people. In contrast to MOOC's 'open', 'private' means that only qualified people can enter due to its admittance restrictions (Guo, 2017). The hybrid teaching mode for applying SPOC integrates online learning and classroom teaching. The teaching process of SPOC is as follows: learners use MOOC resources or videos provided by teachers to complete pre-class learning; teachers track students' online learning process, find and collect questions; then the teachers solve problems in face-to-face classes, and organize classroom activities that promote the internalization of knowledge. The evaluation of the learners, and the feedback

delivered to them, run throughout the teaching process (Ruiz-Palmero et al., 2020). SPOC is frequently used by the teachers in this study's context.

2.5.2 Policy Promotion

Under the strong advocacy of governments in different countries, some colleges and universities in Europe and America took the lead in trying out blended TL reform around 2010. In 2011, for example, the US government set up an NGLC fund (Next Generation Learning Challenges) to encourage schools to develop blended education with 20 colleges and universities from the AASCU (American Association of State Colleges and Universities), which participated in the programme. Since 2013, MOOC have triggered an upsurge of attention on blended education from all sectors of society, and more colleges and universities show an open and positive attitude towards it. The blend allows more traditional universities to see the infinite possibilities of expanding learning opportunities outside the university walls (Li et al., 2022; Berga et al., 2021).

Graham divided the blended approach promoted by educational institutions into three levels of development: consciousness / exploration, adoption / early implementation, and mature development (Graham et al., 2013). For example, in the US, most colleges and universities that push blended educational reform are still in the stage of transition and transformation from the first level (consciousness / exploration) to the second (adoption and early implementation), and are still in the initial stage of blended teaching reform, far from mature development. Moreover, in this process, most universities have been faced with problems and challenges caused by insufficient preparation (Porter et al., 2014).

2.5.3 Students' Preparation: Attitude and Competence

There is a great deal of research on students' attitudes and acceptance of BL, given that learners' recognition and acceptance will affect their learning participation and satisfaction in a blended context (Cheng & Chau, 2016). Moreover, most studies show that students, especially adult learners, took an open positive attitude towards BL and the BL environment (Osgerby, 2013). Aladwan et al. (2018) reported that students at the University of Jordan felt positively about BL, as it is proven to be more effective than the traditional teaching mode in acquiring knowledge and skills. Another study conducted in a

prominent Malaysian private HE institution found that students were ready for BL, although differences in gender, age, ethnicity, and major were correlated with their readiness (Adams et al., 2021). Keskin and Yurdugül (2020) showed that the motivational variables are more effective in the preference of learning environment, and students with high task value, online learning motivation, and self-efficacy prefer blended environments.

Although in most of the previous studies, students have shown positive attitudes toward BL, many still prefer traditional F2FT and tutoring (Wong et al., 2014).

What kind of learning effects and satisfaction learners can achieve in BL is influenced by whether they are prepared for it (Singh & Chan, 2014). The preparation of ability includes independent learning ability, practice management ability, maturity and responsibility, and the ability to apply ICT, among others (Cheon et al., 2012).

2.5.4 Teachers' Preparation: Attitude and Competence

Few studies have specialized in discussing the teachers' competence model for blended education, with more attention given to its use in online teaching. However, many scholars have emphasized that mixed teaching should involve unique teaching strategies and methods. Teachers cannot simply copy the traditional classroom teaching approach; instead, they must be equipped with such specialized pedagogical knowledge and the ability to successfully carry out a blended approach (Garrison & Vaughan, 2013).

Table 2 NACOL Teachers' Competency Framework

Domains	Specific abilities
Beliefs	Have a prospective vision of teaching and learning, and make clear the direction of educational reform and development
Qualities	Courage, transparency, and the ability to collaborate
Adaptability	Reflection, continuous improvement and innovation, communication skills
Technical ability	Have the ability of data thinking and practice, teaching strategy, management of mixed learning experience, and application of teaching tools

In 2011, the North American Council for Online Learning (NACOL) published a research report that divided the abilities of teachers who are engaged in mixed teaching into four dimensions, and further refined them into 12 specific abilities (as shown in Table 2) (Moore & Diehl, 2018; Tracy et al., 2011).

Scholars have also constructed another teachers' competency framework

for blended teaching, and proposed four aspects of competence requirements: curriculum preparation, curriculum design, communicative discussion, and motivation stimulation (King & Cerrone Arnold, 2012). Overall, NACOL's competency framework is more comprehensive and generalized, while the competence framework proposed by King and Cerrone Arnold is more focused on the strategic level, and is characterized by operational meaning and guidance.

At present, there is little research on cultivating teachers' skills in blended teaching. Since 2010, with the popularity of hybrid education, researchers have begun to pay attention to what models and strategies can help teachers prepare for online and mixed teaching.

2.6 Research on the Process of Blended Teaching and Learning

Some researchers have explored the design framework, principles and strategies, specific implementation practice, blended teaching behaviours, among other aspects.

2.6.1 Community of Inquiry

Garrison and Graham are representative figures in blended practice and the study of promoting blended TL reform at the institutional level (Castellanos-Reyes, 2020). At present, the well-known influential theoretical framework in the field of hybrid teaching is the Community of Inquiry (CoI), proposed by Garrison and Vaughan in 2007.

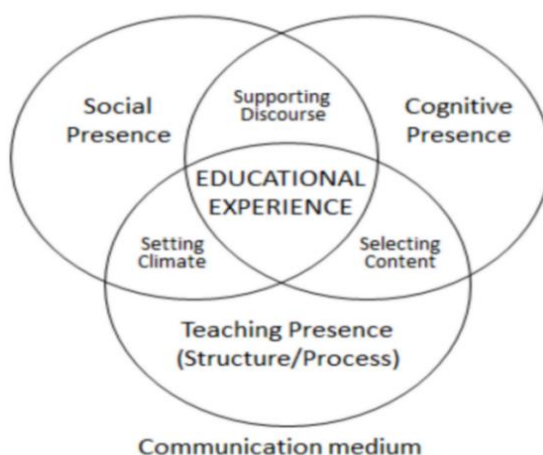


Figure 1 Community of Inquiry Framework (Garrison & Vaughan, 2007)

As an emerging pedagogical area, hybrid teaching needs a theoretical framework to guide its design, adoption and implementation. As socio-constructivism plays a key role in BL theoretical work, the CoI model,

based on Dewey's social constructivist theory, was assessed by Garrison and Vaughan (2007) and recommended as a framework for BL from a socio-constructivist perspective (Garrison, 2009). Col is an organizational framework to guide the exploration of BL; in virtual communities of the Col, model, there are three dynamic elements (Garrison & Vaughan, 2007): cognitive presence, teaching presence, and social presence. The Col model is recursive (see Figure 1).

The three senses of presence, which support each other, display categories and indicators that manipulate the elements used to design BL. Effective learning occurs only when all three senses reach a high level (Garrison & Vaughan, 2007, p.18). These three senses of presence operate together in the dynamic learning process; they can create a profound and meaningful learning experience.

During the next 10 years after the establishment of the Col model, thousands of scholars in various countries verified the model in their respective teaching environments. Though not as complex as the BL concept, it is very challenging to implement it in practice. However, the Col framework is the ideal and heart of a HE experience, providing the road map to integrate face-to-face and online learning activities (Garrison & Vaughan, 2007, p.xi). Therefore, the model has been widely used to guide the design, adoption and implementation of mixed education.

In recent years, Prof. Cleveland-Innes, one of the founders of the model, added a fourth element: emotional presence, validated by an empirical study (Cleveland-Innes & Campbell, 2012).

Although researchers and practitioners are interested in hybrid teaching strategies, there is insufficient research on the topic. Garrison and Vaughan designed a hybrid course (2013) based on the Col framework. They summarized the key strategies for hybrid teaching in the conscious integration of real-time and non-real-time learning, and creating meaningful connections in learning. Vaughan focused on the three stages and put forward a series of teaching strategies: (before the synchronous learning) to design meaningful learning activities to trigger events; (synchronous learning) to listen to the student's expression and communicate with the student; and (after synchronous learning) to design the student's homework after class, taking the

activity as the central element (Vaughan, 2015).

2.6.2 Blended Teaching Practice

Blended teaching is also a kind of practice of adopting, designing and implementing a blended teaching approach or system. Thus, it belongs to behavioural change to accommodate the current context.

2.6.2.1 Creating an Affective Atmosphere

Creating an affective atmosphere (Alhumsi et al., 2021; Aprianto et al., 2020) involves guidance and constraints in the BL process. Thus, teachers should play a role in creating an affective atmosphere of active engagement and independent learning by arranging autonomous learning tasks, tracking the learning situation, and giving targeted guidance. In this way, students can make use of online learning resources to conduct independent learning, complete the online and offline learning tasks assigned by teachers, and realize meaningful independent, even adaptive, learning.

It also requires support from the teacher to create an affective atmosphere for students' cognitive, emotional and social engagement in BL (Luan et al., 2020). Learning support refers to support in terms of learning methods, learning resources, problem-solving, etc., to promote students' autonomous learning. Cognitive support means the use of teaching strategies by teachers to promote students' cognitive development. Emotional support, also known as emotion scaffolding, refers to teachers providing students with attention, love, and other emotional connections, to help them overcome negative emotions.

2.6.2.2 Encouraging the Interaction Online

Encouraging interaction online (Baldwin, 2020) means stimulating communications via the Internet, and increasing interactive space and opportunities to compensate for the insufficient classroom discussion. A distinct feature of effective mixed teaching is that the interactions between teachers and students, students and resources, and students and students have been greatly strengthened (Volke, 2019). In other words, what is too difficult or inconvenient for communication in the face-to-face classroom can be continued through online communication. Teachers help students to gain more knowledge, understand others' views, and express their own, in order to internalize knowledge and increase language application in an English-teaching environment. Huang et al. (2020) proposed three conditions

that facilitate effective online interaction: gain students' trust and make them willing to communicate; give students timely feedback, so that they can get answers or a sense of achievement; and allow the students to have a sense of recognition emotionally.

2.6.2.3 Facilitating the Deep Learning Process

In 2004, the American Association for Educational Communication and Technology (AECT) redefined educational technology and emphasized the need for and importance of deep learning. After the definition was published by the Association, deep learning began to be widely disseminated, and more relevant studies were conducted, such as by Jennifer Fredrick (2015), An Fuhai (2014), and Kang Shumin (2016). Deep learning is generally defined as being based on the understanding of what is taught; the learner critically gains new knowledge and integrates it into their original cognitive structure – this involves connecting the old and the new, and transferring the existing knowledge to the new learning context. DL is a sort of ability to make decisions, internalize new things, and perform autonomous learning, in order to promote higher-order thinking and problem-solving ability (Bin et al., 2021).

2.6.2.4 Organizing Face-to-face Teaching in the Classroom

Organization of face-to-face classroom teaching refers to the teacher's arrangement of teaching contents, command of teaching methods, and organization of classroom activities (Mohan & Subashini, 2016). In the hybrid teaching process, most of the time, knowledge learning is placed outside the classroom. The traditional English classroom is no longer for teaching knowledge or language points, but giving priority to the mode that consists of practice, discussion, group activities, presentations, and so on (Bo Tso, 2015).

2.6.2.5 Adapting to Role Changes

According to Ellis (1990), role changes refer to the changes in participants' identities during the process of TL activities. Teachers can execute their different role functions due to the interactive activities. Ehrman et al. (2003) argue that if the classroom is a proscenium in the theatre and the students are actors in the play, the teacher will perform multiple roles: director, prompter, scriptwriter, coach, audience, or another actor. Blended teaching is inseparable from learners' self-orientation, self-planning, self-motivation, and self-monitoring (Zimmerman & Schunk, 2013). Hence, for the students, this

study emphasizes giving full attention to the learners' fundamental function, changing from "you want me to learn" to "I want to learn".

However, there is a lack of literature on the role changes of teachers and students in the blended TL activities, and few discussions on adapting to the role changes.

2.7 Research on the Effects of Blended Teaching

Decision-makers, practitioners and researchers have given great attention and emphasis to evaluating the blended approach. In the practice and study of mixed teaching, a systematic and long-term evaluation of data collection is the basis of effective evaluation (Dziuban et al., 2018; Patton, 1990). However, in practice, most institutions have not yet established an effective evaluation mechanism for hybrid teaching. Thus, many practitioners and researchers are still confused about how the framework, methods and tools should be used to evaluate the mixed course.

2.7.1 What is Effective Blended Teaching?

Effectiveness mainly refers to the specific progress or development through a period of TL (Devlin & Samarawickrema, 2022). Effectiveness in pedagogy does not mean whether the teacher has finished the teaching tasks; instead, it depends on whether the students have learned something, or if they have learned well. No matter how hard the teacher teaches, it is ineffective if the students do not want to learn or learn without gain. Similarly, if students learn hard and do not get the development they should, it is also ineffective or inefficient learning. Therefore, the student's learning outcomes, such as progress or development, are important indicators to measure effective teaching (Coe et al., 2014).

Rosenshine and Furst (1971) found that nine types of teaching behaviour produced the most significant and consistent teaching effects: (1) clarity; (2) fullness of change and flexibility; (3) focus on TL tasks; (4) passion about subjects and inspiring students; (5) criticism (negative correlation); (6) dishonesty (negative correlation); (7) provision of learning opportunities to students; (8) application of organized arguments; and (9) multiple levels of questioning or discussion. In 1984, Marsh outlined the essential qualities that effective teaching should possess. Based on students' average ranking of qualities, effective teaching should be poly-dimensional, reliable, steady,

primarily dependent on the instructor rather than the course, valid across different indicators, and not easily influenced by potential biases. Furthermore, it is imperative that faculty members receive valuable feedback to enhance their teaching, students obtain crucial information for selecting courses, and administrators make informed personnel decisions. As there is no single criterion for effective teaching, researchers must analyse the relationship between validity criteria and potential biases in different contexts, and consider multiple criteria. Subsequently, most research on effective teaching has primarily focused on the three dimensions of field–process–outcome.

Brophy and Good (1986) summarized the research results regarding effective teaching behaviours, in terms of five points: (1) Teaching quantity and schedule (Learning opportunities and coverage; Role definition, expectation, and time allocation; Classroom management and student commitment to learning time; Consistent success and academic learning time; Active teaching). (2) Providing information (Organized and structured organization; Richness and gradual progression; Clarity; Enthusiasm; Progress and waiting time). (3) Questions (The difficulty; The cognition; Clarity; Waiting after asking questions; Selection of the respondents; Waiting for the students to answer). (4) Responding to students (Responding to the right answer, an incomplete or partially correct answer, and the incorrect answer; Responding to students who do not answer questions; Responding to students' questions and comments). (5) Other behaviours (Class work and homework). Antiado et al. (2021) surveyed students on the dominant characteristics of effective teaching; 'helpfulness' topped the list of the 21 items, followed by 'knowledgeable', 'friendly', 'structured', and 'flexible' qualities.

Effective blended instruction embraces new characteristics due to the intervention of ICT factors. Some studies were rooted in Bloom's Taxonomy. Students' active engagement is a fundamental feature of effective blended teaching practice. The teaching methods, emphasizing the construction of knowledge and regarding students as the centre, have been extensively discussed. Empirical research on effective blended English teaching has also been carried out; for instance, Kahn and Hindman (2021) studied teaching methods and guided students to use online resources for effective learning, through designing, organizing, and evaluating learning activities.

2.7.2 Evaluation of Hybrid Teaching

Evaluating the hybrid mode has always been the focus of research in this field. Its effectiveness can be classified according to three levels: (1) the cognitive level; (2) interaction and social knowledge construction; and (3) emotional attitude (Potkonjak et al., 2017).

It appears that the effectiveness of mixed teaching in HE focuses on improving academic performance, the pass rate, student satisfaction, and teaching efficiency. The blended approach is a highly prevalent method that comprehensively encompasses all the components of TL. The phenomenon has a worldwide impact, but the research is limited in scope, is focused on individuals, has a technical orientation, and is dominated by key players who seek evidence to support its benefits (Smith & Hill, 2019). Consequently, this dissertation is also part of the growing body of research on whether the relevant theories apply to the given context, and how much explanatory force they have.

Akyol and Garrison investigated the learning performance of American graduate students in a mixed-learning environment. The results show that in a BL environment, students can obtain a higher level of cognitive presence and ideal learning results (Akyol & Garrison, 2019). A survey of tens of thousands of college students, in six colleges and universities in Florida, also found that students' scores in hybrid courses were significantly higher than those in pure face-to-face courses or pure online courses (Garrison & Vaughan, 2013). According to the meta-analysis of 205 doctoral dissertations and masters' theses in the domain of BL, including a significant number of studies relating to its effectiveness, BL is more effective than F2F or online learning singly (Halverson et al., 2014). Hence, it is increasingly clear that BL can avoid the limitations of simply F2F or online learning. Because of its growth in demand and popularity, numerous researchers consider that BL will become the new approach to both course design and delivery in HE (Potkonjak et al., 2017; Rogojanu & Badea, 2015; Ross & Gage, 2006).

Therefore, whether or not to use a blended approach is not the question; instead, the process of adopting, designing, and implementing it effectively requires investigation.

Some scholars have further explored the motives that affect students'

satisfaction with mixed teaching. For example, a study pointed out that course design, communication media, and emotional support are critical motives affecting students' satisfaction with the mixed mode (So & Brush, 2008). However, multiple scholars have held different opinions about the technological influence on students' satisfaction with BL. For example, a study found that media technology had no direct impact on students' satisfaction (Halverson et al., 2014). Nevertheless, the blended mode cannot be separated from technological support, in assisting or strengthening TL (Kintu et al., 2017).

Some researchers have also investigated the blended education system more comprehensively, and constructed the satisfaction model of students in a blended environment. In these models, teachers' professional skills, support, students' perceived task value, goal expectation, achievement, self-efficacy, learning environment, and interaction are all crucial factors affecting students' satisfaction (Wu et al., 2021; Vo et al., 2017).

Although there may be varying perspectives on the impact of blended learning technology on students' satisfaction and performance (Alsalhi et al., 2021), it is undeniable that technical aspects hold considerable weight in determining teachers' overall satisfaction with accepting the mixed-mode approach (Al-Busaidi & Al-Shihi, 2010).

2.7.3 Method and Tools

Researchers have tried to apply different conceptual frameworks to evaluate hybrid education from different perspectives, such as sense of classroom community (Strayer, 2012; Graff, 2003), student engagement and interaction (Koh & Lee, 2017), a problem-based learning framework (Ibrahim et al., 2015), and activity theory (Pullenayegem et al., 2021; Keengwe & Kang, 2013), among others.

The Community of Inquiry mode is the theoretical framework for the design, adoption and implementation of blended teaching; it can also be the evaluation framework (Cleveland-Innes, 2019). For instance, Garrison and his colleagues designed a concrete evaluation framework based on Col. To evaluate the cognitive presence, Garrison further constructed the Practical Inquiry Model, which divides the construction of cognitive presence in the mixed learning environment into four levels: the trigger, the inquiry, the integration, and the problem-solving (Garrison, 2007). Based on this model,

the level of the cognitive threshold in blended education is evaluated, and the corresponding evaluation index (Garrison, 2009) is formed.

At present, tools such as questionnaires and interviews are considerably used to analyse the framework application, in order to evaluate mixed teaching. The questionnaire method involves asking students to fill out a Col questionnaire; the role of content analysis is to textually analyse the communication and discussion. After more than ten years, based on Col theory, a mature evaluation tool for blended teaching, including a questionnaire for students and a content analysis procedure, has been formed. The questionnaire consists of 34 questions to evaluate the level of blended mode, according to the dimensions of social presence, teaching presence, and cognitive presence. Later, Cleveland-Innes added the emotional presence dimension and extended the tool to 40 items (Cleveland-Innes & Campbell, 2012).

In addition, some researchers have also developed an evaluation scale of the predictive factors for pre-service teachers. For example, they used an exploratory factorial analysis to discover five factors for building a good model of blended TL: students' anticipations for their blended courses, the use of Web 2.0 tools, teachers' feedback, peer students' cooperative work, and the social relationships among peer students and with their professors (Martín-Martínez et al., 2020).

2.8 An Analysis Framework

The Organization for Economic Cooperation and Development (OECD), when analysing the level of ICT adoption by industries, proposed an e-commerce analysis framework (OECD Factbook, 2009), which included three dimensions: readiness, intensity, and impact. The blended approach, as a way of educational reform driven by ICT, can draw lessons from the OECD framework, in which the degree of application is reflected in the design, adoption and implementation of blended TL. Graham and his colleagues proposed a framework of blended TL practice and believed that the implementation of blended TL consisted of three key elements: strategy, structure, and support (Graham et al., 2013). From the viewpoint of how to design, adopt and implement a hybrid approach, the "structure" can include two different levels: its theoretical framework and its practical model.

Therefore, by referring to the frameworks by OECD and Graham, and based on the analysis and discussion of the previous literature, this dissertation here proposes an analytic framework for blended education practice and research (as shown in Figure 2). The framework includes three dimensions:

(1) Prerequisite: This means whether teachers, students or institutions are ready to adopt the blended mode, or whether the conditions are mature for carrying it out. The preparation also includes the attitudes and abilities of all the subjects.

(2) Process: It reflects the practical application level of a hybrid approach in design and implementation. This dimension includes four elements: strategies, models, theoretical framework, and support.

(3) Impact: This reflects the factors or results relevant to blended education. This dimension emphasizes studies that evaluate blended education (framework, approaches, and tools), effectiveness, satisfaction, and influencing factors of the hybrid mode. How we should evaluate blended teaching mainly falls into three aspects: (1) learning outcomes, referring to BL's effectiveness; (2) interaction and social knowledge construction; (3) emotional attitude. The Community of Inquiry maintains its status as the critical theoretical framework for most studies to investigate the mechanism, evaluate the blended approach, and analyse learning in a mixed teaching environment. For instance, a study conducted in a China BL setting applied CoI as the guiding framework to promote students' engagement in online discussions (Xiaoxing & Deris, 2022).

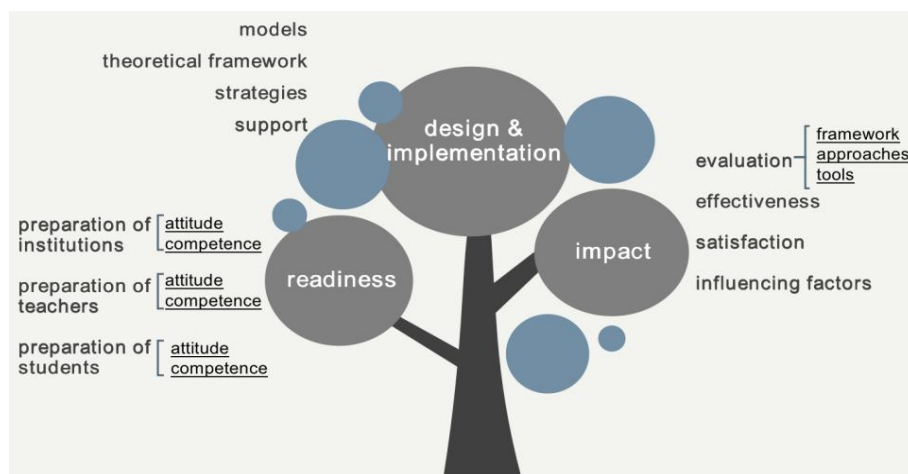


Figure 2 An Analysis Framework of the Blended Mode, Devised by the Author

This framework applies to the practice and research of blended TL, providing a basic paradigm for analysing the research status of blended teaching in the last more than 20 years. It shows the following: (1) It is not static, but a constantly changing framework. (2) Blended education has its theoretical basis in pedagogy, with two major categories of theories: the substitution or auxiliary theory before 2009, and the strengthening or improvement theory. Chronologically, its concept has evolved via three fundamental historical stages: the technology application stage from the technological perspective, the technology integration stage from the teacher's perspective, and the Internet stage from the student's perspective. (3) The analysis framework of blended teaching is drawn up and elaborates on the components in the framework, including three dimensions: prerequisite, process, and impact.

2.9 Summary

The blended approach has evolved under the influence of two main theories: substitution or auxiliary theory, and reinforcement or improvement theory. Researchers and practitioners have tried to explain the motivations for blending, and show that a blended approach can achieve better learning outcomes and teaching effects than pure F2F or online teaching. Through documentary analysis, I have tabulated the conceptual evolution of the blended mode, through three stages – from the technological, the teacher's, and the student's perspectives – with differentiated features. During its historical development, the process's physical characteristics have weakened gradually, while its pedagogical characteristics have been strengthened over time.

The framing analysis results show that researchers are generally open and optimistic about the application prospects of blended education. However, when I compare these findings with the aforementioned real-world application, in terms of preparation, design, adoption, implementation, and impact, I can identify the following research gaps. (1) Few empirical studies examine the blended teaching experience and practices, particularly from the viewpoint of educators. (2) The research on teachers' motives for implementing a new teaching mode is not systematic. (3) Theoretical research is lagging behind research on the practical application of the hybrid approach.

In the future, the research of blended education should focus mainly on the following four aspects: continuous development of hybrid teaching models; the influencing motives for implementing blended teaching; teachers' professional development; and analysis of BL, and its evaluation at the organizational level. The four aspects indicate a theoretical and practical approach that can be used in HE, by requiring successful and sustainable development of the blended teaching approach.

Hence, this research contributes to this aim, by focusing on exploring the motives influencing teachers' adoption and implementation of blended practice, to assist in their professional development. The next chapter will explain the study's methodology.

Chapter 3 Methodology

3.1 Introduction

Chapter 2 constructed an analysis framework for blended education, through literature analysis and discovering the research gaps. This showed that the research will focus on exploring the motives influencing teachers' mixed teaching practice in the context of English teaching in Chinese HE, to help promote their professional development. This chapter articulates the research methodology that underpins the work, and methods used to collect and analyse data.

The research methodology is a theoretical system and a complete process that aims to solve problems. It usually involves research stages, tasks, tools, methods, and skills (Kaur, 2019). The methodology is the sum of principles, theories, methods, and means that are generally applicable to specific social sciences, and plays a guiding role. Methodology shapes the use of the chosen methods; it is determined by the research questions and purpose, and influenced by the research context and the study's relevance to ongoing inquiry into a certain topic (Creswell, 2007). Thus, in this project, it can provide deeper insight into the concerns about blended teaching in my context.

The methodology is the combination of methods and the underpinning principles, theories and values in research (Creswell, 2003). Therefore, I seek to justify my research methods by explaining their underpinning philosophy; why they can accurately describe the participants' perceptions and experiences; and their alignment with my research questions. From the research proposal, to the annual progress reports, to its current status, this project has been subject to numerous discussions and reflections. My research aim is to examine perceptions of the motives influencing the adoption and implementation of blended teaching, to help teachers' professional development in Shanghai's private colleges and universities.

In this chapter, firstly, I consider the three elements of this project: the teachers, their experience of blended teaching practice, and students' learning outcomes. I explain my research paradigm by describing how my methodology, underpinned by my ontology and epistemology, evolved during my research journey, from the three elements up to my doctoral research design. Then I

also map out my research journey with discussions on ethical issues, trustworthiness, reliability, validity, and generalizability. Moreover, I elaborate on the theoretical treatment for each RQ: the appropriate methods, and the best procedures to collect, analyse and interpret data. All these steps form the solid evidence base for this research. Finally, based on the thematic approach, through inductive logic analysis, comparison and contrast, I construct my conceptual framework and unfold its rationale.

3.2 Discovering This Study's Paradigm

Philosophical assumptions are inseparable from the research design in a qualitative study. The philosophy of a piece of research is to identify philosophical assumptions underlying the work, and to understand how these assumptions might influence and assist it (Scotland, 2012). Research philosophy involves examining the nature of knowledge, how it comes into being, and how it is transmitted through language (Orlikowski & Baroudi, 1991). Consider a well-known old saying: "I don't know who discovered water, but I doubt it was the fish." If the fish can be a researcher, its beliefs, which impact its thinking, seeing and acting, can inform its decision to discover water. Therefore, the beliefs are about the nature of the world, what we can know regarding social life, how we carry out research, who can be familiar with the issue under investigation, how we acquire knowledge, and what kind of knowledge, should be valued. Indeed, all the aforementioned can form the philosophical substructure underpinning the research (Fang, 1996).

Creswell (2007, p.15) classified five types of primary philosophical assumptions that can define qualitative research: ontological, epistemological, methodological, axiological, and rhetorical. Epistemology and ontology are the key types of research philosophy. He also identified five other fundamental sets of beliefs brought into qualitative research by a researcher: positivism or post-positivism, interpretivism or constructivism, critical theories, pragmatism, and participatory.

In the case of this academic research, I hold a series of beliefs that have guided the whole process of research practice – from selecting a topic to writing up the conclusion and disseminating the final findings. These beliefs can shape the proceedings and discussions of the research (Howell, 2015).

3.2.1 Ontology and Epistemology

Thomas Kuhn (1922–1996) emphasized conducting research based on a set of beliefs, as a worldview framework for knowledge to filter through (Anand et al., 2020). I agree with Guba's comparison of research to sunglasses (Lincoln et al., 1985), and similarly prefer to use the metaphor of lenses. If we put on different lenses, they make a difference to what we see. Paradigms are composed of our beliefs, to direct our thinking and actions. The scientific research paradigm is explicated as a general conceptual framework within which some researchers work. A paradigm is a set of linked assumptions about the world, shared by a community of scientists investigating the world (Scotland, 2012). Prehoda et al. (2019) more lucidly explained that it is an established model accepted by a large number of people in a research community.

Epistemology and ontology have long been the core issues of qualitative research. Ontology is a philosophical concept exploring the origin or substratum of the world. In a broad sense, it refers to the assumptions on the final nature of all reality examined in the research. Epistemology is about the assumptions of what particular research methods can generate, and the status and validity accorded to different knowledge (Kitchin, 2014). Hence, the assumption regarding the final nature of all reality is ontology, whereas epistemology concerns how to know it; this is the symmetrical relationship between ontology and epistemology. In a narrow sense, there is also an individual knowledge-based view. Thus, these concepts are about the individually held beliefs about knowledge and its acquisition – mainly including its structure, nature, origin, and judgement, as well as how the beliefs adjust and influence the process of individual knowledge construction and acquisition (Al-Ababneh, 2020).

3.2.1.1 My Beliefs About Knowledge

In my personal view, the world is objective; from it we can gain knowledge at a broad level, from interaction with nature or society. And then, in turn, we use the knowledge obtained to guide our actions and become more powerful. This is a complementary flowing process engaging human actions, knowledge, growing human power, and a better world, like a motive cycle. Thus the nature of knowledge must be practice-based, and should apply to reality. Before it

becomes knowledge, it must undergo repeated testing. I believe that knowledge, objective or subjective, is used to change the world for the better, leading to evolution.

Personally, I do not think knowledge is fixed, but in constant change, as we can never “step into the same river twice”. What I learned from primary school to pre-service has changed to some extent. When I applied for this project of Doctor of Education (EdD) study at the University of Hertfordshire (UH), a professional doctorate, it was my personal belief that this project could help me enrich my professional knowledge, broaden my horizons, and enhance my teaching, so that I could adapt to the fast-changing world. In addition, I like novelty. I think when people are immersed in a particular atmosphere for a long time, they tend to lose passion for life. I hoped this project would be a good opportunity for me to continue studying new things, including knowledge and skills. However, when I embarked on it, I found I could create knowledge rather than acquire the taught knowledge. I persuaded myself that I could create some tiny but significant knowledge.

I believe that the language to transmit knowledge can be verbal or non-verbal. Our knowledge is displayed in a wide range of forms, such as factual records, described experiences, explored actions, rational cognition, surveyed statistical numbers, theories, patterns, tangible objects, or intangible sentiments; but it must be stamped with human interactions with the environment, such as being influenced by the world, passively reacting to the world, or taking initiatives to make an impact. Thus, people living in the same environment tend to see things alike if they grow up with similar interactions with the surroundings, such as in education or summer camps. They may even follow the same life pattern as a result.

3.2.1.2 Embarking on the Research Journey

Professionally, I would like to develop my understanding of pedagogical reform or new teaching modes, in relation to a government agenda, such as blended teaching. I spent considerable time thinking it over and narrowing it down to the proper scale. I also worried that the topic I had chosen was too hot or too big, which might influence my creation of new knowledge – until I was told by my supervisor, “It is not about the topic you are studying, but it is about

the methods and process of handling it.” Hence, I gave up focusing on adjusting my title at the beginning, but began to read more broadly about the relevant literature – and to think about, as well as the small amount of knowledge created by the dissertation, how I could also make my research methods and process distinctive.

Table 3 shows my understanding of the relationship between ontology and epistemology in relation to the methodological approach, based on reading (Neubauer et al., 2019; Williamson, 2018; Creswell, 2003; Cupchik, 2001).

Table 3 Different Methodological Approaches

<p>ontological position - objectivism (single, objective, measurable reality)</p> <p>epistemological perspective - likely to be positivist</p> <p>methodological approach - may carry out quantitative research which seeks to find out objective facts and to establish cause and effect relationships</p>	<p>ontological position – constructionist (multiple realities produced through people’s interactions)</p> <p>epistemological perspective - likely to be interpretivist</p> <p>methodological approach - may carry out qualitative research to understand subjective meaning of social action and events</p>
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3.2.2 Research Paradigms

Creswell (2003, pp.20–23) articulates the four research paradigms as follows:

Post-positivism intends to adopt a scientific method. It is usually cause-and-effect orientated, and especially emphasizes gathering empirical data.

Social constructivism, also called interpretivism, aims to understand human experience through interaction with others and seeking to discover complex ideas.

Participatory, also called advocacy, concentrates on bringing about changes in practice and making some reforms. It tends to relate to an action agenda that may impact the participants’ lives.

Pragmatism highlights the ever-changing truth and reality determined by outcomes, effects, and practical implications.

The above four paradigms can intertwine with each other, and it is hard to completely separate them. Hence, the nature of the RQs is critical in deciding

what methods to employ.

3.2.2.1 My Values of Pedagogical Knowledge

To clarify my research philosophy in pedagogy, I asked myself three questions: these concerned what knowledge should be studied in this field, how it is extracted from the practice, and how it is expressed. I believe that pedagogy is not fixed, though it can maintain a relatively stable pattern over time. How long it can persist depends on how often the changes in the surroundings occur. Any new intervention can cause some subtle or huge changes in the pattern. The introduction of new elements – for example, methods, models, technology, policy, and institutional decisions – can impact TL activities. We gain knowledge from tackling problems and their impact. The optimal change under any circumstances can further develop the balanced pattern, and then push the pedagogical evolution forward gradually.

My institution promotes the pedagogical ideology of serving people, with teachers' and students' benefits being paramount. Whether a pedagogical reform can be fruitful for teachers and students is a major concern. I treat blended teaching as an opportunity, and see through this window what teachers think of the current workplace situation, what motives impact their adoption and implementation of hybrid teaching, and whether the elements engaged in a blended curriculum design work better for students' learning outcomes than other methods. Thus, in this circumstance, I am also outcome-driven, and I am interested in generating professional knowledge regarding pedagogical practice.

I consider that pedagogical knowledge should embrace the instrumental character. If it can apply extensively to teachers, students, institutional administrators, or other stakeholders to solve relevant problems, then it is general knowledge. If it can guide TL actions in practice, then it is functional. Because I am interested in seeking insights from the dialectical relation between research and pedagogical practice, I entrust this research with a mission to further promote educational practice and professional development. Therefore, this research is work-based. I aim to explore the motives influencing the implementation of blended practice, in order to address the issue of why there is a lack of sustainable motivation to integrate technological development in teaching.

3.2.2.2 Data Collected from Interaction and Experience

In this study, I obtain the knowledge mostly from observation, experience, and interaction with reality and the participants. There are some rules underlying the knowledge, which await deductive testing in empirical research, and can be applied to direct the practice. Knowledge about pedagogy should be practical and pragmatic in order to bring benefits to teachers, students, and others involved. In addition, it can enable TL to become more effective.

In the following sections, I plan to identify the influencing motives through thematic analysis of data collected from the interactions with and among the participants; to examine the effectiveness of a blended course design; to describe the specific hybrid teaching situation in the given context; and to test the relationships between the identified motives and hybrid practice. Drawing from humans' perceptions of their experience, I will build a framework of these influencing motives through thematic analysis. I will adopt both qualitative and quantitative approaches to address the issue.

3.2.2.3 My Research Paradigm

Based on the aforementioned assumptions' implications, I will focus on a certain environment, collect the information and the narratives from the participants' blended TL experience, and obtain the evidence from diverse perspectives (ontology). Therefore, social constructivism is energetically engaged in this process, where multiple realities are produced through people's interactions. I will interpret the collected data sets using thematic analysis. I will also work and talk with the participants in the same context field (epistemology). Additionally, I will openly announce my position and discuss the values I have adopted in this study (axiology). I will refer to Mackenzie and Knipe's research journey in the choice of methods, data collection, and analysis (2006). Further, I will employ rhetorical devices such as similes and metaphors. I will also use quantitative methods to test the themes and motives influencing the implementation of blended teaching. Moreover, I will concentrate on the learning outcomes and teaching results.

Taking these assumptions into account, I have to admit that I have taken a particular attitude or stance. So I manage the research by mainly adopting the paradigms of social constructivism and positivism, with pragmatism and participatory intertwined, tending towards social constructivism.

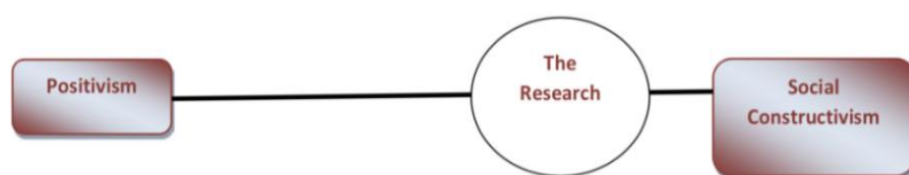


Figure 3 My Ontology and Epistemology

However, within the scope of the social constructivist paradigm, several criteria have been proposed to help make judgements on the value of findings; among them, four key elements are trustworthiness, transferability, reliability, and validity (Robson et al., 2022; Lincoln et al., 1985). These will be further addressed in the following section.

3.3 My Research Journey

My research purpose was to investigate college English teachers' perceptions of the motives influencing their adoption and implementation of blended teaching. Mackenzie and Knipe provided a research plan (2006, p.203), which could be used to map out my research journey. The stages in the following Table 4 are all arranged and explained in this chapter.

Table 4 Mapping My Research Journey

Stages	What to do?	Suggested methods	My method
1	Conduct a general overview of the discipline and the research paradigm that fits the research as I see it	Post-positivism or positivism, social constructivism or interpretivism, participatory, pragmatism, critical theories	Social constructivism and positivism, with pragmatism and participatory intertwined
2	Identify the research scope		
3	Find out the approach	Qualitative, quantitative, mixed	Mixed-method approach
4	Literature Review		
5	Figure out data types	Experimental, action, field study, and so on	Experimental
6	Select the instrument or tool for data collection	Focus group, interview, questionnaire survey, experiments, documentary analysis	Focus group, questionnaire surveys, experiments, documentary analysis
7	Determine research time, site, and participants	Developing, trying and refining the data collection instrument	Designing, trialling and compiling questionnaires and focus group questions
8	Obtain ethical approval		
9	Collect data	Data management, including data storage, coding, sorting out, decoding, thematizing, and presenting	Transcripts, translation, thematic analysis of the themes or dimensions, SPSS
10	Analyse data	Thematic analysis, inductive and deductive analysis, statistical analysis	
11	Write up the results and findings, refer to the literature, consider the contributions in theory, practice, and policy		

A researcher needs to reflect on the research journey occasionally, to think about the development of ideas and the issues under investigation; this

allows them to become a better researcher and person (Glesne, 2011). By understanding the iterative models in which they frame questions, set goals, carry out interventions and analyse the consequent knowledge-producing activities, researchers themselves can stay attached to the research context, and are requested to make interventions where critics possibly observe “tainting” of the research context (Barab & Squire, 2004, p.10).

Compared with quantitative research, qualitative research emphasizes that the researcher reflects on his/her background. Qualitative research considers the researcher him/herself to be a research tool. The sensitivity, accuracy, and rigour of the ‘research tool’ are critical to the quality of the research. As a human tool, we often combine our personal lives with our research work. Personal experiences and ideas affect the way the research is conducted, and our views come from a perspective closely related to our past life experiences and ideas. When conducting research, researchers must reflect on their gender, age, cultural background, race, social status, education level, personality characteristics, image decoration, role consciousness, perspective, and personal experience related to the research problem.

3.3.1 Locating Myself within My Professional Context

When deciding to undertake research into perceptions of motives influencing the implementation of blended education, I have also reflected on my own specific professional context, growing social concern about pedagogical reform facilitated by digital development, and the current situation of blended teaching in China’s colleges and universities.

3.3.1.1 The Reform of College English Courses

As a teacher, I have been experiencing and participating in pedagogical reform continually, actively or passively, in my context. I have thus classified the reasons into two categories that are pushing college English reform forward in China. One motivation is the policy promotion, as stated in the *Five-Year Plan for the Development of National Education (2020)* by CMOE, the *New Media Alliance Horizon Report (2016)* and *Horizon Report (2020)*; while the other is because of practical needs calling for reform, such as the curriculum system construction, extended enrolment, technological development, uneven performances, and the learning situation and graded teaching (Zhang, 2013; Zhu, 2021; Ruan, 2021).

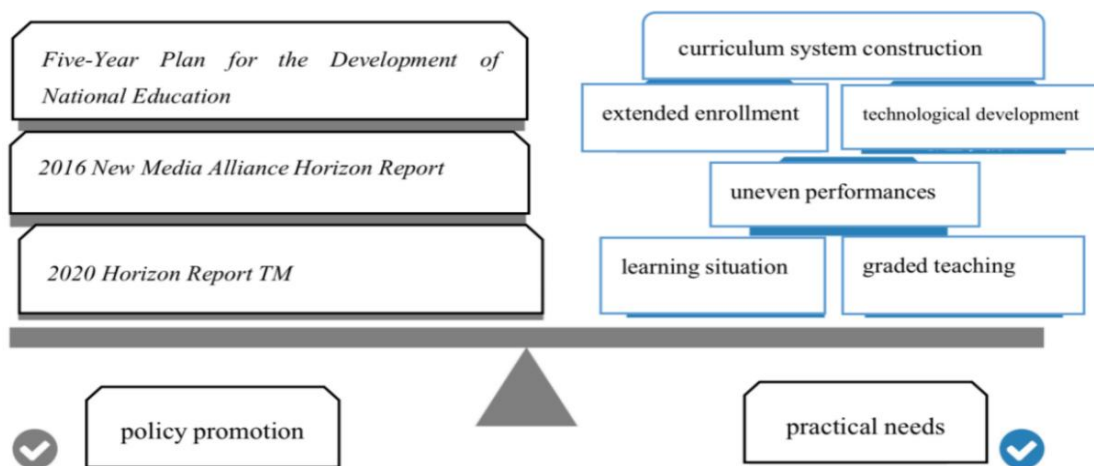


Figure 4 Reasons for the Reform of College English Courses

I have illustrated these reasons in Figure 4. I then began to think about what content in the college English course should be taught, and how it could be taught.

3.3.1.2 The Learning Situation

Students in colleges and universities pursue personalized learning (Capuano et al., 2009). This is a common phenomenon in China: as a screen generation, today's college students, after 12 years of primary and secondary education, struggle to get into college, only to find that college is not a paradise. The teaching mode has barely changed. Meanwhile, there is more free time compared to that in secondary school. Students generally tend to spend much of their spare time playing on smartphones. If they use computers, mobile phones, and other devices for online learning, they pay more attention to personal customization, according to their learning levels and interests (Zhu, 2021). For example, in English, a considerable number of students report that listening is the weakest among the four English skills (Zhang, 2013). Some students living in regions such as Xinjiang and Inner Mongolia reported that English listening was not even included in their English curriculum or National Examination. Hence, they have had no lessons in English listening before entering university. Some students want to use MOOC to catch up with others in English listening and speaking, but they do not know what to learn, where to start, how to learn, how to choose the right resources or suitable methods, and how to evaluate their learning results (Ding & Shen, 2022). Thus, the dominant traditional teaching mode, which is purely 'unified', cannot meet learners' new demands for 'fragmented', 'mobile' and 'personalized' learning. Consequently,

our schools must prepare students for receiving HE and taking up their future careers, while also vigorously individualizing teaching by using technology wisely (Ding & Shen, 2022).

Additionally, in the 21st Century, students entering colleges and universities come with an increasingly diverse range of prior knowledge, abilities, learning habits, digital literacy, and expectations, compared to previous generations (Valenti, 2017). Thus, students' needs and features are much more diversified than before. For instance, the students born in and after the 2000s have always been accompanied by electronic devices. Their learning features, enhanced by rich modern technology, are no longer the same as in previous generations (Kintu et al., 2017). Students expect the learning process to be a special experience, covering their needs, which is not as socially isolated as remote learning (Misirli & Ergulecm, 2021), and no longer simply a process of inputting and outputting information. Sitting in a classroom is an experience, surfing online is another; but combining both seamlessly is a new one. We can see this phenomenon happen when students are sitting in the classroom, passively listening to the teacher's lecturing; they would rather indulge themselves in the virtual world without paying attention to the content they should be engaged with. Therefore, the overall quality of the current undergraduate learning experience is generally unsatisfying, and lower than teachers' and students' expectations (Yin & Wang, 2015).

3.3.1.3 Curriculum Construction and Graded Teaching

In 2016, CMOE officially announced the *College English Teaching Guide* (hereinafter '*Guide*' in this dissertation), which has undergone numerous rounds of discussions, research and revisions by China's National College Foreign Language Teaching Guiding Committee. The promulgation of the *Guide* is a critical incident because it will be acting as a guiding document for college English TL in the next two decades.

As mentioned in the *Guide* (2016), and also seen in textbooks of college English courses and the curriculum outline following the *Guide*, the general objectives of the curriculum system construction for college English are to realize internationalization of HE through continuous college English TL, to diversify foreign language teaching, to carry out digital teaching by combining

online and offline classes, and to cultivate high-quality personnel by improving students' ability to study and work in English (Cheng & Wei, 2021; Jin & Zhirui, 2017). Accordingly, I summarized the dimensions as displayed in the following Figure 5.

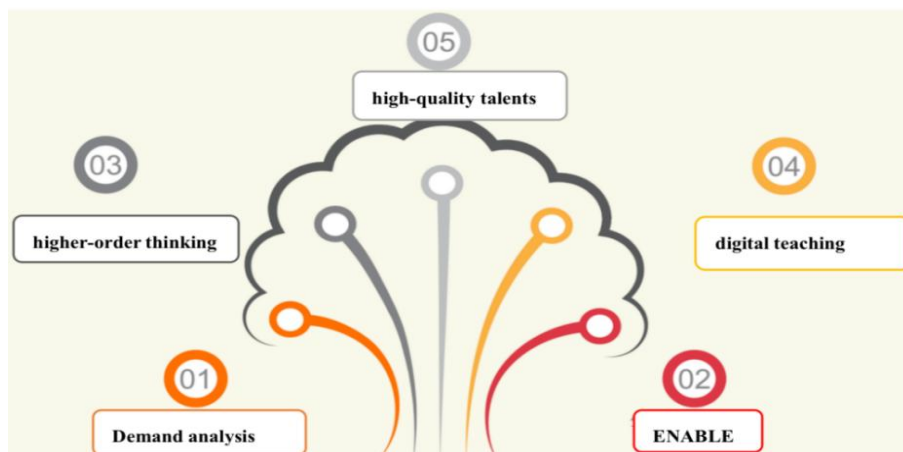


Figure 5 Dimensions of Constructing a Curriculum System for College English

Correspondingly, the general principles for reaching these objectives are: teaching according to a hierarchical classification of students based on their uneven performances in English study; attaching importance to the teachers' digital literacy; and enhancing teachers' and students' competitiveness simultaneously (Yang, 2019). Currently, in a Chinese HE context, the educational concept of teaching students according to their differences is widely accepted as the theoretical reference for teaching reform (Chi, 2020). Thus, graded teaching is implemented based on the hierarchical classification of students' different English performances and is purposed for individualized teaching.

In this way, students with different English abilities can receive differentiated teaching. As a result, there are more classes than there should be, requiring specific arrangements for each level. Thus, in turn, the graded mode causes problems, such as in administration, and over-consumption of teaching conditions, equipment, personnel, and resources alike (Ren & Wang, 2018). Besides these administrative and economic issues, graded teaching also leads to conundrums in assessing students (Ren & Wang, 2018). For instance, some students at a lower level care about whether they can earn a better score if measured with less strict formative and summative criteria, such as an easier final examination paper compared with those at a higher level.

This indicates that although the curriculum system construction and the graded teaching have some alignments, there are also mismatches that we cannot ignore.

3.3.2 The Role of My Educational and Working Background

Having graduated from the Foreign Language School at Shanghai University of International Trade and Economics with my master's degree in business, I worked in a company for two years. Then, because I was intrigued by teaching much more than other work, I persisted in becoming a teacher; my ambition was to be a college English teacher. Whenever I felt disappointed and depressed, this enthusiasm helped me overcome the bumps and turns in my teaching career, and built my confidence to pursue a better self and better TL practice.

In 2011, I noticed that when I adopted micro-classes to flip the classroom, or integrated relevant online resources and quizzes into my teaching, in the middle of the semester, my nearly 600 students gave me a very high score when commenting on my teaching. At the end of the semester, they showed great satisfaction with my best use of micro-classes, relevant online resources, and small online quizzes. This awakened my interest in changing the teaching mode by integrating online elements. Then I applied for a programme about students' adaptation to online teaching, and finished it in 2012. I found that students demanded online teaching, and held a positive attitude towards it. Emotionally, however, they had difficulties adapting to it, as they perceived it might be just online lectures without vivid interactions. They also needed teachers to design the curriculum with consideration. In the past five years, I have also joined two team programmes about blended teaching for college English courses. We held several rounds of discussions on its design and testing, and each of us designed a blended course. This showed me that we need to identify practical problems and solve them by researching. We also need relevant theories, principles or rules to guide us. To some extent, these programmes laid the foundation for my present project.

In the past decade, China's HE institutions have been expanding their enrolment. With the strong support of national and local policies, private colleges and universities in Shanghai have also achieved unprecedented development, and their enrolment scope has expanded from Shanghai to all

parts of China. The undergraduate students at private colleges and universities demonstrate diversified multicultural characteristics in their studies, based on regional disparities. Specifically, achievements and performance among different students are uneven (Ruan, 2019). The examination papers in diverse regions are not of the same difficulty, and the admission scores vary from region to region. However, in general, after entering colleges, the gap between students is larger. According to English test results in the National College Entrance Examination, some students enrolled by one of the schools in my context have poor cultural knowledge and a weak language foundation, while some students are excellent in English comprehension and learning ability, and they win prizes in the national English competition during undergraduate study. According to my more than 15 years of experience in private colleges, and my recent survey, it is observed that a class of students is usually divided into four uneven categories, as follows.

The first group consists of successful learners, who can actively engage in learning. They are Straight A students, who can always fulfil the learning requirements and give a satisfactory transcript. However, they account for a small proportion of the whole class.

The second type is equipped with sufficient ability to learn but lacks self-management; these students represent most of a class. Their learning motivation is not strong. Their class performances are not identical, but learning results generally fall around the average. If teachers give some extra attention to them and push them harder, their academic performances will improve correspondingly.

Another kind are called 'performers' – like actors or actresses, they study purely for a degree, pretending to love learning and actively cooperating with teachers and the rest of the class. They also pretend that they can learn well. Although the learning results are not ideal, they can act to the end of the 'play', and constantly brainwash themselves by telling themselves they are 'good students' until graduation.

There are also a few 'rebels', completely passive learners who lack interest in learning and loathe any content assigned. Some of the extreme ones will sleep in class, play on their mobile phones, or even skip class.

Therefore, according to the above statements, the extended enrolment

scale and the students' uneven performance have produced a relationship whereby the larger the enrolment, the greater the learning differences among students (Wei et al., 2019).

3.3.3 Locating Myself with My Participants

Apart from my professional context, I also consider my personal motivation and teaching experience at my workplace, which is typical of private colleges and universities in Shanghai.

Having been a teacher for many years allows me to be familiar with almost all colleagues in my department, college, and relevant institutions. I follow the traditional aphorism, "A hedge between keeps friendship green." So I maintain good, harmonious, and slightly indifferent relationships with all my peers, subordinates, and superiors. Most of the time, I understand their ways of thinking well. As for my students, I have taught thousands of them in the past 16 years. I build a rapport with them through gentle and timely communication. Though I might not know them well, they rate me highly in all forms of comments, and like my teaching style. Hence, my way of handling the relationships with my teacher and student participants helped this project to collect data efficiently, as they were happily cooperative. I did not encounter any refusals to participate in this research. Thus, I play the two roles of insider and outsider in this project.

Most of the courses taught in universities are based on theory and are lacking in practice. The college English courses I teach are still exam-oriented. Language courses are also not assisted by social scenarios in life, but are mainly taught by teachers. Therefore, the vocabulary and syntax are easy for students to forget in a short time, and difficult for them to absorb. I am interested in finding an environment or a mode that can meet their diverse needs and increase their application experience.

3.3.4 My Positionality

Within sociology more broadly – the field of origin – reflexivity means an act of self-reference, where examination or action bends back on and affects the entity investigating the action. It commonly refers to an agent's capacity to recognize forces of socialization and alter their place in the social structure (Dodgson, 2019). A low level of reflexivity would result in an individual being

shaped largely by their environment (or society), whereas a high level would be defined by an individual shaping norms, tastes, politics, desires, and so on (Palaganas et al., 2017). Thus, reflexivity is similar to the notion of autonomy.

Watt (2015) used the expression “blind spots” in her article on reflexivity. There were blind spots in Watt’s approach to her research, and reflexivity allowed her to see them. Because she believed in a single reality during the data collection process, carrying out the observations would be as straightforward as she had envisioned. Reflexivity helps the novice researcher both during and after the research. For example, keeping a journal through reflective writing would lead to a more sophisticated understanding of all aspects of research methodology. The reflexive journal provided a place to pull everything together in a concrete form that could be drawn upon to guide the project. Her reflexive journal allowed her to make connections between home education and her teaching experiences years earlier. She could make links between how she carried out her study, reflective journal entries, and the literature on qualitative methodology.

Eileen M. Fryer (2004) claimed that social values could often influence research methodologies, such as her dubious double role of researcher and practitioner, the calls for reform from those stakeholders, and the reform being regarded as a political agenda, though it was rated highly in school priority lists. In her research, under informed consent, the students were urged to “get a good mark”, and they provided what they perceived the teacher wanted to read. Her position within the hierarchy restrained the practitioner from introducing changes. She adopted a case study as the research method, which was quite contentious in drawing out principles.

My position as a researcher on the teaching model is synchronously that of a practitioner, which suggests that I have a similar problem to Eileen M. Fryer’s (2004). Because the hierarchical structure in Chinese HE institutions is different from the Western one, I am likely to have two or more roles in a Chinese HE context. When I was investigating the teachers’ and students’ perceptions of blended teaching by using questionnaires or focus groups, I would have to consider whether they were just providing something I wanted. How can I ensure the data is approachable after some time without violating ethical issues? It puts a great responsibility on me to use a variety of methods

to support the credibility of the study.

A researcher's experience or background can make an unconscious impact on the process of knowledge production (Wellington et al., 2005, p.99). Law (2004) argues that positionality can reveal a researcher's stance, which reflects their fundamental assumptions about demographic features such as gender, age, race, social positions, and values. These two statements have been confirmed by an increasing number of scholars, who agree that a researcher's positionality can influence their conduct of social inquiry (Cobb et al., 2003). Thus, I will also explain what made me become a researcher and its relation to my research design.

3.3.5 Transferability

Transferability in qualitative research refers to the ability to transfer processes, methods or findings from one population to another (Krippendorff, 2010), which is equal to external validity. Psychological researchers consider it a tradition that generalizability is established by repeated experiments (Krippendorff, 2010). This issue is controversial in social science because interpretivists object to the authority and dominant role of the positivist tradition (Carminati, 2018). I agree with the echo from the interpretivism paradigm, that the purpose of qualitative research is to elicit in-depth explanations, meanings and arguments, rather than simply generalizing findings.

In Chapter 4 and Chapter 6, the qualitative results emerge from my distinct environment. The identified themes, dimensions, and the final framework have some overlapping aspects with the previous studies. However, there are unique features in this environment; to be specific: (1) new motives, (2) the values of different motives, (3) the relations among the motives, (4) the influencing degree of the themes, and also (5) how they work. I do not claim that there is sufficient size of data for thematic analysis, or that the findings can be generalized and applicable across the entire population in Chinese colleges and universities. As a method of strengthening transferability, I provide a detailed description of the population studied, such as by elaborating on the demographic features and the research's geographic boundaries. In addition, I give a full account of the process, from collecting data to analysis to research results, to ensure transparency. Moreover, I present the results and findings in a conditional but clear-cut way, so as not to make unwarranted generalizations

about inappropriate groups. In addition, the narratives or critical incidents from the focus groups can provide thick in-depth descriptions of the themes.

Transferability is also likely to be applicable to my study, in terms of the potentiality to transfer methods, proceedings and the final findings from one group to another, based on similar data and environment (Munthe et al., 2019). The similarity between this and another environment will determine whether the results can be transferred (Graneheim & Lundman, 2004). Lincoln and Guba (1985) affirm that researchers cannot determine whether the results are transferable, but they can specify their situation and provide enough information, which allows the readers to assess transferability to their environment. Given that transferability requires a specific description (Higgins et al., 2019), I endeavoured to describe in detail my research background, design, data collection and analysis, process, and so on, with sufficient information, which could allow the readers to make judgements on the transferability to other contexts. For example, in Chapter 5, the proceedings and the results from the experiment on the effectiveness of a blended course design with AES can also be transferred to other contexts based on the similar data. To guarantee the transferability, I also disclosed the paradigms and assumptions underpinning the methodology and methods, got to grips with the vividness of data, and strictly managed it consistently and unanimously, amenable to the qualitative inquiries.

3.3.6 Reliability and Validity

In qualitative research, validity refers to the relationship between the results and the rest of the study (Thomas & Magilvy, 2011). In the specific research context, I used the research methods and procedures that were suited to the research questions and purposes, and the obtained research results (see Section 3.5). At this point, my expression of the research result is the most acceptable and reasonable among all possible statements, which also reflects the authenticity and validity of the research result (see the Conclusion chapter).

The relationship between reliability and validity in the thematic analysis is illustrated in Figure 6, by adopting the two propositions and one conjecture proposed by Klaus Krippendorff (2004, pp.787–800). Unreliability restricts the likelihood of validity. However, reliability does not guarantee validity; and in the pursuit of high-level reliability, validity tends to decline. According to the conception of reliability in measurement theory, reliability depends on the assurance that data are collected independently of the event, measuring tool, or people, and reliable data should be consistent in the measuring process (Noble & Smith, 2015). To be specific, in all eventualities, the research procedure is reliable if it reacts to the same phenomenon in the same way. Thus, in the data analysis process, I employed communicable coding, plain data language, and dense step-by-step explanations of the process and techniques.

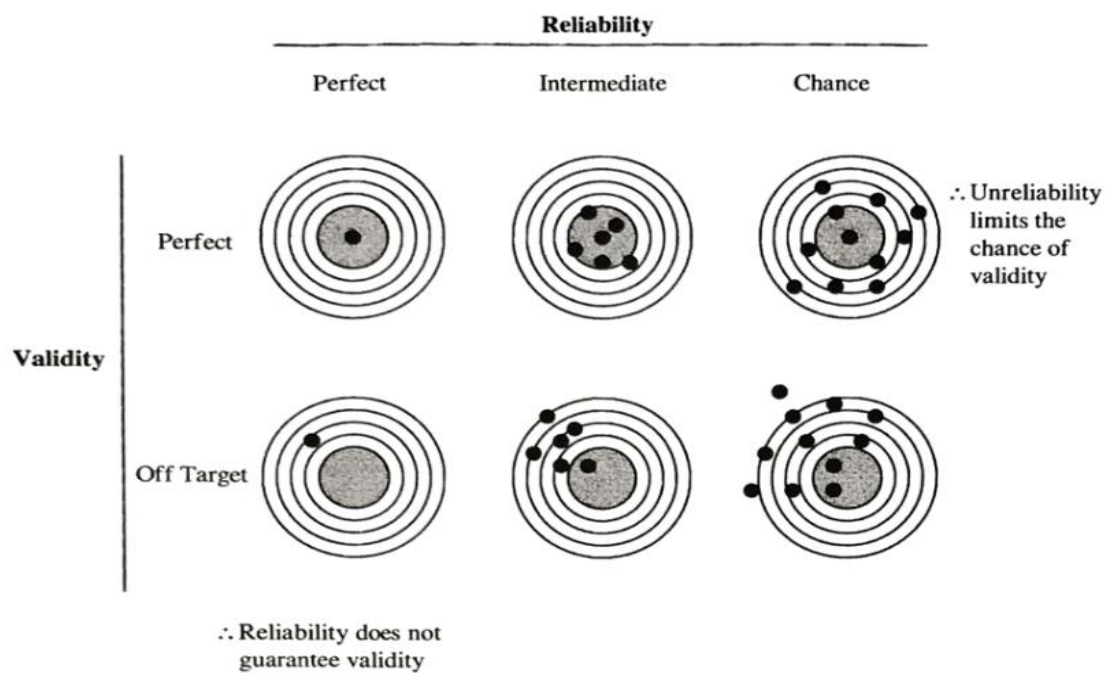


Figure 6 The Relationship Between Reliability and Validity (Krippendorff, 2004, p.214)

To ensure the validity of my research, I prolonged the interviews in the case that there was something confusing in the transcripts. I extended the time of spot observation. I conducted one interview and two discussions at different times. The unresolved issues arising from the first focus group would be

questioned and substantiated in the second with another group on a continuum, so the two focus groups were linked. Furthermore, during the interview and discussions, I used low-inference questioning, especially at the beginning stage. When interviewing, I took notes and transcribed the recording in detail exhaustively (Halcomb & Davidson, 2006). The teacher participants were asked to undertake peer debriefing, which was intended to avoid excessive interpretation and ethical problems. I tried to explain the content from different perspectives, in order to ensure the data were approachable after a short or long time, without violating ethical issues. Finally, I also compared what I had discovered in my qualitative analysis with the findings already stated in professional academic literature.

3.3.7 Trustworthiness

As an academic researcher, I had to test and evaluate the rigour and quality of this project. Silverman (2006) proposed reliability and validity to be the critical concepts that ensure the credibility of any scientific research. Originally, however, these two concepts were defined as fundamental terms for quantitative study, which might not apply to qualitative research, as they were not defined adequately and must be treated differently by qualitative researchers. As a result, due to the nature of the qualitative study, reliability and validity are not viewed as two completely independent terms, but are rather intertwined with each other and incorporated into the sphere of the following terminologies, such as trustworthiness and transferability.

I used triangulation, given that using data from different sources can be helpful to increase the clarity or accuracy of research findings, thus bringing trustworthiness to this study (Ritchie et al., 2013; Silverman, 2006; Denzin & Lincoln, 2005; Creswell, 1998; Krefting, 1991). Thurmond (2001) explained the rationale of triangulation as using different types of evidence to approach one problem. Thus, if I have access to the data from the interviews, questionnaire, observation, and historical documents, my analysis is likely to be much sounder than if I simply rely on one source of evidence. This is because each kind of evidence has its strengths and weaknesses. Using observation, we can see how people behave and observe their body language, which enables us to see an entire picture of the process unfolding over time. Via interviews, we can gain a deeper insight into people's feelings or reasons for behaving in a certain

way. Hence, I used data from multiple sources and methods of different kinds to try, to strike a good balance between the strengths and weaknesses of each source.

Data sources

I collected data from multiple sources. That is, in the pilot study, I conducted a small group interview, while in the main study, I conducted two rounds of online focus groups and a few large-scale questionnaires. The experience obtained from one process can be used for the next, to enhance the reliability and validity of the later study (Higgins et al., 2019). In addition, I also applied the response validation method (Silverman, 2006). Thus, I can compare and validate the data collected from different instruments.

Procedure

Furthermore, the data collected from several sources was also rigorously and transparently analysed by following the procedure of the thematic approach. For example, each time after the interview, I transcribed very quickly using by the app on my phone, and later, usually the next day, I contacted an interviewee online and invited her to review the data transcripts orally together with me.

Methods

I adopted qualitative and quantitative methods to complete methodological triangulation (Morse, 1991). I first employed focus groups to collect data, and then the qualitative thematic approach to analyse data, before the themes emerged and the draft framework was inductively built. Stories and incidents were elaborated to further explore the themes deductively. Then I adopted quantitative statistical methods to test the themes and establish a regression equation model.

3.4 Ethical Approval

The ethical issue is critical for any human-involving research. It concerns recruiting participants, collecting data, storing data, privacy, confidentiality, anonymity, and ethical approval of the research. The documents for the ethical agreement of using human and human-related data in this project were approved and granted by the ethics committees of the relevant institutions. Thus, the questionnaire survey, interview audio recordings and transcripts

meet the ethical approvals I had carefully considered for this study (ethics protocol number: 04067, see Appendix 2: Approval Notification).

To ensure their informed consent, all the teachers and students signed to show their participation was voluntary before taking the surveys. They were made clear of their rights as participants, that they could withdraw at any time if they felt uncomfortable.

The questionnaire surveys were clearly structured, with all multiple choice questions. They were distributed to teachers and students, then anonymously completed online, and originally protected by my online account (a specific online questionnaire network). No one else could access the data online, or know about the participants' choices. The data collected were only for the research known to the participants.

The student participants were given a consent form. The invited teachers considered me to be their peer; they also provided oral consent in the recording before I initiated the discussion. Thus, I could safely assume that all my participants were not under pressure or felt anxious during the participation.

When I completed the interviewees' digital recordings, I safely stored them on my smartphone. The transcripts and the audio were then transferred to a separate computer of mine, protected with a code. When gathering information from the individual interviews, I coded each teacher with a number and an English letter, only recognizable by me, to protect their identities. Therefore, to lower the ethical risks, all the participants were kept anonymous and were made aware of my research background and project outline.

3.5 Methods

Creswell (2012) warns that when using the mixed-method approach of quantitative and qualitative methods, the researcher must be aware of the core elements of the adopted methods, and their advantages and disadvantages. In contrast, Kivunja and Kuyini (2017) consider that the two approaches can barely merge due to their contradictory paradigms. However, Creswell (2012) argues that the chosen method must depend on the research question, so that information not accessible via one method can be discovered using others.

Regarding the nature of my research questions, I adopted qualitative and quantitative methods to generate the pragmatic knowledge that I have been

seeking. Here I will explain and justify each decision I made, and thus align the methods with the research questions.

Recording the context is important for this project, which is based on the observable features (Dodgson, 2019) of space, people, and issues, in order to analyse the discovered themes and results. Secondly, this study was conducted at private colleges and universities in Shanghai. This restriction of location and population shows that it is also necessary to adapt the qualitative methodology, skills, and instrument. Finally, AES as an intervention of the blended course design was conducted in synergy with practitioners, elaborated, and evaluated further to add validity. The dense description of context placed teachers' daily work into a bigger picture, and will inform those hoping to apply this intervention.

3.5.1 The Analysis of a Practical Issue in a Real Context

The first step in this project was to identify a practical problem in my real teaching context. The aim was to explore teachers' perceptions of the blended teaching implementation, to address the practical issue of why the application of information technology in education does not show adequate motive for sustainable development. I clarified the mismatch problem between the advancement of blended teaching and the challenges in teachers' implementation, to create the research purpose.

3.5.2 Exploratory Sequential Designs

When mixed methods were applied in this study, the quantitative and qualitative methods were exploratory sequential designs.

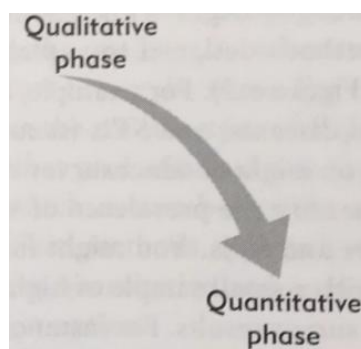


Figure 7 Quantitative and Qualitative Methods in Exploratory Sequential Designs

The research started by exploring the topic using qualitative methods, and then utilized the results to further develop a quantitative questionnaire survey

and the second phase of the inquiry (Venkatesh et al., 2013; see Figure 7).

When using mixed methods, according to Morse and Niehaus (2016), the relation between the two approaches depends on the time order and priority; the first of which is usually the primary one, and the latter is supplementary. In this project, as shown in Figure 7, I adopted the qualitative approach first and then supplemented it with the quantitative. The two approaches were arranged sequentially in different chapters, so each could eliminate the other paradigm's influences and meet its own methodological requirements. Firstly, the blended course design, as an experimental intervention in teaching writing, was influenced by the prior results in the pilot study, on the motives influencing teachers' adoption and implementation of blended teaching. It is assumed that in this project, the current context with its dynamic and relational features formed the basis on which the experimental intervention was conducted, as it works at a moment and then puts a chain reaction of events in motion. Then I began with two focus groups, to discover what motives are perceived by teachers to influence their implementation of blended teaching. The thematic analysis of data indicated the need to collect further data on how the blended instruction is implemented in the given context, the relationship among the discovered motives, and the extent of their impact. The qualitative data analysis informed the creation of quantitative experiments to build the complete data from a wider perspective, and to test the results. Furthermore, I developed hypotheses from the draft framework, built through qualitative analysis, and conducted a further quantitative experiment to compare and cross-validate the results. Finally, the findings from the two approaches were integrated and discussed in the Conclusion.

In this project, the qualitative approach in the pilot study prompted an experimental intervention. The results from the qualitative approach also informed the creation of the instrument for quantitative testing. One method's poison can be counterbalanced by the other method, and then turns into honey (Kivunja & Kuyini, 2017). Creswell (2012) claims that the researcher can draw on findings from the two types of study results; thus, they complement each other. In this project, the qualitative results helped in designing the quantitative instrument, while quantitative methods combined the data sets with the intervention compared and cross-validated the results.

3.5.3 The Nature of the Research Questions

First, the qualitative approach was adopted to answer RQ 1 and its Sub-questions 1 and 2, in order to address an issue that requires a detailed understanding of blended teaching. The questions are exploratory: “What motives are perceived by college English teachers to influence their adoption and implementation of blended teaching?”, “Which motives are perceived as facilitators or barriers?”, “Which blended forms do teachers undertake, and what are their characteristics?” Qualitative research is generally suitable for the micro level of individual phenomena, providing a detailed dynamic



description and analysis, whereas the qualitative method is used to understand and explore the complicated world filled with individual activities and experiences (Day, 2012). Qualitative thematic analysis of focus groups is adopted to identify the motives. It analyses the collected data inductively for themes, and categorizes them as positive or negative, before it further specifies them deductively. This research seeks to identify the motives affecting teachers' implementation of blended teaching, with the in-depth exploration of how blended teaching is being implemented in the given context, and why the identified motives are making an impact. It is similar to the process of observing the root, the trunk, the branches of a tree, or even the veins of a leaf.

Figure 8 vividly depicts my understanding of the differences between qualitative and quantitative methods. Because I am exploring two types of research questions. I compare the findings from the qualitative approach to a leaf or a tree, while considering the quantitative approach as a forest.

Secondly, to answer Sub-question 3, “What are the relationships between the identified motives and the hybrid teaching practice?”, I conducted an

experiment to test the correlations between the identified motives, using multiple linear regression methods in SPSS.

The first experiment, as a quantitative intervention, investigates the effectiveness of and attitudes towards using the blended course design integrating AES, compared with the traditional method that depends on the teacher's manual marking. The purpose of this part is to test whether a change in an independent variable has an impact on the dependent variable. RQ 2 and its sub-questions are: "Can we observe significant differences in effectiveness between the blended teaching design and the traditional face-to-face one?", "Will the blended instructional design promote or restrict teaching effects?", "What are students' attitudes towards them?" A comparative study was conducted between the control group and experimental group, to add a wider perspective to the data in this research. Thereafter, the quantitative method can numerically measure whether a manipulation of the college English teaching model improves students' writing scores and satisfaction. It also reflects a potential cause-and-effect relationship, regarding whether the blended instructional design promotes or restricts teaching effects.

Overall, according to the characteristics and nature of the research questions, I explore the influencing motives on teachers' implementation of blended teaching by applying a qualitative approach, then using a quantitative one to gain a wider perspective, to measure the effectiveness of and attitudes to a blended course design, and to triangulate the draft framework. Though it is denoting the time order and process of an exploratory sequential design, as mentioned in the previous section, I placed equivalent priority on both methods, indicating that neither is dominant or superior, as the research utilized both in the processes of collecting and analysing the data.

3.5.4 Flow Table of the Methods

The steps I took in the process of applying the different approaches followed an exploratory sequential design (Creswell, 2012). I conducted two rounds of online focus group discussions and the qualitative thematic analysis, to identify the motives and dimensions, and then extracted a rough framework. Next I created an experimental intervention to expand the data. Finally, I designed questionnaires and developed hypotheses based on the qualitative findings, before using quantitative methods to test the theory.

The qualitative approach is used to generate a theory from collected data (Creswell, 2007). The qualitative method in this project aims to answer the research question on the motives influencing the adoption and implementation of blended teaching for college English, by carefully analysing and thematizing the data. It seeks to identify themes and dimensions, focusing on the uniqueness and holism of the individuals, which is achieved inductively throughout the process of data collection and analysis. It also enables the emergence of relationships among data (Creswell, 2007). The draft framework was built accordingly, and the hypotheses were developed from it.

Table 5 The Research Methods, Instruments, and Data Analysis

Research questions	Data collection	Methods and data analysis	What does this mean for this research?
RQ 1. What motives are perceived to influence college English teachers' adoption and implementation of blended teaching?	Pilot study using a small group interview with 2 teacher participants	Qualitative thematic approach: Inductive analysis coding and thematic analysis (Braun & Clarke, 2006; 2021); Deductive analysis	1. Identification of the influencing motives, characteristics, facilitators, barriers, and conundrums 2. A draft framework of the relevant themes and dimensions 3. To deductively explore the narratives about teachers' experience of implementing blended teaching, which surround the identified themes
Sub-question 1. Which motives are perceived as facilitators or barriers? Sub-question 2. Which blended forms do teachers undertake, and what are their characteristics?	2 Focus groups		
Sub-question 3. What are the relationships between the identified motives and the hybrid teaching practice?	An online questionnaire distributed to 166 teachers An online questionnaire survey to 187 teachers	Quantitative statistical analysis: Hypothesis testing, deductive analysis, dialectical	Develop the theoretical hypotheses based on the qualitative findings, and test them Establish a regression structural model
RQ 2: Can we observe significant differences in effectiveness and attitudes between a blended instructional design integrating an online writing marking system, and traditional face-to-face teaching using human scoring?	Questionnaires distributed to students in a control group and experimental group	Quantitative statistical methods: Deductive analysis	An experimental intervention to build data to measure the effectiveness of and attitudes towards a blended course design
Sub-question 1. Will the blended instructional design promote or restrict teaching effects? Sub-question 2. What are students' attitudes towards them?			

The results from teacher participants created the proposed interventions with student participants, which used a quantitative experiment to build data

and test the intervention. The draft framework, drawn from thematic analysis to answer the RQs, was also tested by the quantitative experiment.

This research includes three main research tools: focus groups, a small group interview, and questionnaire surveys. My findings from either deductive or inductive data analysis of interviews or questionnaires are stated in the tables or text. Triangulation was applied to ensure the credibility and trustworthiness of the qualitative study (Silverman, 2006; Creswell, 1998); it involves bringing different kinds of evidence to bear on a problem (Denzin & Lincoln, 2005). The quantitative methods were adopted to triangulate the draft framework and assumptions developed from it. The data, results, and findings are primarily presented and explained in the form of text and tables.

3.6 Summary

In this chapter, I have justified the methodology and explained the approaches that I undertook in order to answer my RQs. Besides triangulation and cross-verification of data sources, this study also features the mutual proof and complementary role of using two kinds of data. This allows it to examine blended teaching in much richer detail, while the possible differences and contradictions between the two kinds of data are conducive to generating new understanding.

I first began the discussion of my research paradigm by considering the philosophical basis for qualitative inquiry, which led to my methodology choices. I also elaborated on the different theories used to produce knowledge or to know the world, the consideration of the appropriate methods for study, and the best procedures to collect, analyse and interpret data. All these generated the evidence base for this research. Then I described the overall designs of the qualitative and quantitative approaches, the formation of the research instrument, the data sets, as well as the advantages and disadvantages of each data collection process, and the identification of the stages in the analysis process. I also explained ethical issues, trustworthiness, and sampling considerations. Following these qualitative explorations and explanations, I adopted quantitative methods to test the hypotheses developed from my draft framework on the motives influencing the adoption of blended teaching, before the final new findings are presented. Then I explained the benefits of combining the data collected by mixed methods, and how I

managed the data, such as coding, decoding, theming, and data presentation.

Educational design research is the systematic study of designing, developing and evaluating educational interventions. It also seeks solutions for complex problems in educational practice, aiming to advance our knowledge of the characteristics of these interventions, and the processes of designing and developing them (Cobb et al., 2003; Brown, 1992).

During the last year of completing my doctoral dissertation, from November 2022 until June 2023, while refining my work, I assessed and evaluated my dissertation. I conducted a personal reflection on the whole journey, under the guidance of the “golden thread” model (see Figure 9) created by Philip A. Wood from the University of Hertfordshire.

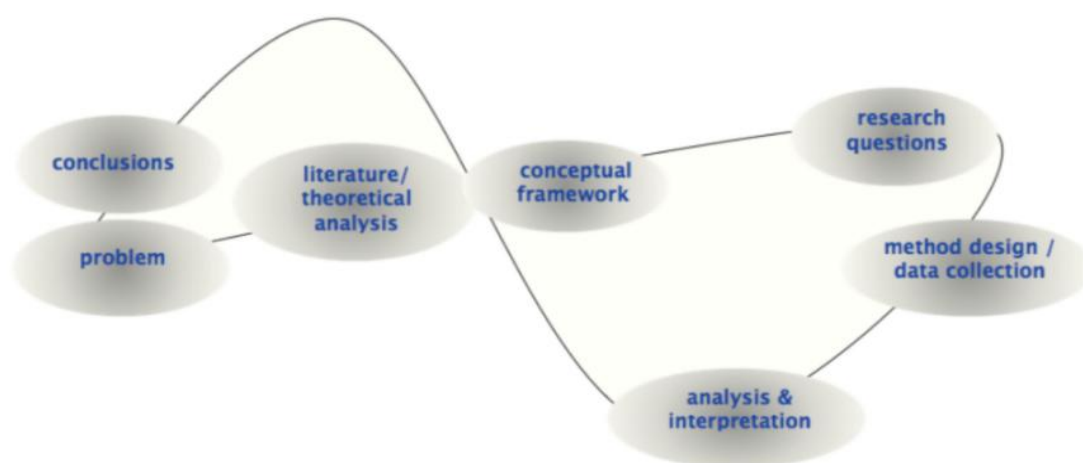


Figure 9 Study Thread

In addition to the above golden thread explaining the research process, Mackenzie and Knipe’s research journey framework (2006) can also be used to arrange the contents and map the detailed reflective process in a logical way, containing all the fundamental issues relevant to explaining my adopted approaches. However, in practice, the research journey bumps and winds; it is never linear. Mackenzie and Knipe’s research journey is exhaustive, whereas Wood’s is iterative, allowing more than one iteration. Therefore, the two have supplemented each other when writing this section on methodology.

I will clarify the details of implementing the research methods in the following chapters, as well as the results and findings from this process. Chapter 4 presents a pilot study exploring the influencing motives of blended teaching practice in a Chinese HE context, and develops the intended approach for the main study.

Chapter 4 Pilot Study on the Motives Influencing College English Teachers' Adoption of Blended Teaching

4.1 Introduction

The pilot study in this chapter is a vital step in conducting my full research protocol effectively. Thabane et al. (2010) argued that a pilot study is often a small-sized study which is critical for planning and modifying the main study. As mentioned by Creswell (2012), a pilot method is used to collect and analyse data, to provide theoretical and methodological support for the final research, and to examine the feasibility of the intended approach (Hazzi & Maaldaon, 2015). This pilot study is an integral part of the main study, as they both focus on the same research question. Therefore, in this pilot study, I applied a qualitative thematic approach, to test the method's feasibility and provide support for my large-scale main study.

4.2 Method

In the pilot study, I conducted a small group interview with two teachers from two different private schools, to gain some experience of using the qualitative thematic approach. This is described as an independent descriptive qualitative method to identify, analyse, and report patterns within data (Braun & Clark, 2006). It is also considered to provide qualitative researchers with significant skills to conduct other various forms of qualitative analysis (Vaismoradi et al., 2013). Accordingly, a qualitative researcher should be familiar with the thematic approach as a reliable analysis method. Through this approach, I conducted a trial of identifying the emerged themes on the influencing motives for the adoption of blended teaching, intending to draw on it for the interview outline and data analysis method of the main study.

In addition, an item pool was needed to compile an evaluation tool for the main study. Therefore, I conducted the pilot study through the instrument of an open interview. As Oppenheim (1992) stated, the best questionnaire questions come from the actual interview, because it can accurately reflect the real situation of interviewees, and the researchers can obtain measurement indicators that reflect the real situation. I conducted an open interview to prevent the interviewer and interviewees from being troubled by the

‘question-answer’ mode, and to help them fully communicate with each other. Hence, the open interview was adopted to elicit various or even panoramic viewpoints.

4.2.1 Framing the Small Group Interview

Based on the previous literature review and analysis, the interview outline for the pilot study was compiled, consisting of two questions. I attempted to make the interview questions match the RQ 1, “What motives are perceived by college English teachers to influence their adoption of blended teaching?” It also tests whether this RQ can be answered by responses obtained from the interview.

Table 6 Design of the Interview Outline for the Pilot Study

Q1: When and how did you get to know or use blended teaching?
Q2: What do you think are the motives affecting your adoption of blended teaching?

4.2.2 Participants

My research participants were English teachers in my context, teaching college English courses to non-English major undergraduates at private colleges and universities in Shanghai.

For the data collection of the pilot study, the participants were recruited from the Shanghai Cohort studying a professional Education Doctorate (EdD) at the University of Hertfordshire. This cohort consists of only eight women working in different private colleges and universities in Shanghai’s HE sectors. Due to the limited availability of such research participants, a small-scale qualitative empirical study was conducted with two selected participants. Both had attained master’s degrees, and were from two different colleges or universities. They both were experienced in teaching college English for many years (see Table 7), so their ideas might reflect the typical situation of blended teaching.

Table 7 Demographic Features of Teacher Participants

Title	Course	Gender and age	Education	Teaching seniority	School	Date	Coding
1 Lecturer	college English	Female, 31 – 35	Master’s	6 years	2 different private colleges and universities	2019/1/6	TA
1 Deputy Professor		Female, 46 – 50	Master’s	16 years			TB

Moreover, the sample was intended to be enlarged. More data would be collected if time and condition permitted in future experiments. To achieve the

agreed definition of blended teaching, I also explained the three concepts to the participants beforehand: MOOC, SPOC, and flipped classroom using micro-classes (see Appendix 3).

The interview in the pilot study mainly consisted of the following steps. Firstly, I designed the interview outline for the pilot study. Then I conducted the interview face-to-face with the two participants during the evening, at the University of Hertfordshire, UK. Measures were taken to ensure an undisturbed environment. Finally, the interview was recorded with the kind permission of the participants. When conducting the interview, I explained to the participants about the research question, the research aims, and how the data would be dealt with. Thus, the participants were clear about how the recordings would be used (see the ethical approval for this study, Appendix 2).

4.2.3 Procedure of Data Analysis

The data analysis procedure followed the thematic analysis phases as described by Braun & Clark (2006; 2021) (see Table 8).

Table 8 Thematic Analysis Phases and Descriptions (Braun & Clark, 2006; 2021)

Getting familiar with the data: Transcription of the collected data, repeated reading, and taking notes of the initial ideas
Initial coding: Coding interesting features of the data in a systematic way across all the data set, and organizing the preliminary data to each code
Searching for themes: Arranging the initial codes into potential themes, and collating the entire data relevant to those potential themes
Reviewing themes: Checking whether each theme is relating to the coded extracts and the entire data set, and refining the themes and details of the overall story told by the analysis
Naming and defining themes: Producing clear definitions and names for the themes
Generating the results: Selecting examples, analysing the extracts, relating the analysis back to the RQ 1 and literature, and reporting the results

First, I familiarized myself with the collected data by transcribing the recording, being a reader, and writing down the initial ideas. All the responses from the two participants were transcribed. While listening carefully during the talk, I also took some notes and then transcribed the answers immediately after the small group interview, with speech recognition software on my smartphone. The participants were respectively coded in my habitual way as TA and TB, to store them conveniently in my computer and safely find them whenever necessary. I transcribed the whole conversation anonymously by coding their names, to respect and protect the participants. I transcribed all the information in the interview, because some scholars have pointed out that qualitative research still attracts some negative comments (especially from

positivists) for its purported lack of generalizability, objectivity, rigour and validity (Denzin & Lincoln, 2005; Esfehiani & Walters, 2018). In order to minimize these supposed shortcomings in qualitative research, the transcripts were initially all transcribed in Mandarin (the participants' mother tongue) as the first-hand data, and were repeatedly checked to ensure reliability as the primary data. I was a data reader, dipping in and out of the data in the pre-processing stage. The transcripts were closely and repeatedly read.

In the second stage, I coded the distinct features of data collected from the interview, and collated data relevant to each code, to generate initial codes (see examples in Tables 9, 10, and 11). The data were processed and analysed by the initial line-by-line data coding, which is also called open coding. Codes were directly developed by examining the data mentioned in the last stage. Some statements were detected that informed my memo writing. An important principle for researchers at this stage is to believe in everything and not believe in anything (Strauss, 1987: 29). Below are a few open coding examples:

TA said, "I feel envious of others who are skilful at all types of software assisting teaching ... sometimes I also want to see how the students are reacting to BL, which is a big influence on my teaching adoption."

TB mentioned, "A team can accomplish this ... Students' feedback on screen, like a bullet screen."

TA said, "Our school is following fashion. It requires the teacher to teach what is trendy and buy software that's in vogue."

Both talked about the school's attitude. After open coding, concepts emerged such as "envious of peers", "peer experience", "students' feedback" and "school convention".

As suggested by Esfehiani and Walters (2018), it is better not to translate at the end of the data analysis, as this may cause disputes about the credibility and reliability of the interpretation of the empirically collected data, and the later findings. Thus, the translation from Chinese to English started from this open coding stage after I became fully familiar with the materials collected, resulting in 'native concepts' that I translated into English.

Regarding the designed questions for the interview, and also the participants' 'native concepts', I had to discover the internal relevance among

the codes – that is, to categorize all the similar initial codes into one group, then form secondary ones, similar to axial coding in grounded theory. These relationships can be causal, chronological, semantic, and situational; or they are of similarity, difference, equivalence, type, structure, function, process, and strategy (Strauss, 1987, p.29).

In order to search for the themes, I collated codes into potential themes for classifying data. I also reviewed the themes' consistency with the coded statements and the data set, before I could name and define the themes clearly.

Therefore, after initial coding, initial codes and concepts emerged. By searching for the themes, the relevance among them became lucid as they related to one aspect of blended teaching application. The three inductive processes are shown in Tables 9, 10, and 11. Table 9 illustrates how the cognitive motives were derived from the thematic analysis.

Table 9 The Inductive Process for Three Themes for Cognitive Motives

Steps	perceptions of blended teaching
A few examples of repeated or similar or relevant remarks	"I used mostly traditional teaching prior to online tools, but I didn't use MOOC". "After the students got the score, they changed it according to the online system suggestions. It was much better than that I corrected the paper writing and sent it to them. Most of them would not carefully look at the corrections or simply throw it away". "It is an easy job to find teaching resources".
Illustrations of initial coding process	In choosing teaching methods, teachers tend to focus on their original habits and obey the teaching objectives. The use of online writing system means to assist teaching writing to reduce teachers' burden, and students can repeatedly modify their writing to get a higher score. Teachers consider whether blended mode still takes the advantage of their previous experience and teaching methods. Resources provided by the online platforms or things alike seem to facilitate teaching.
Concepts by initial coding	"Meeting TL needs" "achieving objectives" "improving efficiency" "enhancing teaching effects" "useful" "gap in training and practice" "easy to understand, learn or use" "beneficial" "compatible with previous teaching values and experience" "easy to get the teaching information/ knowledge" "rich resources" "ask students to prepare presentations by using online materials" "rich and reliable techs apps and websites"
Inductive themes from axial coding	Theme 1- effectiveness and benefits Theme 2- easiness Theme 3- compatibility
subcategory	Cognitive Motives

Table 10 demonstrates how the external motives influencing college English teachers' adoption of blended teaching were discovered and grouped in terms of vertical dimensions. The same analysis procedure is also used in the following Table 11, regarding their internal motives for adopting blended teaching.

Table 10 The Inductive Process for Three Themes for External Motives

Steps	perceptions of blended teaching
A few examples of repeated or similar or relevant remarks	"I feel envious of others who are skillful at all types of software assisting teaching." "A team can accomplish this." "Sometimes I also want to see how the students are reacting to BL, which is a big influence on my teaching adoption." "Students' feedback on screen like bullet screen." "Our school is following fashion. It requires teacher to teach what is trendy and buys software in vogue."
One illustration of initial coding process	Teachers were influenced by peers, students and the school convention when deciding to adopt blended teaching or not.
Concepts by initial coding	"Envious of peer" "peer views" "peer experience" "experts' advice" "students' engagement" "students' feedback" "school convention" "educational policy" "MOOC by prestigious schools" "superior evaluations" "team" "infrastructure, investment" "mainstream trends" "teaching contest" "collaboration with all" "keep up with times"
Inductive themes from axial coding	Theme 1- close (peer influence, superior influence, student influence, institution influence) Theme 2- medium distance (influence from research, expert, and prestigious school) Theme 3- far (policy influence)
Subcategory	External Motives

Table 11 The Inductive Process for Two Themes for Internal Motives

Steps	perceptions of blended teaching
A few examples of repeated or similar or relevant remarks	"Useful but challenging if we implement it". "It puts higher requirements on teachers".
One illustration of initial coding process	Teachers were less confident with applying BL.
Concepts by initial coding	"not sure, challenging" "unpredictable" "apprehensive with my computer skills" "just steer it and place it under control as what I deal with any new teaching mode" "can handle it fluently" "try it for a while, still confused whether I can keep on" "enable us to learn new technical issues and seek all latest teaching resources"
Inductive themes from axial coding	Theme 1- confidence Theme 2- computer skills Theme 3- teaching resources
Subcategory	Internal Motives

4.3 Results

Sharing the outcomes of pilot studies is crucial, even if they are not typically documented in the literature. This point is highlighted by IN (2017), as meta-analyses incorporate not only data from main studies, but also from small pilot studies, which can serve as an inspiration for other researchers.

After the above analysis, I produced a report of the results, illustrated by selecting extracted compelling segments of data as examples and relating them to the research question. I analysed excerpt segments from the teacher participants' statements (see Tables 11 and 12). Thus, the coding process involved the important relevant segments transcribed from the interview recordings.

4.3.1 When and How the Teachers Got to Know Blended Teaching

To answer the question of when and how they first started using blended

teaching, the interviewed teachers displayed knowledge of various forms of blended instruction such as MOOC, SPOC, and flipped classrooms. However, they had recently acquired a deeper understanding of the concepts and implications of these teaching methods. Notably, influential teachers in the field have been leading the way in blended teaching by offering lectures, MOOC, and training. The school used to invite those teachers to discuss the flipped classroom and short micro-videos, and some well-known teachers have also shared their own micro-videos online. Nonetheless, during their conversation, they expressed uncertainty regarding their colleagues' full commitment to the blended approach, the extent of its usage, and how long it had been in practice, both inside and outside their schools. They also talked about their colleagues using blended teaching differently, based on their unique teaching needs, research, or personal preferences.

Table 12 Answer Sample Segments to Interview Question 1

<p><i>When and how did you get to know or use blended teaching?</i> TA: ... was the last time I heard you give a talk... I didn't really use it. I didn't touch the concept until December this year (2018)... your information on blended approach provided last time. Our school ... to invite teachers to talk about flipped classroom ... micro videos... so I didn't really use it ... TB: I have heard of it from your lecture (2018) ...is there any form of teaching nowadays not blended at all? TA: There are some general courses in our school ... being (used) in the form of micro classes...I tried making micro videos... they (famous teachers in the area) all have posted (micro-videos) on the Internet.</p>
<p><i>Follow-up: How many teachers at your school incorporate these videos into their teaching?</i> TA: ...based on their own teaching needs and research. ... Most teachers around have used it, but I'm not sure if they stick to it. I have received a lot of training...Half of my colleagues are trying to do it for their own need, and the other half depends on school requirements. Videos like MOOC are more used. TB: ...a lot of teachers in my school use it, and a lot of teachers from other schools use it. I've seen it on some platforms in and out of school. I noticed some teachers using it, but not sure about how many or how long had they been using. I am curious ...teachers use it according to their own preferences.</p>
<p><i>Follow-up: For example, when did you start to learn about micro-classes you just mentioned?</i> TA: ...the school was asking for flipped classroom, and the micro-class was put together with flipped classroom. So the school was asking teachers to do the micro-video... We had to push it, but we did not do much. TB: It's the same story. We're doing this like a gust. We might have been pushed harder. TA: ... have meetings discussing the details ... I cannot say I am familiar with it.</p>
<p><i>Follow-up: How many teachers in your school are involved in the creation of the micro-lesson?</i> TA: Well, the whole Department of Foreign Languages was encouraged to learn. ... Our school used to invite Dong Jianqiao (a professor in this field) to come to give lectures ... TB: I'm not involved. It's just that there were some teachers who took part in teaching competitions and did this kind of thing... TA: Similar to TB, ... for the reason of participating in teaching competitions... I also attended the teacher's training in Shanghai, ... In reality, I often use other people's MOOC or micro-courses, as well as my own, not many (of my own).</p>

The two schools where the interviewees are working encouraged the use of short videos as part of blended teaching, and provided training on the topic. The interviewees had participated in technical training and observed blended teaching, only to find that the training was not very thorough, resulting in no practical changes in the adoption and implementation. Although the teacher

participants had some experience with MOOC, SPOCs, and flipped classrooms, they did not actually adopt them in their teaching practices. Instead, they often used other people's MOOC or micro-courses, and some attempted to create their own micro-videos. Only a few colleagues had implemented blended teaching for teaching competitions, which allowed them to showcase and improve their teaching skills. These competitions could provide opportunities for teachers to demonstrate their personal teaching abilities and receive comprehensive reviews of their teaching levels.

Therefore, judging from teachers' understanding of the blended approach, the frequency and range of its usage, and its application purposes, before the end of 2018, the blended teaching practice at the teacher level was inadequate to some extent in the given context (see Appendix 3 and Table 12).

4.3.2 The Motives Affecting Adoption of Blended Teaching

When implementing a hybrid approach, teachers consider the perceived level of easiness. If it is overly complicated, it becomes impractical. Teachers prefer blended learning that does not involve convoluted software or processes; however, hybrid teaching is more demanding, and teachers may experience anxiety due to the increased effort required. During their conversation, the two participants discussed the ideal number of platforms and software that teachers should use in a course. They agreed that these tools should be easy to use and integrate seamlessly into the curriculum to serve the purpose of teaching. It was suggested that a fixed platform should be used for mixed teaching throughout the semester, instead of constantly switching between different platforms. Whichever tools are used, they should be simple enough for both teachers and students to become proficient in, as the ultimate goal is to serve the purpose of teaching.

Another consideration for blended teaching is its effectiveness. While it offers clear benefits and can partially achieve teaching goals, its suitability for wider implementation depends on how useful it is.

Two interviewees also emphasized the importance of teaching resources, such as content management systems and fixed teaching materials or textbooks, in implementing blended teaching. They utilized a content management system to develop their own PPT, enabling them to incorporate innovative concepts and ideas into their teaching approach.

Teachers are also concerned about engaging students in deep discussions during blended teaching, because it is essential for students to fully comprehend the topic at hand. It is hoped that the hybrid mode enables students to use a foreign language to discuss the set topic.

In addition, incorporating blended teaching into their curriculum requires teachers to possess computer skills. Technical skills greatly influence the effectiveness of the blended mode, as a critical motive.

Table 13 Answer Sample Segments to Interview Question 2

<p>What do you think are the motives affect your adoption and implementation of blended teaching? TA & TB: Blended Approach is <u>not easy</u>. TA: I have a lot of theoretical knowledge, but little practical experience ...obvious advantages in helping students. My technical skills have a great influence...If it's too difficult, it would not be possible to be put in practice. If the students have <u>good learning outcomes</u> and the teachers <u>use it easily</u>... be useful to apply to a larger scale. TB: ...but insists on technology. I don't like my blended learning to involve too much software or be too <u>complicated</u>, either ...blended teaching may <u>depend largely on the personality and computer skills</u> of the teacher. TA: The design of the whole classroom will be more demanding, caused by <u>no fixed teaching materials</u>. If there are teaching materials, at least you (teachers) can follow it all the way ... <u>tricks</u> (in blended teaching), you (teachers) will have to <u>pay more efforts and prepare the lessons fully</u>. Teachers are required to <u>be more thoughtful...anxious</u> ... TB: Young people ... busy, and middle-aged teachers ... busy ... there are issues about time, energy, textbooks and so on. TA: ... there are <u>no set textbooks</u> here in the UK. If we have a content management system, our class content will be unified. All of our teachers have <u>a content management system</u> that can be added content to, then it will help you <u>create the PPT that you want</u>... The accompanying PPT works very well. But direct use will be discriminated against (by colleagues and students, usually) ... TB: ...teachers can add some of your own creativity and ideas to implement blended teaching. TA: We have <u>this type (of students) in our school</u>. They like to listen passively. If the class is given to them for discussion, they do not discuss deeply ... this effect can be achieved, so that he can use the language to discuss the set topic. TB: ... to <u>broaden their horizons</u> to a certain extent. It does <u>fulfill part of the purpose of teaching to a certain extent</u>. It mainly requires them to understand background knowledge in spare time. TA: ...sometimes I am lazy...</p> <p>Follow-up: What is the maximum number of platforms and software you can accept for use in a course? TB: ...As for "one course", I think for one course in a semester, there should be a fixed platform for mixed teaching, rather than a single shot then to change the place...I don't think "many" is a good idea, but a small number to <u>achieve good teaching effect</u> is the key... must be relatively simple for teachers and students to use and become proficient. TA: I tend to <u>serve my teaching purpose</u>. ...I also think there <u>shouldn't be too many platforms and software, which would cause chaos</u>... I <u>don't need any platforms or software</u>. I mainly use the traditional teaching style...the classrooms in our school <u>can't access the Internet</u>. TA: We cannot access the Internet in your school, either.</p>

The importance of school facilities and promotion was highlighted, with one school asking for a flipped classroom approach (refer to Table 12). However, due to inadequate facilities, a teacher had to resort to traditional teaching methods, as the classrooms did not have access to the Internet (refer to Table 13).

Therefore, according to the interview, the following six motives could be identified: easiness, effectiveness, teaching resources, students' engagement,

teachers' computer skills, and school support (see Table 13).

To answer the research question of what motives are perceived by college English teachers to influence their adoption of blended teaching, a coding scheme was derived from cause–effect relations of the data, supplemented by the similarity among the data. For example, some teachers utilized it to gain an edge in teaching competitions, and colleagues who were skilled in it were seen as role models by interviewees. There were also other teachers who stuck to blended instruction. The interviewees talked with raised eyebrows, and said with a clear-cut tone, “I felt envious of their adept use of blended teaching.” The teaching contest is also a demonstration of teaching prelection promoting a blended approach; this indicates the support from the school or the relevant municipal institutions, though it was nonetheless not explicitly stated by the interviewees. Additionally, if colleagues are implementing blended teaching, it is more likely that other teachers will adopt it as well.

Table 14 Motives and Themes from the Teachers' Perceptions

core category	Sub-categories	Themes / Motives	Range (low, medium, high)	Examples of the Remarks
The motives affecting college English teachers' adoption of blended teaching	Cognitive	effectiveness and benefits	high	Obvious advantages, useful, learning outcome, use it easily, one course one fixed platform
		easiness		
		compatibility		
	Internal	affective confidence	medium	Envious but anxious, curious, lazy
		computer skills	high	Aware of blended teaching but insufficient practice, no fixed materials
		teaching resources		
	External	Near (peer, superior student, institution)	medium	Teaching contest, facilities, software, the Internet, training, encourage, convention, discussion, feedback
		Medium distance (research, expert, and prestigious school)		
		Far (policy, society)		

The data indicate that peers exert a moderate influence on teachers' decisions to incorporate blended teaching into their methods. To better understand this approach, Table 14 breaks it down into nine main themes and three sub-categories in a comprehensive manner.

4.4 Summary

Based on this pilot study's findings, it appears appropriate to proceed with a full-scale trial. The study provided valuable insights into the strengths and

weaknesses of the thematic approach used, and how well the interview questions aligned with the initial outcomes’.

For this pilot study, I followed the thematic analysis steps outlined by Braun and Clark (2006; 2021), and also drew from grounded theory (Corbin & Strauss, 1990) to gain a deeper understanding of the procedures, concepts and principles involved in analysing thematic data. Additionally, I compared thematic analysis and grounded theory, given that in reality, amongst the plethora of different research perspectives, most researchers feel confused about which approach to take, and thus tend to treat them as obstacles. However, I consider those perspectives as a blessing. In my research, I meticulously analysed various perspectives, and ultimately opted for the approach that was best suited to my research questions and the circumstances. This pilot study allowed me to apply my methods effectively and with clarity. During the initial coding stage, I ensured I addressed any language issues, to allow the natural emergence of ‘native concepts’ while following the procedure. This method was not originally framed in the thematic analysis by Braun and Clark (2006; 2021), but inspired by other scholars. Esfehni and Walters (2018) advised us against translating at the end of the data analysis, as this could undermine the credibility of the interpretation of the empirical data collected, and the subsequent findings.

During my research, I utilized a small group interview as the primary method for data collection. However, I did not merely analyse the data; instead, I conducted a thorough comparison of the findings against their sources, including the interview questions themselves, to ensure their reliability and validity. These measures allowed me to gain a comprehensive understanding of the critical significance of rigorously verifying the reliability and validity of interviews and questionnaires in any future studies.

I extracted the preliminary themes, obtained the constructs of the influencing motives, and later designed the interview outline and the questionnaire scale for the main study. In the follow-up chapters, these constructs will be manipulated to answer the RQ: “What motives are perceived by college English teachers to influence their implementation of blended teaching?”. Thus, the composition and compilation of focus group questions and questionnaires, as the instruments for this project, will be elaborated

further in the next section.

Although the pilot study has been completed, further work is required to supplement it, due to certain limitations. The sampling process was restricted, resulting in only two female interviewees being involved due to factors of the specific UK environment. To address this issue in the main study, I intentionally expand the sample and include male participants for discussion, after returning to China. The sample size is deliberately enlarged until the reliability issue is resolved. Furthermore, it was explicitly stated that grounded theory was referenced, along with the utilization of terms such as initial coding, axial coding, and secondary coding. These terms are akin to the stages of searching for and reviewing the themes in the thematic approach presented by Braun and Clark (2006; 2021). It is important to note that, for the main study, to ensure clarity, I will not be utilizing grounded theory, and will strictly adhere to Braun and Clark's descriptions of thematic methods.

The pilot study supports the hypothesis regarding the factor of effectiveness, suggesting that teachers are more likely to adopt the blended learning mode if it helps them achieve their teaching objectives. This result holds significance for further discussion. Hence, the next chapter will present an empirical study, as a quantitative intervention to examine the effectiveness of a blended course design that integrates AES, compared with a traditional one that depends on the teacher's manual marking.

Chapter 5 The Effectiveness of Automated Essay Scoring Integrated into a Blended Course Design

In the previous chapter, a pilot study was conducted, as an experimental trial to provide methodological support for this main study. According to the findings of Chapter 4, a few factors affect teachers' motivation to adopt blended teaching. Among them, whether teachers perceive the blended approach to be effective is highly important, and acts as a trigger for in-depth deductive exploration. Hence, this chapter is designed to apply an automated essay scoring (AES) online system, integrated into a blended writing course design, as an experimental intervention to explore its effectiveness and students' attitude towards it. This study focuses on examining the effectiveness in response to RQ 2: "Can we observe significant differences in effectiveness and attitudes between traditional writing teaching in the classroom and a blend with AES?". Thus, the two RQs (see Section 1.3) are intertwined and connected.

In accordance with the nature of the research question, statistical methods were applied to collect and analyse data. Two groups of students participated in this comparative study; both groups received English writing instructions in face-to-face classroom teaching. However, they undertook different additional activities. The control group conducted paper-based writing with a human teacher providing feedback and marking their writing offline in a purely traditional way; whereas the experimental group wrote on the AES online platform and received automated feedback online. I mainly compared their essay scores, difficulty ratings for the assigned writing tasks, and their attitudes to the writing experience.

This chapter is a published article, completed during my doctoral study. I have rewritten and organized it into the following sections: introduction, method, results, and summary (Yu & Barker, 2020).

5.1 Introduction

In this section, I introduce the college English course, problems in teaching English writing, AES in China, and integrating AES into the blended course, to provide a general description of the background of this study.

5.1.1 College English Course

College English is a compulsory course of general education offered by all colleges and universities in China, involving both instrumental and humanistic features. As stated in the new English education policy, *Guidelines on College English Teaching (GCET)* issued by CMOE in 2016, this course aims to cultivate students' abilities in English application and independent learning, such as listening, speaking, reading, writing, and translating; to enhance their intercultural communication awareness and communicative ability; and gradually improve their innovative and critical thinking (Yan, 2017). Through an in-depth exploration of the humanistic principles in textbooks, students are guided to establish positive values and a global horizon, to meet the needs of individual and social development.

College English has formed a 'trinity' teaching system, comprising English for general purposes, English for special purposes, and intercultural communication English. This also ensures the continuity of students' English learning after high school. The implementation of ideology and politics in the college English curriculum aims not only to stimulate students' enthusiasm for English learning, but also to complete the fundamental task of cultivating morality and cultivating people.

At present, the college English teaching team in my context is based on the orientation of "a high-level applied university with outstanding advantages and characteristics" (Cheng & Wei, 2021). Thus, under the conceptual guidance of new engineering and new liberal arts (Yan, 2017), we are trying to explore a new developmental path.

Table 15 depicts the details of the student's abilities that the college English courses are responsible for cultivating (Yan, 2017); these largely constitute fundamental English abilities (listening, speaking, writing, reading, and translation), application and social abilities (communication, collaboration, resilience, and service) and a global horizon. Additionally, autonomous learning and information application are also highly emphasized.

In China, college English classes feature large classes, typically overcrowded with a massive number of students, sometimes reaching even hundreds in just one classroom. A class with fewer than 30 students is a rare occurrence. As a result, teachers face the daunting task of grading essays, which requires them to invest a significant amount of time and energy in

providing individual feedback. However, students often prioritize their grades over teacher comments, as asynchronous feedback fails to provide timely help in their writing process (Li, 2021). Unfortunately, it appears that the teachers' efforts have not yielded the desired results, and significant enhancements to efficiency are required.

Table 15 Abilities Intended to be Cultivated by the College English Course

Fundamental English abilities	listening speaking writing reading translation
application and social abilities	Expression and communication
	Responsibility and resilience
	Collaborative innovation
	Service and care
Autonomous learning	
Information application	
Global horizon	

Apart from the slow process and low efficiency of human essay scoring, another major concern is plagiarism. Since it is hard to detect plagiarism with the eyes in paper-based writing, what we should do if there is 'copying' in paper-writing? Therefore, how to grade English writing efficiently becomes an important issue.

5.1.2 Online AES Software Used in This Study

In this context, an online writing marking system is applied, characterized by promptness, efficiency and flexibility (Wilson, 2017). It can provide timely scores and diagnostic feedback for the online compositions submitted by students, and students can modify and submit the articles multiple times according to the feedback (Lim et al., 2021).

The online intelligent marking system studied in this paper is named AES to avoid any possibility of advertising a product. It is an online intelligent automated correction service system for English composition, based on corpus and cloud computing technology, independently developed in China. According to the official introduction on its homepage, its principle is to compare the distance between the students' composition and the standard

corpus, and map the number of components and comments through certain algorithms.

This online intelligent marking system has been in use since 2011, aiming to help teachers reduce the workload of marking the writing, improve marking efficiency, and enhance both students' enthusiasm and their English writing ability. As a typical large-scale application of digital writing platforms in HE, it is a precedent for big data learning analysis of college English writing in China, highlighting the power of learning analysis (Cheng & Wei, 2021). On the one hand, the system can check the similarity of students' compositions and provide teachers with similar sources. On the other hand, it can analyse the compositions submitted by students, sentence by sentence, and then point out the errors in grammar, spelling, vocabulary, collocation, word block, and other types in the sentence. It can also give suggestions for modification. At the same time, the correcting network is based on a powerful corpus and can provide detailed sentence analysis.

On its homepage this AES system is claimed to have the following traits and functions: characterized detection, such as similarity detection, plagiarism detection, and off-topic detection; high credibility of scoring; strong reliability of diagnosing and correcting errors, such as sentence comments, error recognition with the corpus, and so on. Many English teachers in China use it as a tool to make real-time comments on the compositions submitted by students, and put forward suggestions for revision, so as to guide students to practise English writing online, in order to improve their English writing ability.

5.1.3 Integrating AES into College English Writing

Since the implementation of graded college English teaching in 2009, based on various network platforms and applications, the curriculum structure has been constantly optimized with the application of modern teaching methods (Cheng & Wei, 2021). All people involved in college English teaching in my context are actively exploring how to improve the level of smart teaching, such as relevant formative assessment systems and independent learning in our school.

The online intelligent writing platform has brought new challenges and opportunities to the blended teaching reform of college English, with changes ranging from ideas to behaviours, in terms of teaching resources, purpose,

content and its organization, tools, evaluation for writing, and the connotation of writing ability (Zhou, 2020). The college English writing course in my context has adopted the blended teaching design by integrating it with the intelligent writing system, AES.

Given this context, this study took two groups of non-English major undergraduate students in my school as a sample, to evaluate 11 English compositions before and during a semester. It compared the marking and feedback from a teacher in a traditional context, and an intelligent composition marking system in a blended course design. The questionnaire survey was conducted to investigate the effects, advantages and challenges of AES in a blended context, to compare students' attitudes towards them. As mentioned in the previous chapter, since perceived utility is a factor influencing the implementation of blended teaching, the experiment on the effects and advantages, with the two aspects pointing to usefulness (Ajzan & Todd, 1995), can lay a strong foundation for further discussion on the implementation of blended teaching.

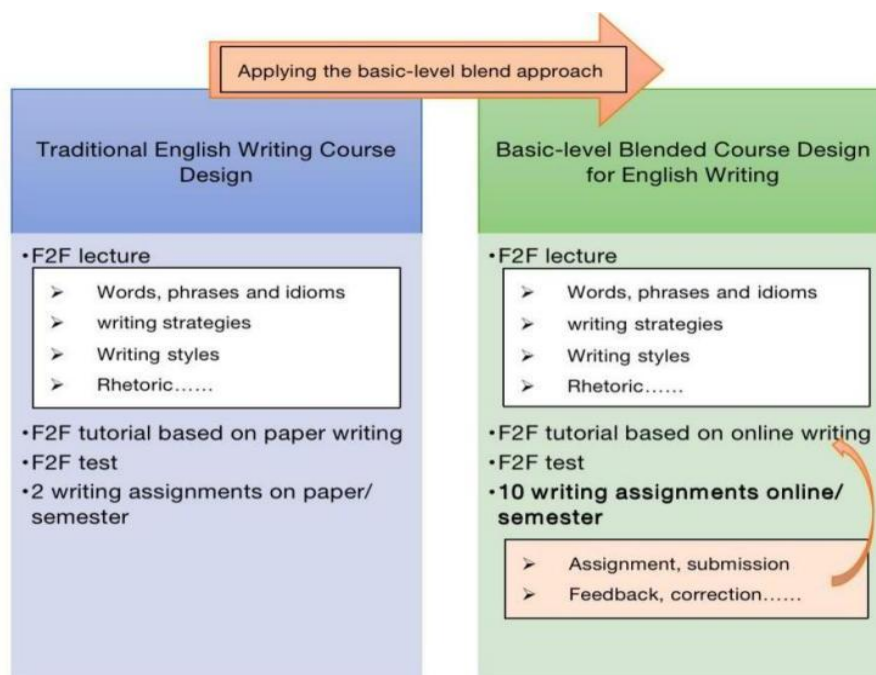


Figure 10 A Blended Course Design: Course-and-a-half Syndrome for College English Writing, Designed by the Author

According to Kaleta et al. (2007), blended courses can often take the form of placing additional online elements into a traditional TL framework without removing any of the current activities. This blend is also called the

course-and-a-half syndrome. My colleagues and I applied the intervention by adding additional online elements to the writing class to create a blend. In this form, teaching instructions are still carried out in the traditional classroom, whereas all the necessary writing training is implemented online.

Figure 10 illustrates applying the blend approach to English writing course design. This leads to the research objective of this study: to examine the effectiveness of this blended form – in other words, whether we can observe significant differences in effectiveness and attitudes between the purely paper-based traditional writing teaching and the AES-supplemented blend.

5.2 Method

According to the nature of the research question, statistical methods using SPSS were applied to collect and analyse data. I mainly compared students' essay scores, difficulty ratings of the assigned writing tasks, and their attitudes to the writing experience.

5.2.1 Participants

Two groups of students participated in this experiment. They were assigned to complete 11 essays for measurement: one was a pretest, while the other 10 were post-tests, in one semester. Student participants were undergraduate students from non-English majors from the Business College in my workplace. The two groups were balanced in terms of their English level, gender, age, grade, major, and number as far as possible (see the demographic variables in Table 16). Both groups received writing instructions in a face-to-face class. The control group was given traditional writing instruction, while the experimental group received AES in blended teaching. The paper-based group was marked and provided feedback by a teacher (the control group), whereas the other group using AES received these from the online system (the experimental group).

Table 16 Details of Participants in the Study

	Tutor marked participants	AES marked participants
N	36	35
Mean age (years)	18,8	18,3
Gender (F/M)	16/20	16/19
Academic English level	CET4	CET4

5.2.2 Procedure

Student participants of both groups were asked to follow the three stages in this writing course, as stated by Zimmerman (2011), who illustrated the phases and process of cultivating self-regulated learning (SRL).

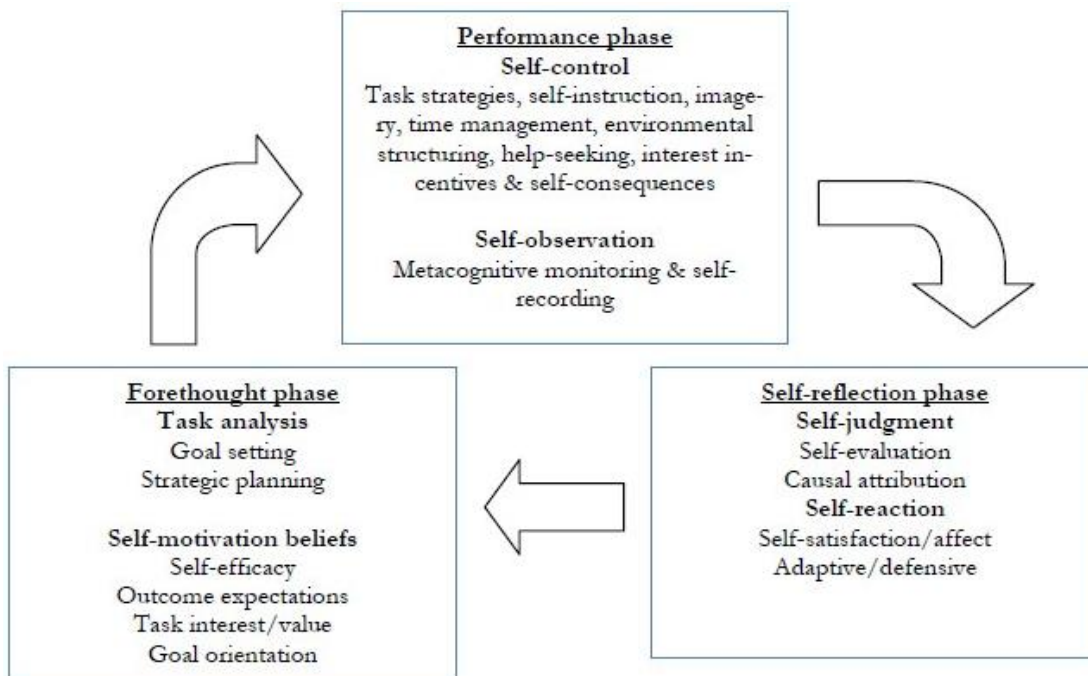


Figure 11 Phases and Processes of Self-Regulation (Zimmerman, 2011)

In the Forethought Stage, I first explained to them the concepts of writing instruction, feedback, goal setting, evaluation, and reflection. I required both groups of student participants to set learning goals prior to starting the first writing task. Then I showed the experimental group how to use AES, and told the control group how to manage their writing tasks, such as submission, modification, and dealing with teachers' feedback.

In the Performance Stage, the experiment lasted for 17 weeks, a semester. The students completed each of the following writing tasks about every 10 days. The topics belonged to the same category, indicating that these tasks encompassed succinct requirements for the length and structure equally for both groups.

Table 17 lists the topics assigned to both groups. Students in the control group received feedback from the teacher, while those in the experimental group obtained feedback from AES.

The feedback during the students' performance stage was necessary for

either their real-time or future reflection.

Table 17 Topics Assigned

Number	Topics
Pretest	Write a letter apologizing for being late for class.
13455	Why I Chose the Major of ...
13457	My Favorite City in China
13868	True Friendship among Roommates
13945	Lucky Money
14222	The Advantages of Getting a Good Education
14359	Should we go after fame and fortune?
14445	Part-time Job in This Summer Vacation
14446	An Unforgettable Party
14449	On College English Teaching
14594	Textbook Knowledge or Social Skills?

In the Reflection Stage, student participants reflected on their writing process in terms of the number of assignments, quality of feedback, and evaluation, upon the completion of all the tasks at the end of the semester. Their reflection was not directly assessed in this study, but their attitudes to the writing process were measured statistically, which was assumed to relate to reflecting on the writing experience.

Apart from the above procedure, I also asked them to rate the perceived difficulty of all the essay topics on a five-point Likert scale, and then to complete a short questionnaire on their attitude to their experience of English writing this semester.

Table 18 Writing Activities Undertaken by the Experimental and Control Groups

Activities	Experimental group	Control group
self-regulated composition	Online	Paper
Feedback and evaluation	Several times Online	Once on Paper
Reflect and review	Several times Online	Once on Paper
Correction, editing and polishing	Several times Online	Once on Paper
Archive of material	Online	Paper
Repeating the previous process	Yes	No
Estimation of difficulty	Yes	Yes
Questionnaire on efficacy	Yes	Yes

5.3 Results

A pretest between the two groups was undertaken. From the independent t-test in Tables 19 and 20, it is noted that the online group exhibits a slightly higher mean score (68.24 versus 71.08) than the paper-based group. However, the value of $t = -1.455$, $df = 69$, and with $sig = 0.15$ greater than our accepted alpha

of 0.05, indicates that there is no significant difference in their writing performance between the means of the two groups prior to the experimental condition.

Table 19 Results of the Pretest Between Participants in the Online and Paper-based Essay Marking Systems

Group	N	Mean	SD
Online	35	71.1	9.2
Paper	36	68.2	7.1

Table 20 Independent T-test on the Means of the Pretest on Online and Paper-based Essay Marking Systems

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Both	Equal variances assumed	1.160	.285	-1.455	69	.150	-2.8405	1.9520	-6.7347	1.0537
	Equal variances not assumed			-1.460	65.642	.149	-2.8405	1.9450	-6.7241	1.0432

The post-test comparison of the individual means for 10 essays shows that in no case did humans score higher than AES. With regard to the online and manual mean scores (68.26 versus 73.19), both are higher than the pretest, showing a score increase for both groups.

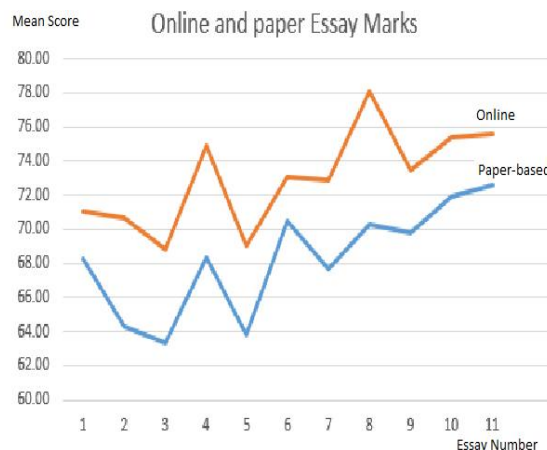


Figure 12 Curves of Online Scoring and Paper-based Mean Scores

In general, the curves in the figure show an upward direction, meaning that both groups have made some progress in their writing after a duration of writing practice. The similar shape of the curves indicates that manual marking and automated scoring do not work differently; instead, they mark correctly and consistently with each other. Thus, the two writing scoring approaches are effective in helping students improve their writing performance.

Table 21 A Comparison of Individual Mean Scores for Each Essay Between AES and Paper-based Marking

Essay	Topics	Mean Score (Paper Based)	Mean Score (Online)
Pretest (E1)	Write a letter apologizing for being late for class	68.24	71.08
Essay 2 (E2)	Why I Chose the Major of ...	64.36	70.71
Essay 3 (E3)	My Favorite City in China	63.39	68.86
Essay 4 (E4)	True Friendship among Roommates	68.36	74.86
Essay 5 (E5)	Lucky Money	63.86	69.06
Essay 6 (E6)	The Advantages of Getting a Good Education	70.49	73.04
Essay 7 (E7)	Should we go after fame and fortune	67.67	72.88
Essay 8 (E8)	Part-time Job in This Summer Vacation	70.26	78.13
Essay 9 (E9)	An Unforgettable Party	69.77	73.44
Essay 10 (E10)	On College English Teaching	71.89	75.40
Essay 11 (E11)	Textbook Knowledge or Social Skills	72.59	75.57
Mean Total		68.26	73.19

On the one hand, the validity of AES is reflected in its association with human scoring (Ramineni & Williamson, 2013). As demonstrated by the previous studies, alignment with human scoring serves as an important criterion of AES function (Shermis, 2014), and there is a strong positive correlation between human scoring and the AES system (Kukich, 2000; Attali & Burstein, 2006; Toranj & Ansari, 2012). On the other hand, AES is more effective than cognitive assessment (Joundy et al., 2019; Toranj & Ansari, 2012), because it functions usefully in terms of immediate scoring and rapid feedback (Page, 2003).

However, in this experiment, can we jump to the conclusion that AES is more effective by simply comparing these mean scores? According to independent ANOVA, it is found that essays E2, E3, E4, E5, E7, and E8 had significant differences between the teacher's marking and AES, whereas E6, E9, E10, and E11 had no difference in performance. As seen from the statistics in this study, no essay was manually scored higher than by the machine. Human raters score more rigidly because they are more sensitive than AES in detecting and capturing the writing features of non-native users

(Wilson, 2020). Thus, we can only conclude that AES is at least as effective as human scoring.

Table 22 The Results of an Independent ANOVA on the Means of the Paper-based and Online Conditions

Essay	Mean score Tutor based	Mean score Online Automatic	df	F	P (one-tailed)
E2	64.36	70.71	70	6.207	0.08
E3	63.39	68.86	70	4.558	0.02
E4	68.36	74.86	70	10.016	0.001
E5	63.86	69.06	70	5.457	0.01
E6	70.49	73.04	70	1.471	0.12
E7	67.67	72.88	70	7.852	0.004
E8	70.26	78.13	70	13.428	0.000
E9	69.77	73.44	70	2.648	0.050
E10	71.89	75.40	70	1.899	0.09
E11	72.59	75.57	70	1.593	0.10

According to Pearson’s PM correlation, it is found that the duration of time has a positive correlation with the essay scores, whether in a traditional ($r = 0.839$, $p = 0.001$) or a blended context ($r = 0.680$, $p = 0.011$).

Table 23 Pearson’s PM Correlation Between Writing Duration Time and Scores

		Paper based	Online automated	Study time (weeks)
Tutor marked	Pearson Correlation r	-	0.839	0.743
	Sig. (1-tailed)		0.000	0.005
Online automated	Pearson Correlation r	0.839	-	0.680
	Sig. (1-tailed)	0.005		0.011
Study time (weeks)	Pearson Correlation r	0.743	0.680	-
	Sig. (1-tailed)	.0005	.0011	
N		11	11	11

Taking the aforementioned curves into account, we can safely conclude that it is a significant discovery that students are not disadvantaged by technological intervention. Indeed, both human scoring and AES can effectively support and improve students’ writing over time.

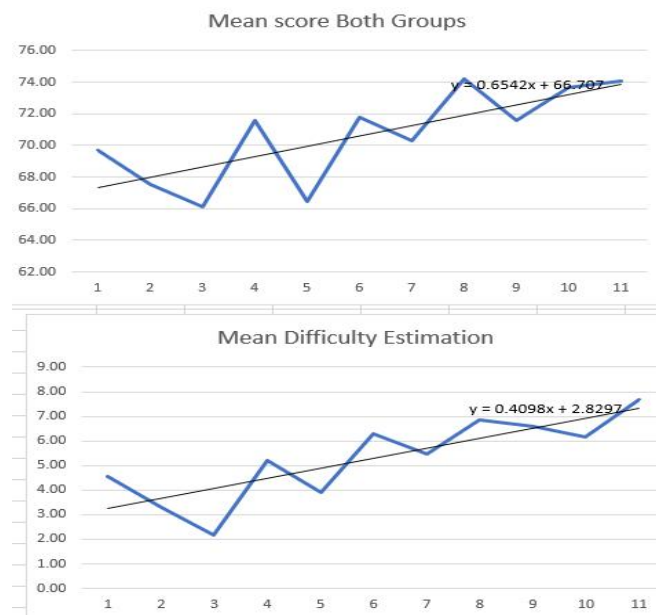


Figure 13 Correlation Between Difficulty Ratings and Essay Score

It is interesting that Figure 13 displays two similar curves for the average scores and the perceived difficulty ratings. Based on Spearman's correlation in Table 24, there is a positive relationship between the average essay scores and perceived difficulty ratings. It is worth noting that basically, the more difficult students consider the essay, the higher their average score. This will be discussed later.

Students' attitudes towards AES are also analysed with Spearman's correlation. It is found that the average paper-based scores have a significant correlation ($p = 0.027$) with students' attitudes, while the machine scores do not correlate ($p = 0.15$) with students' attitudes.

Table 24 Spearman's Correlation

		Online marked rating	Tutor marked rating	Mean rating	Online marked score	Tutor marked score	Mean score
Online marked rating	Coef. (rho) Sig (1-tailed)	1.000	0.664 0.013	0.891 0.000	0.891 0.000	0.800 0.002	0.870 0.000
Tutor marked rating	Coef. (rho) Sig (1-tailed)	0.664 0.013	1.000 -	0.873 0.000	0.782 0.002	0.909 0.000	0.820 0.001
Mean rating	Coef. (rho) Sig (1-tailed)	0.891 0.000	0.870 0.000	1.000 -	0.882 0.000	0.882 0.000	0.920 0.000
Online score	Coef. (rho) Sig (1-tailed)	0.891 0.000	0.782 0.002	0.882 0.000	1.000 -	0.882 0.000	0.970 0.000
Tutor marked score	Coef. (rho) Sig (1-tailed)	0.800 0.002	0.909 0.000	0.882 0.000	0.882 0.000	1.000 -	0.934 0.000
Mean score	Coef. (rho) Sig (1-tailed)	0.870 0.000	0.820 0.001	0.920 0.000	0.970 0.000	0.934 -.000	1.000 -
N		11	11	11	11	11	11

Table 25 Mean Essay Scores and Attitude Scores for AES and Tutor Marked Groups

StuPaper	PaperEssay	PaperQuest	StuOnline	OnlineEssay	OnlineQuest
1721107	63.00	1.70	1722120	75.00	3.80
1721108	68.80	3.50	1722122	68.20	3.50
1721109	70.50	3.30	1722123	69.00	3.60
1721113	49.30	3.30	1722128	73.10	3.80
1721116	76.00	3.30	1722130	69.50	3.30
1721117	67.40	1.70	1722132	78.20	3.30
1721119	59.40	2.90	1722133	68.10	4.10
1721121	72.00	3.20	1722134	62.30	3.30
1721125	66.90	3.90	1722136	68.80	4.00
1721126	69.50	3.70	1722138	81.70	2.80
1721126	63.10	3.20	1722139	78.70	4.00
1721128	71.00	2.80	1722141	73.10	2.80
1721130	74.70	4.00	1722142	72.30	4.70
1721133	80.00	3.70	1722143	80.40	4.70
1721135	67.80	3.40	1722144	86.00	3.80
1722079	76.60	3.90	1722149	66.40	3.60
1722081	72.80	4.00	1722153	76.80	4.10
1722096	68.00	3.20	1722155	80.90	4.10
1722099	78.00	3.10	1722156	87.10	3.40
1722100	72.80	3.50	1722158	81.50	4.90
1722102	73.00	3.60	1723965	62.40	3.10
1723982	65.10	3.50	1723972	71.50	3.70

Table 26 Correlation Between Mean Attitude and Mean Essay Score of the Two Groups

			PaperEssay	OnlineEssay	PaperQuest	OnlineQuest
Spearman's rho	PaperEssay	Correlation Coefficient	1.000	.023	.416*	-.099
		Sig. (1-tailed)	.	.460	.027	.330
		N	22	22	22	22
OnlineEssay	OnlineEssay	Correlation Coefficient	.023	1.000	-.127	.231
		Sig. (1-tailed)	.460	.	.287	.150
		N	22	22	22	22
PaperQuest	PaperQuest	Correlation Coefficient	.416*	-.127	1.000	.287
		Sig. (1-tailed)	.027	.287	.	.098
		N	22	22	22	22
OnlineQuest	OnlineQuest	Correlation Coefficient	-.099	.231	.287	1.000
		Sig. (1-tailed)	.330	.150	.098	.
		N	22	22	22	22

*. Correlation is significant at the 0.05 level (1-tailed).

The scores are divided at the midpoint to classify students into high-score achievers and low-score achievers. A Kruskal–Wallis test finds a significant difference between AES and paper writing in low-score achievers, who prefer AES to teachers’ marking. This may be due to the fast response provided or the several times’ corrections allowed by the AES system. However, we cannot see a big difference between teachers’ marking and AES in high-score achievers, who are satisfied with both.

Table 27 Mean Ranking of the Attitude of Learners Classified as High and Low Performers

Tutor Marked Lower	11	15.14
Tutor Marked Upper	11	21.05
Online Marked Lower	11	26.00
Online Marked Upper	11	27.82
Total	44	-

Table 28 Summary of the Post-hoc Tests on the Data

Group	Condition	N	Mean Rank	Mann-Whitney U	P (2 tailed)	
Tutor Based Low v High	Tutor Low Tutor High	11 11	9.82 13.18	42.0	0.22	Not significant
Online Based Low v High	Online Low Online High	11 11	10.73 12.27	52.0	0.58	Not significant
Online High v Paper Low	Paper Low Online High	11 11	13.27 9.73	41.0	0.20	Not significant
Online Low v Tutor High	Online Low Tutor High	11 11	12.86 10.14	45.0	0.32	Not significant
Online Low v Tutor Low	Online Low Tutor Low	11 11	14.41 8.59	28.5	0.04	Significant

5.4 Summary

This experiment finds that students are not disadvantaged by an AES-supplemented writing course, because compared with the control group marked by the teacher, the experimental group's post-test mean scores of six essays are better ($p < 0.01$), while the other four essays show no difference between the two groups.

The correlation analysis found that both groups of students had improved significantly in their writing performance ($p < 0.05$) over the entire period of the course, and there was a significant relationship between the pre-test and post-test scores of the two groups ($p < 0.01$).

The pre-test and post-test scores revealed that in no situation did the human teachers score higher than the AES. The reasons for this result were analysed and confirmed with reference to other studies.

The difficulty and easiness of the ten assigned essays were perceived as almost the same between the two groups. There is a negative correlation in that students performed better with the topics they perceived as difficult, while they received worse scores with those they perceived as easy.

Students' attitudes towards AES are more complex than those towards human scoring. It is discovered that there is a significant difference in the attitudes between the low and high performers ($p < 0.05$). As for the relationship between learners' attitudes and performance, the results were more complex than expected. There is a significant difference between AES and paper-based scoring in low-score achievers, who tend to be more demanding towards teacher's marking but favour AES. However, we cannot see a big difference between teachers' marking and AES in high-score

achievers, who are positive or satisfied with both. Hence, both high and low-score achievers are satisfied with this AES-supplemented writing experience.

In addition to the concern about effectiveness, the main study will explore other influencing motives, as described in the next chapter.

Chapter 6 Main Study Exploring the Motives Influencing Teachers' Actual Implementation of Blended Teaching

6.1 Introduction

The previous chapter applied an online writing scoring system as an intervention to teach college English writing, forming a basic blended course design. It compared the writing scores and attitudes of this blended course design with a traditional human marking one, resulting in some original findings. Based on that study, this chapter presents the fundamental stage of the qualitative data analysis of this dissertation, which mainly uses two focus groups to collect data. It discusses the design, data collection, analysis, and results from the focus groups.

6.2 The Rationale for Applying Focus Groups

In this section, qualitative data sets are obtained from teacher participants, consisting of two online focus groups: respectively, five teachers (data set 2) and nine teachers (data set 3), supplemented by observations and informal online conversations.

The focus group is a structured group method with the distinct function of generating data and ideas by explicitly utilizing group interaction, which might not be accessible otherwise (Morgan, 1996).

I chose two focus groups for the following three reasons. Firstly, they can help this qualitative study to obtain a good understating of educational issues. This method is becoming more popular and functional in gathering data on attitudes, values and opinions for an education study (Kitzinger, 1995), by working purposefully with a selected group of people (Richard et al., 2021). We can maximize the benefits of a focus group by paying careful attention to designing issues in the tiers of the group and the research project (Morgan, 1996). Secondly, focus groups allow the investigator to ask deeper questions to seek clarifications, which can help to explore a given issue thoroughly, as an initial stage in exploring a phenomenon or a problem before using in-depth interviews (Ritchie et al., 2013). Furthermore, a focus group could create an opportunity for an open discussion of various opinions. For example, within one group, there are usually teachers of opposite opinions, with negative or

positive attitudes to the blended approach. Thus, heated debates and rich information are expected (Ritchie et al., 2013). However, other researchers have claimed that participants would be more comfortable talking about the issue when divided into groups of the same inclination (Richard et al., 2021). Thus, whether participants have opposite or similar attitudes, the focus group encourages conversations and communications, and thus produces a wealth of information.

6.3 Data Processing and Techniques for Theme Identification

This section discusses the data processing steps and techniques for the two focus groups. The detailing of data collection and analysis aims to make the whole process transparent.

6.3.1 Steps

Based on my experience obtained from the pilot study in Chapter 4, this chapter also analyses the collected data by applying the thematic approach described by Braun and Clark (2006; 2021), as shown in Table 7.

I first familiarized myself with the data. At the data collection stage of the focus group discussions, I asked the designed survey questions, took down notes, highlighted them if necessary, and inquired further to avoid any ambiguity in the subsequent transcription. If any ambiguities occurred in the transcription or analysis, I would mark them in brackets, and then send messages to the speaker to eradicate misunderstandings. I could familiarize myself with the data because I not only engaged in the discussion as an anchor and note-taker, but also read the transcribed texts numerous times, wrote between the lines, clarified the details further in the subsequent analysis, and used them for reflexivity.

Secondly, I coded the interesting features of the data by transcribing the answers, person by person systematically across the data set. I placed each participant's lines together after transcription, to show their views more accurately than the extemporaneous notes taken. The participants also allowed me to mark, comment, and check the accuracy of transcripts with them if necessary (Fossey et al., 2002). They could help identify the recurring statements or the 'native concepts'. During the line-by-line initial data coding, I translated the transcripts from Chinese to English. The remarks provided evidence for the coding comments and subsequent theme-searching.

Thirdly, based on the recurring statements or the 'native concepts', I sought themes in terms of their internal relations, such as type, structure, function, process, strategy, similarities, and differences within the data. According to interpretative philosophy, I used a qualitative approach to analyse the participants' perceptions of blended teaching in the form of interpretations. Specifically, I applied the thematic analysis method to identify themes. In this process, I did not predetermine the concepts or the themes, but allowed the data to speak for themselves. Braun and Clark (2006) argue that data analysis in the early stage is so crucial that it can dramatically impact future data collection and analysis. This depends entirely on the researcher discovering the emerging themes according to the relations among the data, by reviewing, defining, and naming them. Thus, the emerging concepts were data-driven, or derived from the data, whereas I collated their relations to seek and define themes and dimensions subsequently.

Fourthly, I reviewed the themes by repeatedly reading the data, and checking and refining the themes. I conducted an in-depth analysis of only one genus at a time and looked for a correlation around it. As the analysis continued, the relationships between the relevant genera tended to be more specific, like strong light penetrating through the swirling fog. In the correlation analysis of categories, I not only considered the correlation between categories of concepts themselves, but also explored the intention and motivation of the participants, and took into consideration their context at that time and their social-cultural background.

Then I named and defined the themes according to their features.

Finally, I reported the results by presenting the features of quotes, and the identified patterns in tables, in which the whole data analysis process could be observed and evaluated.

6.3.2 Techniques

Ryan and Bernard (2003) summarized a few techniques for theme identification; I chose three of them. When I approached the collected qualitative data from the focus groups and the interviews, I used word-based textual analysis, the keyword context, and scrutiny-based technique in order to find patterns.

A word-based textual method is applied to find repetitive or commonly

used statements in the data. For example, while discussing the difficulties of implementing blended teaching, as repeatedly emphasized, the participants were concerned about the availability of the TL resources, and their own ability to steer them. I then highlighted these as the recurring statements for further analysis.

The keyword context is also text-based, referring to understanding the concepts by analysing the textual context where the participants use a specific keyword. For instance, when I was researching the disadvantages of adopting blended teaching, the respondents used the word 'anxiety'; thus, I analysed when, how, and why they had referred to this concept.

The scrutiny-based method differentiates how a particular text is similar to or different from another, by comparison and contrast. For instance, to find out whether it is beneficial to implement blended teaching, I divided the collected data into the advantages and disadvantages of the blended approach, according to the teachers' views. When the data reached the extent of established relations, I also checked across the data set to discover some hidden issues relevant to this aspect, before the systematic three-level categorization was completed.

6.4 The First Focus Group

The online focus group was conducted in the following steps. Firstly, to facilitate the communication of the participants, I placed the easy questions first, followed by those requiring brainstorming and discussion. Then I anchored the meeting to ensure it was focused on the topic. However, during this process, I made efforts consciously not to express my opinions, to avoid bias. I also took care to engage everyone as much as possible. The discussion was conducted online in Mandarin Chinese (a standard Chinese language, more commonly used than local Chinese) to facilitate the participants' expression. After receiving kind permission from the participants on the spot, I finally recorded and transcribed the whole process of discussion, preparing to be a 'reader'.

This section describes data gathering from the first focus group, and the thematic analysis of Data Set 2 (see Appendix 4). The focus group discussion mainly concerned the following three questions, to identify the forms, the advantages and disadvantages, and the motives, based on teachers'

perceptions and experience of their current blended teaching practice. Q1: What are the forms of blended teaching you have ever known or tried? Q2: What are your thoughts about the advantages and disadvantages of the blended approach? Q3: What do you think are the motives affecting your implementation of blended teaching?

From the pilot study in Chapter 4, regarding the match between the interview questions and answers, I discovered that the respondents provided richer information than I had expected. For example, they also mentioned “the advantages and disadvantages” of the blended approach. Due to the limited nature of interview questions, they did not have the opportunity to discuss them in detail. Hence, I compiled the discussion outline by adding one more question, “What are your thoughts about the advantages and disadvantages of the blended approach?”, to allow more insights. As another change after the pilot study, I conducted the focus group discussions in a way that was not completely restricted by the questions, to gain a panoramic viewpoint. This would also help me into cooperate with teachers in the subsequent informal online conversations to complement the results.

6.4.1 Data Collection

The participants were recruited from the population of teachers in my context: teaching college English courses to non-English major undergraduates at private colleges and universities in Shanghai. Due to the availability of research participants in this environment, I conducted the first focus group with five participants at the end of 2019. Table 29 shows their basic demographic information.

The invitees for this study furnished their informed consent and signed as participants, whom I coded as T1, T2, T3, T4, and T5. I openly informed the participants of my research questions, aim, and objectives. I also told them how the data would be dealt with. They were aware of being recorded by a smartphone, and knew for what purpose the recordings would be transcribed and used (see Appendix 1: Consent Form and Appendix 2 Ethical Approval).

To ensure the authenticity of participants’ answers, and their convenience to the greatest extent, I chose the online conference method and made an appointment before the discussion. To eliminate the influence of some adverse factors such as noise, the online discussion required all the participants to stay

in relatively quiet places with little interference.

Table 29 The Basic Demographic Features of Teacher Participants in the First Focus Group

Title	Subjects of college English course	Gender and age	education	Teaching seniority	school	coding
Lecturer Li	English for special purpose	Female, 41-45	master	11-15 years	4 different private colleges and universities	T1
Lecturer Li	English for general purpose	Male, 46-49	master	11-15 years		T2
Deputy Professor Yu	English for special purpose, intercultural communication	Female, 36-40	master	11-15 years		T3
Deputy Professor Wei, course leader	English for special purpose, English for general purpose	Female, 46-49	master	16-20 year		T4
Lecturer Jin	English for general purpose	Female, 31-35	master	6-10 years		T5

6.4.2 Q1: Forms of Blended Teaching

To answer the question, “What are the forms of blended teaching you have ever known or tried?”, the participants shared their different experiences.

T1 has been teaching for more than 11 years. I observe her classes once a semester. She is busy with completing her doctorate part-time in Thailand.

T1, “I came across this concept of blended learning nine months ago. Listening to the speeches and joining in the conferences, I felt it was quite vivid, but in practice, I had started much earlier. I had a project about online teaching in 2011, and then I studied video production in 2013, using online resources to teach.”

According to my observation, she is good at handling software. She explained why she did not feel unfamiliar with the concept of BL. Apart from the relevant speeches and conferences, she started blended teaching in practice much earlier, with a project. I undertook a similar project at the time, when we explored the school BBS together. We assigned students’ listening exercises mostly online, until we had another online platform for writing exercises.

T1, “After learning the definition of hybrid teaching, the one I have been using is the Marking Network. This simple, less demanding mixture really lightened my burden in teaching students English writing, so it is broadly applied with my language subjects. I agree with its application.”

According to T1, she has been using Marking Network. Because it is less

demanding and it can lighten teaching burden, it is applied broadly.

T2, "I prefer traditional teaching. While adopting the blended approach, I push my students to study independently. In essence, I want to urge them to find the time to go online, find the resources, and get the background knowledge for themselves. From the perspective of students, the ideal learning situation is that the students themselves create resources, learn for themselves, and teach each other – yes, peer study. I would ask students to find their own solutions when they encountered problems in the preview stage. Students would create surprises."

T2 shared his experience. He has switched from an administrative role to a teaching position; it took him some time to become a teacher. T2 explicitly showed his preferences for the traditional TL mode, and emphasized students' independent study. He tended to ask students to create resources, learn for themselves, and teach each other (peer study). He raised the example of his requirements for students' group work and independent study.

T2, "I think the gap between students is relatively large. I can tell at a glance whether they put in some effort because they do it differently. At the moment, personally, I would urge students to study independently. For example, I tell them to look for background information on the subject. I require that a group must work together to present a PPT, but not make five PPTs in a group of five people. I ask everyone to be responsible for one part of the presentation, but the style of the entire presentation should be consistent, such as the background."

He would ask students to make presentations in groups according to the unit topic. He could see how much effort they had made, at a glance. He explained how he checked on the students through their group presentations.

T3, "I have been using flipped classrooms for a long time. I also assigned students to read relevant materials and watch relevant teaching videos in advance. I asked them to study independently after class. But our students would have a lot of problems if they were asked to watch a lecture video and then discuss it in class. For example, if a flipped classroom is implemented, students mainly discuss in class; in our Chinese educational background, students will think teachers are lazy and have a low evaluation of teachers. It will affect teachers' enthusiasm for using flipped classrooms."

T3 shared her experience of using flipped classrooms supported by MOOC, SPOC, or micro-lessons, meaning that teachers assign students to read relevant materials and watch relevant teaching videos in advance.

However, students may think the teachers are lazy if the classroom is mainly used for discussion.

T3, "Well, I think it's a common practice that some teachers just assign homework or videos in advance without changes in classroom teaching. In the current practice of some schools, it only has form, ignoring the nature of mixing, or even just looks similar without connotation. Other teachers hand all contents to students without guidance, feedback, or assignments."

T3 is an experienced teacher, who is popular among students for her unique teaching style. She pointed out the extremes of implementing blended teaching, with only forms, ignoring the nature of mixing. Teachers provide content but do not give students guidance, feedback, or assignments.

T3, "As a result, there is a lack of interaction between students and teachers, between students and students, or between students and content, which cannot meet the requirements of knowledge internalization and thinking expansion. It is also difficult to monitor students' online self-directed learning. If the relationship between teaching form and content cannot be solved in blended curriculum design, no matter whether it is learning before teaching or learning before discussion, it is doomed not to go very far. I think educational technology should better serve teaching content."

She expressively stated her concerns when applying this form, such as no real change in classroom teaching, ignoring the nature of mixing, lack of interaction, and the discussion part being negatively evaluated by students.

T3, "Moreover, cooperation or community formation among college English teachers is also a part of blended teaching. If we are connected, we can update teaching resources in our community, and we can also share hybrid teaching experiences."

She also pointed out that it was necessary to form a community of teachers who implement mixed teaching, to update teaching resources and skills.

T4 is the course leader. We have known each other for more than 10 years. It is her habit to try different methods until the right one emerges.

"I use this form of the flip method. If there are any materials needed in class, students can be assigned to watch them before class. In their spare time, they can complete the learning content they should watch in class through the Internet or independent learning. Relevant videos

of topic-related content will be recommended to them online. I agree with T3 on the relationship between teaching form and content. We may all have rich theoretical experience, ha-ha. All these suggest that it is necessary to discuss what is effective in blended teaching, in order to achieve better learning results."

T4 talked gently and slowly about her class management. She adopted topic-related videos to flip the classroom. She cared about effective blended teaching to reach better learning outcomes.

T4, "Our school has a hybrid teaching platform to interact with students. The student can clock in. It has a lot of functions. And the mode of continuous interaction ... this model is acceptable. Students accept it well, but I doubt whether students can learn anything. As for complex mixing with continuous interaction, it seemed teachers and students focused on different ways of interactions online. Most of us have not tried it, and the effect is not yet certain, but overall, I am confident about the future development of the blended approach."

T4 also introduced the mode of complex mixing with continuous interaction, which is she accepts but has not yet tried, because she doubts whether students would learn anything.

T5 used to travel to a few European countries as a visiting scholar. Compared with T4, she talked faster, excited to share her teaching experience.

T5, "I used topic-related integration of online resources for teaching. This is the specific feature of our language class, which requires teachers to set scenes. It should also provide opportunities for imitation, and audio-visual speech, and cannot be separated from using technology. It is equivalent to the students matching the topic-related learning resources themselves, and the teacher will see the rich materials found by the students."

Like T4, she also adopted topic-related integration of online resources in the classroom. This form seems common in a language class.

T5, "I will also play European and American movie clips of relevant topics for students in listening and speaking classes, so that students can participate in the discussion. It uses online resources and technology. This method must be common in our language class. If conditions permit, we can continue to carry out the basic-level mixing supported by Marking Network, and flipped classrooms supported by MOOC, SPOC, or micro-lessons. And then we can also carry out the topic integration model we just discussed, which also depends on students' independent study."

T5 integrated topic-relevant online resources and technology into classroom teaching, through demanding preparations and contributions from both teachers and students, such as teachers' video clips, setting scenes, students' discussion, imitation, and audio-visual speech. It is equivalent to the students matching the topic-related learning resources themselves, and the teacher will see rich materials are found by students.

6.4.3 Q2: Advantages and Disadvantages

“What are your thoughts about the advantages and disadvantages of the blended approach?”

T1 answered, “As for its pros, there are obvious advantages in getting to know our students and helping to evaluate them. It can show the gap between students in both free time and class time, by using online data. To be specific, blended learning in practice can identify students who have a strong learning ability and those who do not learn much, by the learning records left on the Internet. On this basis, teachers can connect with students, know their strengths and weaknesses, design or apply learning resources according to the needs of specific students, and help students create the best learning plan to encourage them in a personalized way. At the same time, when evaluating students, we can also resort to the comparable data.”

T1 commented on the advantages of applying blended teaching. One is getting to know our students by their learning records, while the other is helping evaluate them by resorting to comparable data. T1 also mentioned the advantages she perceived; BL allows TL to occur in different places, which is attractive to her. It encourages students to learn all the time, after we learn about them by also using the big data available online.

However, T2 had different ideas:

T2, “There are a lot of restrictions we cannot ignore. Some older teachers are not particularly high in computer ability, and if teachers haven't done the systematic learning of some new software, it will be very difficult to use. The technology must be taught by someone because, after all, we language teachers haven't specially learned this kind of technology in our pre-service experience. I think we have to take a specialized class, or else, you know, it didn't say you could learn it in one or two lectures, right?”

According to T2, the restrictions of blended teaching are seen in its requirement of computing skills, which are not specifically taught prior to

language teachers' service.

T2, "What is worse, we should be concerned about the lack of long-term support from human and digital resources, from the school or relevant organizations. The teacher is confronted with a difficult task, as blended teaching only looks easy in form. To achieve a well-blended curriculum, it places relatively high requirements on teachers, but the teachers are actually not very strong in technical ability. Schools don't have some of the hardware or software."

According to him, the tough situation is that the schools or relevant organizations do not provide long-term support in terms of human or digital resources.

T3, "I cannot agree more with personalized teaching and differentiated assessment provided by the blended approach. In fact, it is difficult to tailor our courses to students, such as matching learning objectives with the resources."

T3 believes that blended TL can help students' personalized teaching after teachers know them; it can provide differentiated assessments, and improve students' autonomous learning.

T3 had the advantage of knowing students according to their situations. She raised the example of how she conducted differentiated teaching. In the first week of each semester, she familiarized herself with her students using her special method. She would then send them private messages according to her/his situation. Each student would receive different tasks due to their differentiated performances. In this mode, she usually graded them into three groups in one class, and accordingly provided different tests. Moreover, she also supervised their autonomous learning after class through their classroom demonstration. After consulting materials, students processed the knowledge and then created knowledge resources to share, which brought surprises to the classroom and improved students' autonomous learning ability.

As for the pros, there is a consensus on some advantages of blended teaching between T1 and T3. In my experience, it can help me leverage educational technologies to incorporate course treatments more conveniently. However, T3 talked from another perspective.

T3, "But both good and bad things happen together. That's our philosophy. Blended teaching can occur, not limited by time and space, but at the same time, there is a risk of excessive use of learning

resources and activities.”

T3 expressed her concern about the risk of the amount of using learning resources and activities – either no use or excessive use.

T3, “How to conduct blended learning to make progress is an issue from the student’s perspective. Sometimes when they look at cyberspace, they don’t know how to improve themselves through blended learning, and they get confused and probably waste their time. The application of technology in education is limited, and the same as in many other industries, such as business, trade, and agriculture. How can technology promote teaching? It makes no sense to use it where you actually don’t need it. Whether it’s not used or overused should be a concern.”

According to her, blended teaching is not a definite solution for promoting teaching; before teachers get used to it with their appropriate ideas and methods – it’s just such a big cake that we don’t know where to start eating. This suggests the potential risks in applying blended teaching, and highlights the importance of instructing teachers to use it appropriately.

T3, “In my approach to the field of education, technology serves people. The development of information technology should support educational reform. People should not deliberately change teaching to use technology. We should not put the cart before the horse. After all, teaching should have a clear teaching purpose. If it can realize my teaching purpose, then it is consistent with my teaching.”

T3 also stated her position on the relationship between technology and teaching: that technology should serve people and teaching.

T4, “In my opinion, neither pure traditional teaching nor pure dependence on network teaching can achieve teaching objectives perfectly, but can only ensure partial realization. It is not necessary to place the position of technology too high. The hybrid approach should serve teaching and learning, too. Thus, it should be placed below teachers and students, teaching objectives, and effects.”

T4 also explicitly expressed the same view as T3 on the relationship between technology and teaching. The former should be subordinate to teachers and students, teaching objectives, and effects.

T4, “More demands have been made on teachers. If there is no relevant support, but instead only blind demands on teachers, then teachers alone cannot achieve successful implementation. Every element in mixed teaching tests teachers’ computer skills and

professional teaching competence, such as courseware design, recording, and teaching design. Very difficult. But I think it's safe to believe that excellent teachers will never be replaced by technology or anything like that. Good teachers have their unique value, and technology will not affect them."

According to her, blended teaching is difficult to implement, because it has to take effect in courseware design, recording, and teaching design, which tend to test teachers' computer skills and professional teaching competence.

T4, "I played a movie clip on a certain topic before, but there was no discussion. Because most Chinese do not like discussing. It's hard to ask students to discuss, you know. Discussion is the most difficult element to fit into Chinese education and culture, as we can see."

T4 also raised the example of the difficulty of leading a discussion in her classroom, as it is not a Chinese way of learning. According to her trial of implementing blended teaching, the discussion was the most difficult element to incorporate into China's education and culture, but the question-and-answer method worked well. Then she chose to ask students directly, and the effect was quite good. Most of the students could express something about the topic, and some students' answers were brilliant. She also makes them discuss in English as much as possible. Some students pretend to be in the discussion, but in fact, they are chatting in Chinese. Some students in a group are too unfamiliar with each other and embarrassed to speak English to each other. Some students in one group are too familiar with each other, and they look up some new words and giggle, ignoring the proper expressions for the assigned task. Thus, compared with discussion, T4 found 'question and answer' more appropriate for foreign language teaching in a Chinese classroom.

T5, "In terms of institutions and schools, if the class size is large, each student can watch these micro-classes by themselves and then discuss in groups to express their ideas. Students may feel better than simply listening to the teacher in the classroom environment, because their voices can be heard. Therefore, for schools, the use of blended teaching can help them manage large classes. Is it possible to save some costs? It is also beneficial to the long-term development of the school. Yes, cutting off the cost of using the physical space in the school. As far as I know, in a school with 10,000 students, the cost of water and electricity in school is at least ¥1,000,000 per month."

T5 stated that from the institutional level, a blended approach could help

the management of large class teaching because students' voices can be heard online and offline. It can also save costs in many aspects.

T5, "It is partly consistent with my teaching goals. If I understand the flipped classroom correctly, the students should be the more active party. Our students, who are bound by the nine-year compulsory education, have just graduated from high school, becoming freshmen. If we do that in class, they will feel that the teacher has not taught them anything. The role change might confuse them. Blended teaching seems more aligned with the Western teaching style, in which teachers do not lecture much. It is more difficult than traditional teaching. For example, there are no fixed materials. Our Chinese style does not look like that, as we have textbooks or things like that. These deviate from our tradition, to become a barrier."

She voiced that the role changes of teachers and students may be confusing. In addition, the differences between the traditional mode and the blended mode are similar to those between the Chinese way and the Western approach, such as holding discussions, and a lack of fixed materials. She worried that this might cause confusion among the students.

6.4.4 Results of Advantages and Disadvantages

Table 30 summarizes the first focus group discussion's findings on the strengths and shortcomings of the blended approach. (1) Mixed teaching modes advocate that teachers assist and students dominate, emphasizing students' initiative and enthusiasm in learning. (2) Blended instruction adopts various means to cultivate students' abilities in English, through group cooperation, discussions, and other teaching forms. (3) It can make teachers get to know the students through their learning records and help them evaluate students. (4) It enables learning to occur in different places and encourages students' independent learning constantly. (5) It leverages educational technologies to incorporate course treatments conveniently. (6) It can help solve the class size issues and save costs. However, as shown in the discussion, the disadvantages cannot be ignored, which dialectically coexist with the advantages – including the contradiction between the technological involvement and the lack of teachers' computer ability, the risk of handling learning resources, the lack of competence to use the blended approach appropriately, the difficulty of holding discussions or integrating the Western elements, and role change.

Table 30 The Strengths and Shortcomings of the Blended Approach

The Strengths	The Shortcomings	Neutral
T1: getting to know our students by their learning records, helping evaluate them by resorting to the comparable data. enabling learning to occur in different places and encouraging students to learn all the time	T2: computer ability not specially acquired by language teachers in their <u>pre-service</u> , lack of long-term support from human or digital resources	T3 and T4: the relationship between technology and teaching, technology serves people
T3: personalized TL after knowing the students, differentiated assessment, students' autonomous learning; leverage educational technologies to incorporate course treatments more conveniently	T3: the risk of the amount of using learning resources and activities, teaching competence to use the blended way appropriately	T4: placing its position behind teachers and students, teaching objectives, and teaching effects
T5: helping the management of large-class teaching, saving costs of many aspects	T4: testing teachers' computer skills and teaching competence, leading a discussion the most difficult element	
	T5: role change, holding discussions, no fixed materials, comparing the differences between the traditional mode and the blended mode to those between Chinese way and western way	

6.4.5 Q3: The Motives Affecting Adoption and Implementation

When discussing the last question about “the motives affecting the adoption and implementation of blended teaching”, T1 articulated that it took her some time to find appropriate teaching resources.

T1, “One is the teaching resources. Another one, I was not confident that I would succeed with blended teaching. For example, we didn't stick with the flipped classroom. Just because, you know, it's nice to imagine the successful implementation, but it takes energy and time. I'm lazy. I received flipped classroom training from a professor. Our school has a special online platform for materials training. Our school has paid for a system, but our teachers use it sparingly. When the teachers listen to a lecture, they are excited and determined to do well. After that, everybody goes their own way.”

T1 mentioned her difficulties in implementing blended teaching, such as how to find appropriate teaching resources. She was not confident due to the lack of a group work and of persistence. The latter was demonstrated by the contradiction between the excited determination after training, and no real action a few moments later.

T1, “The group would get together and tease that the students were not cooperative, and then go their separate ways. And as for group work, if you have kids at home, you will leave directly after class. Even if a group is formed, it may be a formality. It needs a team. It takes mind work. Sometimes I feel that spending a lot of time and energy on mixed teaching is almost the same as the result of random teaching in all aspects, so I give up. So there is a great concern about its effects.”

For T1, the teamwork with colleagues seems like a formality with no actual input. She is also concerned about the effects of blended teaching, for teachers expend a tremendous amount of time and energy, and might receive the same result as random teaching in all aspects.

T1, "If you want to make a lot of money at the end of assessing teachers, you have to rank high on the list. The platform requires students to hand in homework or something. My school has requirements, but I use them very little. I am not very active, as I teach students in the first year of college, and there is no such requirement or Internet access for freshmen. I don't use it. But some teachers can use it well. For example, in one teacher's platform, he assigned homework and students punched in every day, so his assessment score was higher, and there were also assessment awards. At the curriculum construction centre, several teachers are using it, and students hand in homework through it."

In T1's school, teachers' final assessment is partially based on how they interact with the students on that platform.

According to T1's descriptions, her school likes to follow the trend. T1's school is adopting it as one of the assessment criteria, especially borrowing the curriculum building centre. They teach the class in a trendy mode and buy whatever software is popular now. When flipped classrooms were introduced, they also had visitors to give lectures, and now they have dynamic classrooms, smart classrooms, multimedia, and tables with eight screens in circles. Their school is also very new in its form and philosophy. It requires T1 and her colleagues to follow the fashion, including hiring a special computer teacher to build the platform.

T2 made similar comments, because his school has a similar system. It buys some software and apps, encourages teachers to download them, and then supports them to apply for various educational reform projects.

T2, "In the past two years, education reform projects were established, and are also developing in the direction of blended teaching. We have the advantage of many languages, and we will teach students cultural courses when we open English, Spanish, and Japanese teaching halls. We use it every semester. In the era of big data, it is easy to talk with data. Especially at this school, it requires data. Blended teaching omits the data. If the teacher sends a teaching document now without the data, she/he will feel embarrassed. The project itself is an incentive to provide a great review for teachers at the end of the year."

As mentioned by T2, the same as T1, whose school likes to follow the trend, T2's school has followed suit. At the school level, there were practical measures in different aspects to support blended teachings, such as policy, facilities, support platforms, projects, assessment, and training from the school level. These indicate that the schools followed the policy of blended teaching reform. They also invested a certain number of facilities and provided financial support for projects to promote blended teaching – including hiring a special computer teacher to build the platform, some support platforms, providing some software and apps, and encouraging teachers to apply for various educational reform projects. The schools take the implementation of a blended approach as part of teachers' final assessment index.

T2, "Probably I should continue to try hybrid teaching, but will it result in different instructions for every teacher? If so, the blended instruction may depend largely on the unique personality, competence, and computer skills of the individual teacher. Definitely a lot of work needs to be done in all aspects. No matter if it's from technology to hardware to software, that we have to deal with. So should the software be more straightforward, like the point-and-shoot cameras that we used to have, that everyone could use?"

In his experience, as in T1's, when the school promotes it, teachers get excited but drop it later. According to T2, he likes the software in blended teaching to be applicable like the point-and-shoot cameras. This demonstrates that the easy use of the blended mode is compatible with his preference for traditional teaching.

T2, "Technology is a hard wound for foreign language teachers. Once blended teaching requires teachers to use technology to solve some problems, it will fall into difficulties. These make the practical implementation of hybrid teaching more difficult."

The software involved in blended instruction should not be too numerous or too complicated for the teacher to integrate with the course; otherwise, it will encounter problems. This indicates that whether the relevant technical issues are easy to apply or acquire is an influential factor for the successful implementation of hybrid teaching.

T3, "Most of my colleagues are similar to my situation. Everyone wants to do well but has difficulties in practice. Moreover, we are not willing to spend too much time on it. That kind of our attitude has mutual

influences – most of the time, negative influences on each other. The students' cooperation affects us, too. If I were a student, I would hate a teacher who has nothing to say but insists on technology. In this day and age, students' independent learning ability is critical. How can blended teaching be implemented when there is no self-discipline in students who depend entirely on the teacher? Traditional instruction also requires students to have independent learning abilities.”

T3 mentioned the factor of peers' negative influence. In addition, the factor of students is emphasized, as when there is no self-discipline in students, meaning that students depend entirely on the teacher, blended TL cannot be implemented smoothly and successfully. In the past, T3's school provided some support platforms for blended teaching, but the practical use was not ideal.

T3, “For example, in the past, we had a BB platform, which could give students after-school tests and see their scores, but whether they did it carefully, how long it took, whether they copied the homework, whether they modified it, we could not know. That kind of monitoring was not that effective.”

From 2011 to 2013, she tried teaching listening and speaking courses by combining the BB software platform with classroom teaching. In recent years, she also tried combining MOOC or micro-classes with actual classroom teaching. She found that students' comments were good, but teachers spent too much time.

T3, “In previous years, the hardware facilities were not perfect, and its use for students and teachers was also subject to many complicated restrictions, so the acceptance of teachers and students was relatively low. The Internet is much better and smoother over the years, but the technology has also become more complex and varied.”

From T3's experience with the changing technology, she mentioned the disadvantages of several different supporting platforms, such as the problems in monitoring, restrictions due to immature hardware, too much time, and complicated, varied technology. As a result, in practical use, the acceptance by teachers and students was relatively low. This indicates that technological complexity cannot adapt to the practical use of teachers and students.

T4, “We had one colleague who held onto the blended approach. And then I was kind of envious. But I am lacking in skills. Because we all have supporting PPTs in class, but I seldom make PPTs by myself. I

can't even do a PPT well, including the screen recording we learned at that time, making micro videos, the kind of online micro classes. Compared with the experts in our field, old professors who taught us how to record a video, as a young woman, I felt even more ashamed. A professor expert taught us everything about making a video. We could choose to appear or not to appear, we later added the sound to the video, and a complete video was presented. I find myself lacking in putting video-making skills into practice. How lazy am I!"

T4 showed her envy for the colleague and the experts who held onto the blended approach, and her colleague used all kinds of software to help teach, persisting in using it. But by comparison, she speculated that she was incapable of and lazy in handling technical issues, even the PPTs. So this suggests that peers, experts, and self-efficacy can affect an individual teacher's blended teaching practice.

T5, "I saw people showing off their technology for a whole class. It didn't cover anything. It didn't cover much in one class, just fiddling with the equipment to interact with the students. Is this called teaching a class? Looking at the seemingly unfathomable [derogatory] look of the technology, I did not know whether the effect was good, but at that time I felt bored. I prefer simplicity which is so good because everyone [teachers] can mix. Student terminals are not complicated either."

T5 stated her preference for simplicity in using blended teaching, indicating the importance of perceived ease of use.

T5, "I think blended teaching is beneficial. For example, the software can allow teachers to check class attendance by mobile phone. Students' mobile phones are thus occupied. All the answers to the questions in class are also directly displayed on the big screen through mobile phone links. Put in other words, the students' feedback will appear on the screen. However, it has its challenges. In addition to computer skills and old age, the extra time and energy and blended curriculum design can cause stress and even anxiety for teachers. If I look around only to find the same result after I've spent more time and energy than anyone else, I don't want to [use blended teaching] anymore. Worst of all, if it doesn't work any better, why detour? After all, a lot of extra burdens, stress, and anxious things are awaiting us."

Many teachers of large classes in T5's school use different domestic mobile teaching software to assist their teaching. T5 clearly expressed the benefits of blended teaching, in terms of how it can interact with students on the big screen through mobile phone links, but she also worried about whether the hybrid approach can work better and whether it is worth the extra time and

energy, blended curriculum design, stress, and even anxiety.

6.4.6 Seeking the Influencing Motives in the Pre-pandemic Era

Overall, as shown in Table 31, the process of thematic data analysis is demonstrated, based on the features of the quotes, properties of the motives, and thus, identified themes. There are five major influencing motives identified from this focus group discussion: resources, pressure from the close-in-touch circle, pressure from the professional field, self-efficacy, perceived utility, and perceived ease of use.

Table 31 Motives Influencing Adoption and Implementation in the Pre-pandemic Era

Codes from the remarks	Properties	Motives or Themes	
T1: how to find appropriate teaching resources	hamper	resources	
T1: lack of peer's group work	hamper	peer	close-in-touch circle
T3: peer's negative influence			
T4: her envy of the skillful colleague	unpredictable		
T2: school's practical measures such as policy, facilities, projects, support platforms, assessment, and training	impeller	the school level	
T3: self-discipline in students	hamper	students	professional field
T4: her envy for the experts	impeller	experts	
T1: not confident; lack of persistence	hamper	self-efficacy	
T4: speculation: being incapable and lazy			
T5: worried about whether it can work better and whether it is worth the detour			
T1: concerning about the effects of blended teaching	unpredictable	effectiveness	perceived utility
T4: better learning results	impeller		
T5: can interact with students through mobile phone	impeller	benefits	
T3: the disadvantages of several different supporting platforms	hamper	perceived ease of use	
T2: complicated software falling into difficulties			
T5: her preference to simplicity			

According to the discussion, most of the teacher participants' sense of self-efficacy is not high, because they used words such as 'stress' and 'anxiety', 'worried', 'not confident' and 'lazy', to show their low or medium self-efficacy to some extent in carrying out blended teaching. The factor of perceived ease of use was also repeatedly emphasized. For example, teachers' and students' acceptance was relatively low in the past, due to being subject to many restrictions in its actual use.

6.4.7 Summary of the First Focus Group

The first focus group provided some guidance for the second one. It was completed in a nonofficial and quiet online environment. Firstly, I set a few questions before the discussion, and took care to keep the conversation

focused. I also applied supportive techniques such as nodding, smiling, listening carefully, and eye contact, to encourage the participants. Thus, I received open and free ideas on the topic. Secondly, the questions were designed in an order that progressed from what they did in their actual blended teaching reality to their views, which seemed to facilitate the participants' expressions – as shown by the fact that all the participants answered the questions and communicated with each other. Furthermore, the selected participants were from different schools in the given context, which could better inform the situation under investigation. In addition, I took a neutral attitude. I did not comment or criticize anything, in order to encourage the participants' interaction; but when someone was trying to persuade another, I would interrupt by asking questions so to ensure everyone had their own say on the issue. Finally, through conducting the first focus group, I was able to play the role of the discussion host, and became experienced to some extent. I considered that I had to be an active listener (Radnor, 2002) rather than a speaker. I encouraged the participants to talk freely and provide explanations and examples of their points of view. I also took care to transition between the main topics when documenting observations during the discussion. As a result, each participant got an equal opportunity to express themselves actively, as shown in the recording. I also observed that the atmosphere during the discussion was lively.

Between the two focus groups, I intended to ask some teacher participants to perform online teaching to replace part of their traditional classroom teaching. Then I could hold a focus group to discover their relevant ideas based on their experience. Coincidentally, the pandemic broke out in 2020, as an intervention to this project. The teachers in my context were forced to implement online teaching, trying out different online platforms until they found the suitable one. Hence, this social intervention from a force majeure was expected to have some influence on the data collected from the next focus group.

6.5 The Second Focus Group

For the second focus group, some further work was required to complement the challenging aspects revealed by the first one. The first challenge I noticed was that participants have a certain influence on each

other. After one expressed an idea, a few times, another one following him/her would say, "I agree with that." This caused data to be repeated among participants, becoming a potential risk that the emerged theme might have not been one. Thus, in the second focus group, when this happened, I would anchor the discussion with various techniques. I reorganized their vague utterances on perceptions, and asked them further to clarify their experience and feelings. I summarized the main points of their expressions, and narrowed down broad discussions or stray ideas to keep the talk focused. The second challenge is that it was time-consuming to process the data collected from the group. Because four of them were female and their voices were not highly identifiable in the recording, this hindered data transcription and analysis. To avoid this, when anchoring the second focus group, I would ask the participants to first speak in a fixed order, and would alternate the presentation according to gender, to assist in identifying participants' voices for transcription. Then if there was something to add to the conversation, they could say more, and talk with anyone.

6.5.1 Research Site and Discussion Questions

As for the second focus group, I chose private colleges and universities located in Shanghai in the post-pandemic era as my research context. These are also important HE institutions in China, and will play a more crucial role in the future. I specifically chose teacher participants from different schools to conduct the focus group studies. Furthermore, these schools are independent. They can adhere to the country's educational goals, reforms and policies, but they can inventively add new teaching modes or curricula to the course design. However, this does not necessarily indicate they must take the initiative to adopt and implement new teaching modes such as blended instruction.

The second focus group was also conducted in an online conference, before which I offered the following questions to let the participants think them over. They agreed to join the discussion, and we made an appointment at our earliest convenience. The front-line teachers, including the course leaders, were invited to join the dialogue. Q1: Is there anything special about your blended teaching? Or what are the characteristics of your blended practice? Q2: Can you talk about the facilitators and barriers you faced when implementing blended teaching practice? How did you overcome the

conundrums?

6.5.2 Participants and Transcription

Elements such as the determination of the research population, sample selection, sample size, and sampling strategy will affect the quality of data, and also the interpretation quality of the overall research data (Hou & Zheng, 2021). This study investigates the specific blended teaching practice, including the forms and their characteristics, strengths and shortcomings, the influencing motives, conundrums, and countermeasures. Theoretically, the private college and university teachers who tried blended instructional design for the undergraduate curriculum would be the research participants: namely, the theoretical whole. However, when restricted in terms of manpower and material and financial resources, it is impractical to enrol a large number, but practical to conduct representative sampling.

Table 32 Demographic Features of Teacher Participants in the Second Focus

Title	Subjects of college English course	Gender and age	Education	Teaching seniority	School	Coding
Lecturer Qian	Generic College English	Male, 36-40	master	6-10 years, starting to teach the subject from 2016	6 different private colleges and universities	T6
Associate Professor Wu, course leader	Academic English, English for Special Purpose	Female, 41-45	master	16-20 years, director		T7
Associate Professor Lin, course leader	English for Special Purpose	Male, 46-50	master	16-20 years, director		T8
Lecturer Xiao	Cross-cultural Communication, English Language and Culture	Female 36-40	master	11-15 years		T9
Lecturer Wei	Generic College English, English Language and Culture	Male 36-40	doctor	11-15 years		T10
Lecturer Zhang	Cross-cultural Communication	Female 36-40	master	11-15 years		T11
Assistant Lecturer Liu	Generic College English	Male 31-35	master	1-5 years, from 2018		T12
Lecturer Li	English for Special Purpose	Female, 51-55	master	21-25 years		T13
Lecturer Lu	Generic College English	Male, 46-50	master	16-20 years		T14

Group

According to the principle of convenience, the teachers carrying out blended college English instruction in private colleges or universities met the criteria of the survey participants. Course leaders were also selected to join the focus group discussions. There were altogether two rounds, the second one

with nine teachers, coded as T6, T7, T8, T9, T10, T11, T12, T13, and T14. See Table 32 for their specific demographic information. Concerning different age groups, professional titles, educational backgrounds, and subjects taught, nine teachers from six schools in the given context were selected to join in the second focus group discussion. They shared their ideas and experiences regarding the issues of blended teaching implementation.

As with the first focus group discussion, I also conducted the second one in Mandarin (standard Chinese). I told the participants that they could switch to English if they wanted. As they were all English teachers, speaking in English would pose a slight challenge rather than a problem for them. However, I adopted as many native concepts as possible to express how the participants saw the world in their native language, and identified frequently used key concepts or recurring statements in the contents, before finishing initial coding (Creswell, 2007). I transcribed the whole discussion as I did for the first focus group.

6.5.3 Q1: Characteristics of the Blended Forms and the Categorized Blended Models

The first discussion question was, “Is there anything special about your blended teaching? Or what are the characteristics of your blended practice?”

T6 used to be responsible for helping teachers assign tasks on AES online. He stated the following views:

“Among all the blended teaching forms I have tried, the simple hybrid integrating with the marking network is impressive to me, and the flipped classroom, too. Our blended instruction is a step-by-step process. In the beginning, the whole department, then the whole school, used a correcting network to assist our writing teaching. This online form of assistance without changing the original course content was relatively easy to implement, and we could pick it up quickly, so we easily accepted it. Due to its advantages, we still use it now.”

T6 first discussed the simple hybrid integration with the Marking Network. According to him, it was impressive because this online form of assistance, which did not change the original course contents, was relatively easy to implement, allowing teachers to learn it rapidly. He then moved on to discuss the other forms he tried, somewhat limited by the types of classes.

T6, “So the question was, how could we implement a hybrid flip? I

started with small classes. I flipped the international class first. That was the first time I tried it. And we thought it would be great to get as many students to use it as possible, and then we used it in large classes. However, with more than 300 people, it's difficult for us to implement a seminar or achieve a flip. So at that time, we did it in a special way that some of the content was flipped, and some of the students were flipped. For example, given the learning needs of some students, we directly made them form a small class and carried out flipped teaching, which is relatively stable now."

T6 and his colleagues have two kinds of college English classes. One is small, for going abroad. The other is of normal size, so there are more people. There are usually classes of about 50 people, but there are also larger classes of several hundred people. T6 then mentioned a flipped model characterized by the gradual implementation process from a small class to a big one, from the partial flip of content and students, to the flip based on students' learning needs.

T7 is a course leader, and has been teaching English for special purposes. She used to teach in the chapter order, as she had always done, which is also what the students did.

T7, "When the students got the book, they thought they should look at it from the beginning. Yeah, they had an expectation there. My blended teaching is to reorganize all the course contents of a semester's online resources, including MOOC and offline textbooks, according to the course objectives and the students' learning situations. But I suddenly found in the big class that the gap between them is huge, and the knowledge system of some students has holes. If I had just given him the second chapter, for example, it would have been an impossible mountain for him to climb. So at this point, I actually made an adjustment. I broke the sequence of chapters for him. It is a dynamic adjustment. It should be called a higher-order mix."

She stated that her blended instruction had a feature of reorganizing all the course contents of a semester's online resources, including MOOC and offline textbooks, according to the course objectives and the students' learning situations.

T7, "I want to control the rhythm of the whole process or the pulse of the learning process, which is also a difference between the blended course and the traditional one. We used to adopt a fixed pace in traditional teaching. But now we give the students a change of pace. We used to think that students sitting there were just students. But now

in the flip or other blends, we can see more vitality, because we have more time to communicate with them.”

She wanted to control the rhythm of the blended TL process. As a result of this dynamic adjustment, she could see more energy in the classroom.

T8 is also a course leader, who has published some high-quality theses on BL. He executed flipped classroom supported by the textbook publisher, which provides the teaching website for our course. T8 mainly integrated flipped classroom teaching practice based on the topic in each unit.

T8, “In this process, we gained a lot, but there are also a lot of lessons. First of all, we should have a more accurate grasp of the students’ pre-class learning. The course website provides us with rich resources on the topic. With the data from the website, I can clearly see what videos the students watched at what time, and how they finished the exercises within this period, such as oral practice. Then I would also know what the common problems of the students in this class were. Then I’m going to talk about those in class. I’ll talk more about those similar things. On the other hand, according to our previous teaching experience, we can predict where students may have problems. I will carefully design several typical questions, which cover all the questions where students may make mistakes.”

In his view, blended teaching helps in terms of topic-based TL, an accurate grasp of each student’s pre-learning situation, knowing students’ problems online and solving them offline, and even predicting them. It also indicates certain personalized characteristics.

T9 has tried blended teaching supported by MOOC. She has experience of being a novice to becoming adept, and she has even won prizes in making micro-classes and in blended teaching competitions. She mentioned that when she adopted this model, the first question she thought about was what we should do in the offline classroom if we remove the processes we are familiar with, and put them into a MOOC. T9 talked about what she did.

T9, “The key issue was preparing the lessons. In the past, we used ready-made PPTs. Our traditional class was like we were cooking a pot of rice. It required us to prepare rice, water, the rice cooker, and wait for the rice to be ready. But in blended teaching, I think we are not just cooking rice, but also delicacies. This asks for delicate designs and ingenious thoughts. I really spent a lot of time and ideas on

integration. In addition to preparing the original ingredients, we have to prepare various spices and even different ways of eating, probably also different recipes. The preparation stage is uniquely different from the traditional one. When preparing for the course, I need to use my mind a lot to design the goal of the course, including the key points, difficulties, and content. That is, if we're really going to cook today, are we going to cook Kung Pao chicken or spicy chicken?"

From the perspective of T9, the preparation phase is different from the traditional one; she used a metaphor to describe the differences. This means that the blended teaching supported by MOOC involves teachers' careful designs and ingenuity.

T10 graduated with a doctorate in literature, which he is interested in. He is good at sharing stories with students.

T10, "Let me talk about another form of flip, with students' brainstorming and free discussion as the main body. I used some techniques to redesign the classroom discussion. After I assigned exercises, I did not ask all students to compete in groups. Nor did I ask them to present their ideas in front of the class. Instead, I asked the students to work in groups. I walked around the room, making small talk to push the discussion in the right direction. Students can contact the teacher in time when they have questions. In this form, I act more like an invisible hand, moving the discussions forward."

T10's flipped classroom places students' brainstorming and free discussion as the main process, while he guides but does not intervene.

T11 has worked in two private colleges. Both her previous and current workplaces require teachers to use the marking network and flipped classrooms. She is quick to adapt to a new environment or teaching mode.

T11, "What is consistent with the previous teacher is to make full use of online resources. In addition, we also take questionnaires to keep improving. First of all, our questionnaires are divided into two levels. The first level is a questionnaire for each course, and the second level is a questionnaire for the implementation of all courses within the whole school. In this way, we have investigated and sorted out all the blended teaching courses implemented by our school in the past year."

Thus, T11 mentioned how they use questionnaires to continuously improve the two forms of blended teaching.

T12 became a college English teacher directly after his graduation. He is passionate about his job as a teacher, and smiles all the time. He used synchronous online streaming and asynchronous online learning during the pandemic last term. Though there was no face-to-face TL in a physical classroom, as we were all quarantined, he believes it is also a form of mixed teaching. He used it because he wanted students to learn when they needed to.

T12, "The asynchronous recording and other online resources could be used in case students needed that after the synchronous teaching and learning. So they could have more freedom, and not be restricted by our live lecturing. It was designed mainly depending on students' self-regulated learning. We want students to take the initiative, and teachers to lead learning. According to their own learning pace and based on the mixed learning environment, students carry out their independent study, which can determine the quality of blended teaching. In this form, online live streaming can be equivalent to face-to-face teaching in synchronous interaction and immediate feedback, so it is necessary for live lecturing, discussion, synchronous interaction, and immediate feedback."

According to T12, his blended model integrated the asynchronous part with synchronous teaching. The asynchronous part was largely synchronous teaching recordings and online resources provided to cater to students' needs, while the online live stream can be equivalent to face-to-face teaching in the aspects of synchronous interaction and immediate feedback. This style depends very much on students' ability for autonomous learning, which indicates that autonomous learning is the key to the overall quality of this model.

T13 uses a blended teaching style supported by MOOC in her academic English course. First, she communicated clearly with the students that they would use teacher–student mixed learning. She told them on the first day of class how they would teach and learn; two-thirds of the lecture would be student-led, and a team discussion. In the other third, higher-level and more difficult, she would show how to explain, which could also be a demonstration. In addition, they had a mix of individual and team learning throughout the process.

T13, "It means that there were certain things that students had to do individually, such as homework, and final exams. In the other part, students worked as a team to present their teaching in class, while other students asked questions. We clearly stated these in the syllabus about the final assessment: 30% was from online performance, 30% was the final exam, 20% was offline classroom discussion, and 20% was the dissertation. This assessment is also the cooperation of the blended teaching implementation."

T13's blended teaching practice using MOOC, besides integrating online and offline elements, is characterized by a mix of multiple aspects, such as a teacher–student mixed TL, a mix of individual and team learning, and also a mixed online and offline assessment as stated in the syllabus. Similarly to T12, T13 also mentioned that her course during the pandemic era was a blended teaching, supported by online resources, and asynchronous teaching videos recorded from her synchronous online live streaming.

T14, "We had a good foundation. And then using the modern app, we did this hybrid class. Generally speaking, this was agreed with by the students. They liked to see teachers on screen every morning when they got up during that special time, to keep their normal routine of school life. Teachers are scaffolding and leading students with questions and discussion. The app also allowed me to record the streaming in case students needed that after the synchronous teaching and learning. It was likely that all of us would try this form during the pandemic, because we could not meet face-to-face with students who were all over the country."

Like T12, T14 also conducted the model of an asynchronous and synchronous blend, in which teachers play a crucial role of scaffolding students' learning with questions and discussions. It was helpful to keep a normal TL routine.

6.5.4 Results of the Characteristics

Table 33 displays the characteristics of the different blended forms implemented by teachers in the post-pandemic era in my context. It shows that teachers implement blended teaching differently; some in a similar way, but not exactly the same.

This indicates that the implementation of a blended approach possesses personal features. The model themes emerged and were defined according to their different features, elaborated by functions, properties, methods, stages, and complexity. The model applied by T6 and T11 is appending additional

activities to an existing course, such as adding an automated essay scoring system online to English teaching in classrooms. This is a basic-level blend. The second model, implemented by T6, T8, T9, T10, T11, T12, T13, and T14, is a medium-level blend. It aims to design the courses by purposefully replacing some activities in an existing course, such as using MOOC to flip the classroom, or a mix of topic integration with online resources and offline activities.

Table 33 The Characteristics of Different Blended Models in the Post-pandemic Era

The forms discussed	Remarks on Characteristics	Model themes
The simple hybrid integrating with the marking network	T6: assistance without changing the original course content; easy to implement, allowing teaching to pick it up quickly	The basic-level blend
	T11: questionnaires to continuously improve their two forms of blended teaching	
Flipped classroom supported by the textbook press, MOOC, SPOC, or micro-lessons	T6: a gradual implementation process from a small class to a big one, from the partial flip of content and students to the flip based on students' learning needs	The medium-level blend
	T9: the preparing phase is different; flipped classroom supported by videos requiring teachers' delicate designs and ingenuity	
	T10: students' brainstorming and free discussion as the main body; teacher acting like an invisible hand, designing but not intervening	
	T11: questionnaires to continuously improve their two forms of blended teaching	
Topic-based integration of online and offline resources	T8: accurate grasp of each student's pre-learning situation, knowing students' problems online and solving them offline, and even predicting them; certain personalized characteristics	
	T13: a mix of multiple sides, such as a teacher-student mixed TL, a mix of individual and team learning, and also a mixed online and offline assessment stated in the syllabus	
Online synchronous and online asynchronous elements	T12 & T13: synchronous teaching, asynchronous recordings and online resources, synchronous interaction and immediate feedback; T12: students' ability to autonomous learning is the key to the overall quality of this model	
	T14: a crucial role of scaffolding in students' learning with the question and discussions; to keep a normal TL routine.	
Dynamic adjustment	T7: reorganization of all the course contents of a semester's online resources including MOOC and offline textbooks according to the course objectives and students' learning situation; control the rhythm of blended TL process; dynamic adjustment; more vitality in the classroom	The high-level blend

6.5.5 Q2: The Influencing Motives: Facilitators and Barriers

The last discussion question in the second focus group was “Can you talk about the facilitators and barriers you faced when implementing blended teaching practice? How did you overcome the conundrums?” T6 made the

following remarks:

T6, "In this term, especially after the pandemic, we have become proficient in handling technical issues which used to be a big concern for implementing blended teaching. However, how can students be motivated to participate in blended learning on their own initiative? We measure the effectiveness of a blended form by whether it can arouse the students' enthusiasm to participate actively."

T6 compared the computer skills before and after the pandemic. According to him, teachers became more proficient in technical issues than before. The flip form of blended teaching is targeted either at motivating the students to participate in blended learning autonomously, or to encourage them to participate actively. This is also T6's definition of the effectiveness of blended teaching.

T6, "Does this work? That's why there are doubts about the effectiveness of applying MOOC or micro-courses. The first criticism: Will students watch videos before class? I'm still not sure the students are prepared, you know? So the question is, if he's not prepared, what do you do? From another point of view, the teacher might not know what abilities the student should be equipped with and what method should be used to cultivate certain abilities; or what the individual student needs and is suitable for; but blindly puts forward some unrealistic requirements. Teachers should correct that state of mind."

He worries that students do not watch the videos before class, but also has doubts about the usefulness of classroom teaching if students are well prepared by watching videos before class. This leads to a contradictory use of visual TL resources by different students.

T6, "The first thing is to understand what abilities the student needs, what is his motivation, and what methods appeal to him. A student has his own habits. Some students may be in a kind of ignorant state, they may not be able to know what abilities they need and are suitable for. This would require some individualized tips or some mandatory measures. First of all, the video should be suitable for him, to let him feel able to grasp it, which is very important for him. Teachers also need to design some homework so they can evaluate it themselves. But some students are likely to find it too easy or too difficult. That is all normal. In this case, they may still come to class dissatisfied. It can be very challenging."

Consequently, he also talked about the importance of cultivating students' abilities with different methods and matching the students' needs with MOOC

or micro-courses, using some individualized tips or some mandatory measures, which is challenging. But he did not clarify what abilities students need, or what are their needs.

T7, "One of the reasons I use blended teaching is because of the benefits it can bring about. It gives students some room to expand. To take the simplest example, you will find that part of our course is very suitable for self-study and easy for students to accept. If the teacher can design this part carefully, the students can keep a certain pace in the process of online learning. For some students, they are willing to watch it again and again. In this way, learning efficiency can be improved. But for some other parts of the course, we may find it easy to create suspense online, then we can bring and untie these to the face-to-face classroom."

T7 applied blended teaching due to its benefits. In her view, it can improve learning efficiency if we carefully design the course content to be suitable for self-study, to allow students to maintain a particular pace during online learning.

T7, "Like our scripts when we were preparing for a play. Also, like the tricks we prepare when we speak crosstalk. And are all these tricks and suspense really useful in the theatre? So at this time, the teacher should think about whether these tricks and suspensions are suitable to express in class, and consider how to get students involved in such a play. We can discover that these tricks and suspense will revitalize a class that we thought was a little dead."

She also referred to a blended course design as a play or crosstalk, similar to teachers creating tricks and suspense online, then using them offline to reinvigorate a class.

T8 stated his opinion that the blended teaching design tests a teacher's teaching competence.

T8, "For example, most of our blended teaching materials come from the original systematic MOOC. However, for a specific blended course, the teacher must make efforts to make corresponding adjustments based on the new teaching plan and syllabus. That's what we say about dynamic design and adjustment when we are in a relatively stable situation with the existing MOOC. It also leads to the difficulty of how teachers utilize the resources they have at hand. That means knowing what these resources are for. Do students have to learn everything and then ask you questions? Or do you think some things are more appropriate for teachers to talk about in class? You will find

that the content in different sections has its own characteristics.”

T8 mentioned that a specific blended course design required teachers' capability in dynamic design and adjustment to the existing relatively stable situation, based on the new teaching plan and syllabus. He finds it difficult:

T8, “I believe the resources of MOOC have vitality, if expressed in a good way. Though it's time- and energy-consuming, I'm still confident that the vitality of a blended course, including MOOC or micro-classes, can be stimulated through effective utilization or optimized redesign.”

However, he thinks he can invigorate a blended course through effective use or redesign. This suggests that though he did not perceive applying a hybrid course as easy, he still believed in his teaching competence to stimulate its vitality.

T9 narrated that her blended teaching experience started by changing her mindset.

T9, “It used to be a ready-made PPT with knowledge inside, and I would carry out good classroom teaching by using it. But now that the epidemic has lasted almost half a year, we have mainly done two things: online teaching and so much live broadcasting. And we archived our live streams into MOOC, micro-courses, or other teaching materials in the future. Now, we made full use of them to support today's blended classes. So I found that as my technology became more skilled, the teaching resources became richer, and my ideas and mindset dramatically changed too. I find that the roles of teachers and students have changed, and the teaching nature has changed as well. I have to adapt to the changes, among which role change is the toughest.”

T9 stated that she switched from traditional teaching to online teaching, and then to blended teaching. As she became more skilled in archiving the live streams and turning them into supportive materials, with rich teaching resources, her ideas and attitudes also transformed. She found it difficult to adapt herself to the changes, especially in the roles of teachers and students.

T10 shared his blended teaching experience as follows:

T10, “Yeah, students think, ‘I've watched the video online. Then why am I listening to you in class?’ In this case, he may have a second opinion of what the real classroom is used for. In response to this

situation, we should first let the student know that he is to be evaluated in a real classroom, so he will naturally be on the alert. The student thinks he knows everything after watching the video, but as soon as he provides an answer to the set question, he will find he's wrong. Then he's going to watch the video with a purpose. That's a measure in this sense, keeping him in check."

T10 provided two countermeasures to deal with the challenging issue of what the real classroom is used for after the students have watched the teaching videos online. One is evaluation in a real classroom, to enable the students to watch the video with a purpose.

T10, "Second, we should let students know a real face-to-face classroom is used to solve problems. If we guide him well, his curiosity will be inspired. Because he will think that he has already studied so much and knows a lot, but he still has something worth making progress towards. After positive encouragement and assessment in a real classroom, he will also have more respect for his teachers. I tried these measures, which also encouraged me in turn."

The other is to arouse students' awareness that the real face-to-face classroom is used to solve problems. If this is successfully completed, it will result in curiosity, progress, and respect. T10's experience with the two countermeasures was encouraging, indicating that positive experience with implementing blended teaching can boost further practice.

T11 described what she and her colleagues did to improve blended teaching.

T11, "During and after the pandemic, we have been looking forward to effective blended learning, figuring out ways to increase active participation, and creating a positive experience for teachers and students through the redesign of the curriculum. In this case, more research is needed on the TL process to make the blended teaching process satisfying and beneficial to both teachers and students. That is what we are aiming for when implementing this mode."

T11 mentioned that effective blended teaching was a goal. Teachers were looking forward to achieving it during and after the pandemic. It entailed active participation and a positive experience for teachers and students through redesigning the curriculum.

T11, "Therefore, our team was considering how to use the results of the questionnaire to adjust and improve our blended teaching process."

By the way, we do have a team, with almost the whole department involved; it's hard to do it alone. The two questionnaires for each course were sent out at different times. The first time was at the beginning of the semester, to find out what the students were expecting from the course. The second time was to find out what the students thought about the course after a semester."

She explained how she carried out questionnaires to adjust and improve their blended teaching as a team. According to her, hybrid teaching depended on teamwork and research to make its process satisfying and beneficial. T11 defined it in a very similar way to T6, as active participation recurred in their statements. She also mentioned two more issues: teamwork, and research to improve blended practice. She cooperated in working as a team with colleagues or the whole department, to distribute the two questionnaires for each course.

T12 showed his concern about blended instruction, and made the following comments:

T12, "Can you build high-quality MOOC and design high-quality blended courses? Here is my primary concern in implementing blended teaching. What is high-quality blended instruction? In my opinion, the hallmark is whether it can guide students into the state of spontaneous self-regulated learning. So I agree with T10. When we have some MOOC there, I can predict the student's common mistakes, but cannot predict the situation of their independent study. So I can hardly make a confident judgement on the quality of a blended teaching design if it cannot motivate the students to conduct self-study. In general, though I've been teaching online for a long time, I am still anxious when it comes to how to effectively organize the TL practice, both online and in the real classroom."

According to T12's descriptions, he remained anxious when organizing the TL practice both online and in the real classroom, due to his main concern about high-quality blended courses. He stated that high-quality instruction should lead students to spontaneous self-regulated learning, and if not, it is difficult to assess its quality. This indicates that the quality of blended instruction plays a role in the implementation of blended teaching practice.

T13 stated her difficulties and how she overcame them:

T13, "Four factors necessitate a change in the curriculum or the way

we teach, and lead to a blended teaching mode. First, educational policy always requires us to reform our teaching. Now the policy strongly encourages the cultivation of innovative talents, which guides the concept of education and teaching reform. In addition, the school has created some objective conditions to carry out mixed teaching, including the construction of MOOC, a large-scale online teaching platform. I am also fortunate that my academic English course has participated in the construction of this online version of MOOC. Third, under the influence of the epidemic, I am proficient in online technology and know how to combine it with teaching.”

T13 analysed the elements leading to blended teaching reform. The current educational policy and the school’s affordances have created top-to-bottom conditions, whereas the influence of the epidemic has given her opportunities to become proficient in integrating technology into teaching.

T13, “So in this context, I think I should try mixed teaching in my course to make up for the deficiency in this aspect. Therefore, my first driving force is to use such a blended course of academic English writing to bridge the gap between students’ degree courses and dissertation research. To be specific, I want to cultivate their good learning habits, promote their team spirit, and help them lay a good theoretical research foundation during the course.”

According to her experience of teaching undergraduate academic writing, she found a disconnect between coursework and research training, which drove her to use such a blended course to connect students’ degree courses and dissertation research. This suggests that after half a semester’s online teaching, the influencing factor of social pressure emerged, such as the pandemic. As also mentioned by T6, the pandemic made teachers proficient in handling technical issues, which used to be a major concern for implementing blended teaching.

T14 explained his thoughts on blended teaching:

T14, “I was forced to learn everything about technology due to the pandemic. I am no longer just teaching in the traditional classroom. The utmost difficulty for me was changing my role as a teacher. Therefore, it is reasonable for me to regard blended teaching as opening a new course relating to the question of course design. I would like to introduce the concept of outcome-based education first. This concept originated from the field of engineering education. It has been widely used in various professional certifications internationally. With China’s accession to the Washington Agreement, everything from

professional certification to curriculum revision is gradually being adopted by China. I hope that the blended teaching induced by MOOC can achieve what the traditional teaching mode cannot.”

T14 explained the influence of the pandemic on his blended teaching and his extreme difficulty in changing his role. He also thinks that outcome-based education, supported by hybrid teaching, can surpass the traditional teaching mode.

T14, “For example, we can improve your creativity while maintaining the difficulty, breadth, and length of the class, or we can increase the difficulty and the length of a class without training creativity, or we can reduce the length of a class while maintaining the creativity, difficulty, breadth, and content of the class. Of course, we can achieve more than two goals at once, which is harder.”

According to T14’s insight, we can measure the realization of goals by outcome-based education in four dimensions: creativity, difficulty, breadth, and time in class. We can make progress in one or more of these areas.

T14, “Different types of schools may want to reach different goals. Some well-known schools in our HE sectors hope to train students’ innovative spirit, while some others hope to implement the employment plan well. Some private schools in our HE sectors hope to enhance students’ interest in learning, while others may just hope to provide students with flexibility in learning. It is the fundamental reason why each school is building its curriculum.”

T14 clarified the different goals for blended teaching curriculum reform in different schools: to train students’ innovative spirit, to implement the employment plan, to enhance students’ interest in learning, or to give students flexibility in learning.

6.5.6 Collation of Themes and Dimensions of the Motives

Table 34 collates the facilitators and barriers in the post-pandemic era, and categorizes them into different themes based on their properties. It lists the facilitators for implementing blended teaching. The first is the improvement of technical skills and resources due to the enforced practice of online teaching during the pandemic. Second, some teachers believe that blended teaching is beneficial. The third theme is improved self-efficacy in steering blended teaching. The fourth comes from the close-in-touch circle, professional fields, and social pressure, such as school affordances, teamwork with colleagues,

research, policy, and the pandemic. These tend to provide positive influences, which facilitate blended teaching practice.

Table 34 Collation of Influencing Facilitators and Barriers in the Post-pandemic Era

Codes from the remarks	Properties	Motives or Themes
T6: better computer skills post-pandemic	Facilitator	technical skills and resources
T9: more skilled in archiving the live streams and turning them into supportive materials, rich teaching resources, her ideas and mindset dramatically changed		
T6: target or effectiveness: to initiative participation or arouse enthusiasm of active participation	Facilitator	perceived utility
T7: benefits: to improve learning efficiency by enabling students' self-study at a certain pace		
T8 & T9: providing room for teaching differences; multiple interactions		
T14: difficulty in changing roles	Barrier	teaching competence
T9: tough to adapt to changes, specially role change		
T6: Cultivating students' abilities with different methods; matching what the students' needs with proper resources	Challenging	perceived ease of use
T7: how to revitalize a class	Unpredictable	
T10: what the real classroom is used for after students have watched the teaching video online	Challenging	
T8: Difficulty in dynamic design and adjustment, time and energy consuming	Barrier	
T8: confident to stimulate vitality by effective utilization and optimized redesign, steerability	Facilitator	self-efficacy
T12: anxious to organize blended teaching; not confident with how to use high-quality blended instruction stimulate students' self-regulated learning	Barrier	close-in-touch circle
T11: how to implement effective blended teaching entailing active participation and positive experience	Challenging	
T11: questionnaire survey, teamwork and research to improve blended practice	Facilitator	professional field
T13: four elements: policy, school <u>affordances</u> , epidemic and experience	Facilitator	close-in-touch circle, social pressure
T14: pandemic		social pressure
T10: students' second voice on what is the real classroom is used for	Challenging	close-in-touch circle

There are also barriers and challenges; the first is the high requirement for teaching competence. The second is whether a blended course design is easy to conduct and adjust. Teachers experience difficulties if it is time- and energy-consuming. The third barrier is low self-efficacy, shown by a lack of confidence, and anxiety about the steerability of the blended approach. The last one comes from the close-in-touch circle, especially the students' voices.

6.5.7 Deductive Analysis of the Barriers

Table 35 lists barriers identified from the above analysis of the second focus group discussion question, "Can you talk about the facilitators and barriers you faced when implementing blended teaching practice? How did you overcome the barriers?" It details the conundrums and tentative

countermeasures. The first barrier is adapting to role changes related to the theme of teaching competence. The second block involves cultivating students' abilities and matching their needs, related to teaching competence and the close-in-touch circle. The third, also involving the factor of teaching competence, is how to revitalize a class, including what the real F2F classroom should be used for. The fourth barrier, on the theme of perceived ease of use, is the difficulty of conducting time- and energy-consuming dynamic blended design and adjustment. The fifth, relating to perceived utility, is low self-efficacy, shown by the anxiety about organizing blended teaching and creating high-quality hybrid instruction to stimulate students' autonomous learning. The last barrier is that teachers might still have qualms about whether blended instruction can make a difference. These pose negative influences, becoming challenging for teachers' mixed teaching practice.

Table 35 Collation of Conundrums and Tentative Countermeasures

Barriers	Conundrums and Countermeasures (See the Details of Collation in Appendix 5)
Role change of teachers and students (teaching competence)	T14 T9
Cultivating students' abilities; matching students' needs (teaching competence and close-in-touch circle)	T6 T8 T9
Revitalizing a blended class (teaching competence)	T7 T8 T9 T10 T11
Qualm (perceived utility)	T8 T12
Low self-efficacy	T9 T12

Before the outbreak of the pandemic in 2020, each semester in my workplace, we had all been required to observe other colleagues' teaching on-site in a real classroom. During the pandemic, we still had to observe the live classes online, which gave me an opportunity for spot observation. As I observed, my colleagues were all different in how they taught, how much time they consumed, and what tools and resources they used to work most effectively. In the meantime, I also conducted informal online conversations with T8 and T9, to reveal more possibilities. The teachers also proposed some tentative countermeasures, which were observed and discussed in detail. Therefore, the conundrums and tentative countermeasures will be explored further in the following sections.

6.5.7.1 Revitalizing a Class Through Diversified Voices

T8, more than 40 years old, who has also been teaching an optional

subject of college English – English for special purposes – first shared his ideas on handling time- and energy-consuming dynamic blended design, and its adjustment.

T8 explained his positive attitude towards multiple-voiced blended TL by comparing it with the one-voiced lecturing he received when he was young. It was discouraging to be punished, and forbidden from doing many things, in the traditional class. Thus, he felt negatively about the traditional system. He believed in the benefits of enabling diversified voices in blended teaching, and desired to change the lecturing by applying a blended approach.

T8, “Online learning platforms are diverse, storing teaching course files, various digital learning resources, and students’ learning data.”

According to T8, taking the best of what other schools have already done, such as MOOC and micro-classes, is the first step for improving his own teaching and also the premise to implement blended teaching. It is not necessary to repeatedly make the videos of the same contents based on the same syllabus design, so making full use of the available resources is T8’s way to solve the issue of consuming too much time and energy.

6.5.7.2 Customizing Resources and Methods to the Students

T8 teaches more than 100 students in this college English course for special purposes. When he was asked how to revitalize a class, especially with such large numbers, he patiently explained the blend of his course, which he has called ‘1234’.

T8 takes specific measures against the problem of how to revitalize a class. He has made use of MOOC from multiple sources, interactions, seminars, and small group discussions to revitalize the big class, resulting in efficiency. T8 not only uses blended TL to allow diversified voices, but also avoids using didactic lecturing to convey the values or virtues. Conversely, he engages the students in debate and discussion, to enable righteous values to find their way into students’ brains or hearts naturally.

He also explicitly stated what the real F2F classroom could be used for, such as sharing his understanding of the online part, carrying out seminars, customizing the questions, and holding discussions with his students. He provided the insights on handling the relationship of combining others’

resources and his own contributions in a blend.

T8 stated that customization was about meeting the needs of different categories of students, for whom teachers can provide different learning methods, resources, and even help. For example, for students with good online learning results, teachers can design some error-prone, advanced and challenging questions. For the students with less satisfactory performance, teachers can provide individual help. Therefore, teachers are no longer preparing knowledge, but integrating knowledge into exercises and tasks, which is a fun experience for students.

T9 articulated that instead of a fixed model, the blend might provide flexibility for matching students' needs with the proper resources available, and for cultivating students' abilities with different methods. Specifically, T9 divided the cultivation of students into three aspects, coincidentally similar to those of T8 above. According to T9, the real F2F classroom is for cultivating crucial values by debate and discussion; manipulative ability, through practical operation; and creativity, by either independent or collaborative thinking and design. By contrast, conceptual introduction, inference procedures, or other learning, should be accomplished online, because it allows students to watch materials as many times as they want.

T9, "Most of my students accept online learning and use it as a supplement to face-to-face learning. They believe that online learning benefits their coursework, but they dislike purely online learning. Students learn online in isolation rather than socializing. But if it's a group task, it changes that."

During the conversation, T9 mentioned that students have a positive attitude towards blended learning. However, T9 also underscored the possible risks of isolation that come with online learning.

6.5.7.3 Can Blended Teaching Make a Difference?

T8 emphasized teaching to provide knowledge, which does not have a decisive effect on students' progress. He also raised the problem of the "illusion of owning knowledge" by illustrating the relationship between online resources and knowledge. A teacher has worked hard to arrange so many online resources, both synchronously and asynchronously, similar to preparing

a big table feast; but the student may feel the illusion of owning knowledge without really acquiring it.

Nevertheless, according to T8, from the teacher's perspective, all of these online materials, once deployed, form the bulk or even the entirety of blended teaching. Teachers might consider it already standardized once and for all. However, teachers also have to redesign the questions to cleverly lead the students' discussion.

T8, "The Book of Learning puts forward a Chinese educational concept which means guiding the students rather than teaching them by hand, encouraging them rather than suppressing them, and enlightening them instead of making decisions for them. Mr Ye Shengtao, a famous educator in China, once said, 'The ultimate goal of education is self-study and self-motivation.' Self-study makes a difference."

T8 talked about a Chinese educator's book and his idea of education, stating that improving students' independent study is key to the overall quality of blended learning. He noticed that after he had implemented the blended approach, three major types of students – outstanding, in the middle, or lagging – could make progress to different extents depending on their level of their self-discipline and efficiency. He discovered that compared with the traditional one, the blended approach can make some difference in the learning outcomes of those self-disciplined and efficient students. However, it has worse outcomes for those who cannot conduct self-disciplined independent study.

6.5.7.4 Allowing Room for Teaching Differences

T8 and T9 are also teaching college English for general purposes. They used to implement a strict standardized teaching plan, contents, process, and exams with other colleagues in the same group; as a result, all the students were required to learn the same thing at the same time, in the same way as everyone else. In this way, if a student was slightly slow in learning something, he was considered a failure. This failed to respect the basic fact of being a human; that each of us is unique and different in our own way. T8 and T9 have different passions and interests, and so do the students. It is clear that most teachers are consciously, unconsciously, or subconsciously applying blended teaching, not blindly to catch up with the times, but to catch up with giving room

for teaching differences and corresponding learning differences.

T8 spent time in integrating others' MOOC or resources into his own course design, and got teaching feedback from students online every day. He wrote all these teaching adjustments and feedback in his professional teaching diary, and soon published some journal articles about his teaching exploration. Consequently, he received recognition from some experts in the field. Moreover, T9 has won prizes in teaching contests on applying the blended teaching mode. T9 said, "I like changes and adjustment. I care about my students' opinions and the experts' comments. I am good at overcoming difficulties and becoming a professional."

6.5.7.5 Multiple Interactions

T9 also shared her experience of making videos. Her school promised to triple-pay her for her video recording workload. She inwardly rejoiced at the increased payment; however, later she found the triple payment could not compensate for the time and effort she had invested. Before, in her mind's eye, she expected it would more than enough to record a micro class just with her inside it. On the contrary, designing a series of micro classes is like shooting a TV series or advertisement; she had to ensure the quality. Thus, triple payment turned out to be a joke for her.

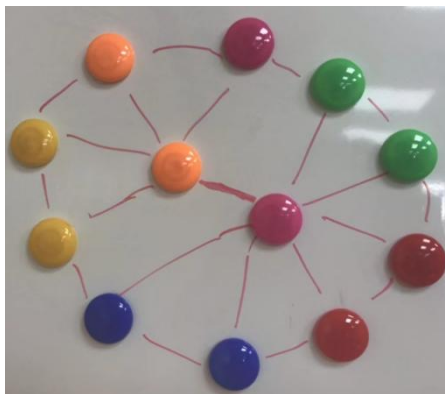


Figure 14 Interactions in Blended Teaching Drawn by T8

When she applied these micro classes in her flipped classroom trial, she had to prepare a wealth of materials based on different contexts, to encourage interactions with students. She also prepared herself to ask the students questions and lead a discussion in a face-to-face class. If the students had not watched the video or the teacher had not prepared well for the students' questions, either side might feel burdensome and embarrassed. Traditionally,

teachers had used PPT and designed a few questions in the middle. The class was routinized like a straight line, from PPT to question and answer, then PPT again. By contrast, the blended teaching interactions with students at the centre are from multiple directions: from the teacher, diversified resources, or different contexts. She drew a picture of these interactions for me (see Figure 14): it is like a swirling circle in motion, or a static lotus leaf.

T8 commented on the textbooks in use:

T8, "I use MOOC, but I choose them carefully and then show them to my students. The electronic teaching materials (unmodifiable), bound with the textbook, are provided by the textbook publishing house, but it is not very bright, with the words too small. If students sit in the back row, it is difficult to see the electronic teaching materials clearly. It is not convenient to operate. The sound of the page-turning is so loud that it startles me sometimes. I'm really looking forward to the pop-up textbook, which is based on content that can also interact with teachers and students."

T8 showed his expectation that innovative pop-up textbooks, which could interact with teachers and students, would add a new dimension to T16's multiple interactions in blended TL.

6.5.7.6 Adaptation to Role Change

At the beginning stage of this study, a few teachers I met on the road or at a conference were curious about what I was investigating. For example, when I told T9 about the term 'blended teaching', she answered with a glittering face. She openly expressed her attitude towards blended teaching.

Long ago, I met her in the corridor of the teaching building; she was carrying big suitcases. The other day again, she was dragging a large luggage bag; there was no elevator in that building. I saw her diligent back almost every day, gazing at it until it receded down the stairs. That was the picture of most teachers' daily life before the application of blended teaching around 2011. Things have changed dramatically recently. In her words, "you won't see me push a cart on campus. No matter for shopping or teaching." T9 also mentioned, "when I organize my classes, I store, share and archive materials and resources in the group chat, like QQ, which allows a large amount of storage and transference."

T9 talked about how teachers' role change could be influenced by students' participation, cooperation, interest in learning, and interaction. As the

student factor is adrift, teachers are unable to make all classes attractive. Teachers have to play the supporting role, instead of the dominant role as before. To achieve students' role change from passive listeners to student-centred, independent learning online and discussion offline are the crux of the matter. These also made it difficult for teachers to change from being dominant to guiding in a blended course, like switching the role from Chinese style to Western style in a classroom.

T9 was requested by the students to provide a fixed rhythm to support their independent study: specifically, the whole class watch preview videos together at a fixed time, in a fixed place.

According to T9, due to the Chinese culture and personality, students are not good at or unwilling to express themselves, which makes discussions difficult. T9 takes some small measures to intervene and encourage students' discussion. What should teachers do about the change in their roles? In general, T9's remarks indicate that there are four countermeasures that teachers can take. First, the teacher is expected to explain some content more deeply than in the students' teaching group in the F2F classroom. Second, teachers should encourage students to discuss more. While peers are playing roles, teachers should guide them to stimulate the discussion. Third, teachers can provide support for students' independent learning, such as organizing and designing their online learning by adding a mandatory rhythm. Fourth, some blended teaching behaviours can promote the change of teachers' roles: for example, multiple assessment methods that motivate students to engage actively. T9 also used blended teaching behaviours as interventions to adapt herself to the role change. She conducted intervention cycles and identified some effective ones.

In a blend, T9 prepared the syllabus and schedules; she highlighted notes in the system and maintained them if necessary. "Then I can share with other teachers in my group, and also, I don't have to prepare those next semester. Other teachers in the same system can update the materials as well."

6.5.7.7 Establishing Self-efficacy by Overcoming Difficulties

T9 is very clear about the essence of the hybrid teaching model: "it is to rethink the teaching content and redesign the relationship between teaching and learning. In other words, it's a deliberate design of the content we use. It

requires a lot of preparation before adoption and implementation.” Thus, it consumes a great deal of time and energy. T9 spent a huge amount of time making teaching videos for ‘Daily Life English’, a subject of English for general purposes. She made extra efforts after uploading them publicly.

Once, she spelled the word ‘Colombia’ wrongly, which made learners from Colombia very angry. Faced with this situation, she looked up some materials about the country, such as its holidays, festivals, etiquette, and other cultural issues. She transmitted relevant materials continuously and shared her perceptions about them. This softened the hearts of those angry people, and her attitude and style were also appealing. The Colombians’ anger was assuaged, and they began to like her.

It requires much time and energy to prepare for any questions that might arise. When asked if blended teaching is time- and energy-demanding, T9 answered with a big smile, “You see, I’ve gained both experiences and lessons from practising it.”

However, the story continued. As she promised that any questions about her videos would receive prompt feedback within 24 hours, she had to get up as early as five in the morning to answer them. This ensured that this job would not influence her daily routine work. When she became too busy, she decided to recruit volunteers from all over the world. Now she has a team of 16 people taking charge of questions and answers in a group. The team communicates with the world in English, which means English is used to convey information. Thus, her communities of learning on ‘Daily Life English’ have come into being, and she continues to invest more. She asks the communities to write learning logs, such as whom they came across, what happened during the day, what they said or did, and what they did to improve their English. She expressed an optimistic attitude:

T9, “I like it. So I am not caring about the contribution and input very much. Teachers have to change their teaching concepts to accompany students during their studies. I am also writing a teaching log. A girl in my class likes cooking very much. So I asked her to introduce her favourite meal step-by-step. She brought a few wrapped rice dumplings, Zongzi, to the next class to demonstrate how she cooked them. I want to see students’ progress very much. Though for the time being, we cannot get materialistic rewards for what we are doing, we can get repaid in other forms, such as students’ progress.”

T9 has been teaching college English for more than 10 years, and after using the repeated routine teaching progress and model, she also desires some changes. Traditionally, we were encouraged to show how well we could teach when we entered the teaching profession. Now, whenever she reflects on her teaching process and concepts, she sees herself as a director watching the actors and actresses performing. She tends to talk much less than before, and allows more opportunities for the students to speak up.

She was also passionate about supervising the students' learning online, so she asked the technician. He told her the data are three points of communication from about 29,000 people. With help from her colleagues and the technician, she tried all the means to distinguish her students from the rest. The students were amazed at what kind of teacher she could be, to identify them from the large data. When a village teacher received her bonus as one of the most excellent learners among 29,000 watchers, she was proud to show the certificate. T9 added, "Although the investment in blended teaching can be endless, if you like it, nothing can be a problem. The repayment from the investment cannot be in materials, but as mental rewards."

In T9's case, although she faced difficulties such as a huge time and energy investment, and online criticism from strange learners, she did not withdraw – because she believed that her blended teaching, assisted by MOOC, could bring benefits to the learners and her students. In addition, she continued it by adapting herself to the teaching reality; her previous experience was very different from her current blended teaching experience, so she had to adjust her teaching abilities and skills. She believes that tweaking teaching methods and models can enhance efficiency; this will benefit students, but will cause trouble for teachers, because any reform will take considerable time and energy. Thus, in this process of overcoming difficulties, T9 has finally established high self-efficacy and an optimistic attitude.

6.6 Producing Results and Findings

I treated this phase of reporting the results as the final opportunity for the ongoing analysis before I produced a thematic matrix. As previously mentioned, I took the steps to conduct data analysis with the two focus groups: collating data transcription, being a reader, initial coding of interesting features or relevancy, developing themes, reviewing potential themes, defining themes,

and producing the results (Braun & Clarke, 2006; 2021).

Table 36 The Identified Blended Forms in Practice in the Given Context and Their Characteristics

The forms discussed	Remarks on Characteristics	Model themes and complexity
traditional TL mode	T2: students' independent study, peer study, checked on the students through their group presentations	The traditional approach
The simple hybrid integrating with the marking network	T6: assistance without changing the original course content; easy to implement, allowing teaching to pick it up quickly	The basic-level blend, simple
	T1: less demanding, lighten teaching burden, it is applied broadly	
	T11: questionnaires to continuously improve their two forms of blended teaching	
Flipped classroom supported by the textbook press, MOOC, SPOC, or micro-lessons	T6: a gradual implementation process from a small class to a big one, from the partial flip of content and students to the flip based on students' learning needs	The medium-level blend, challenging
	T3: teachers assign students to read relevant materials and watch relevant teaching videos in advance	
	T3: no real change in classroom teaching, ignoring the nature of mixing, lack of interaction, and the discussion part being negatively evaluated by students, to form a community of teachers implementing mixed teaching to update teaching resources and skills	
	T9: the preparing phase is different; flipped classroom supported by videos requiring teachers' delicate designs and ingenuity	
	T10: students' brainstorming and free discussion as the main body; teacher acting like an invisible hand, designing but not intervening	
	T11: questionnaires to continuously improve their two forms of blended teaching	
Topic-based integration of online and offline resources	T8: accurate grasp of each student's pre-learning situation, knowing students' problems online and solving them offline, and even predicting them; certain personalized characteristics	
	T5: demanding the preparations and contributions from both teachers and students, topic-related learning resources	
	T13: a mix of multiple sides, such as a teacher-student mixed TL, a mix of individual and team learning, and also a mixed online and offline assessment stated in the syllabus	
Online synchronous and online asynchronous elements	T12: synchronous teaching, asynchronous recordings and online resources, synchronous interaction and immediate feedback; students' ability to autonomous learning is the key to the overall quality of this model	
	T14: a crucial role of scaffolding students' learning with the question and discussions; to keep a normal TL routine.	
Dynamic adjustment; complex mixing with continuous interaction	T7: reorganization of all the course contents of a semester's online resources including MOOC and offline textbooks according to the course objectives and students' learning situation; control the rhythm of blended TL process; dynamic adjustment; more vitality in the classroom	The high-level blend, tough
	T4: acceptable, not been tried by the participant, doubt whether students can learn anything	

Table 36 summarizes the blended teaching forms and their characteristics, based on the thematic analysis of the data collected from the two focus groups.

The core category is the influencing motives for college English teachers' implementation of blended teaching, while the three discovered dimensions (attitude, external environment, and subjective controllability) shown in Table

37 are causally related to it.

Table 37 Collation of Influencing Facilitators and Barriers in the Pre-pandemic and Post-pandemic Era

Codes from the remarks	Properties	Motives or Themes
T6: better computer skills post-pandemic	Facilitator	Technical skills and resources
T9: more skilled in archiving the live streams and turning them into supportive materials, rich teaching resources, her ideas and mindset dramatically changed		
T1: how to find appropriate teaching resources	Barrier	Perceived Utility
T1: concerning about the effects of blended teaching	Unpredictable	
T4: better learning results	Facilitator	
T5: can interact with students through mobile phone		
T6: target or effectiveness: to initiative participation or arouse enthusiasm of active participation		
T7: benefits: to improve learning efficiency by enabling students' self-study at a certain pace		
T14: difficulty in changing roles	Barrier	Teaching Competence
T9: tough to adapt to changes, specially role change	Challenging	
T10: what the real classroom is used for after students have watched the teaching video online		
T6: Cultivating students' abilities with different methods; matching what the students' needs with proper resources	Unpredictable	
T7: how to revitalize a class		
T3: the disadvantages of several different supporting platforms	Barrier	Perceived Ease of Use
T2: complicated software falling into difficulties	Facilitator	
T8: Difficulty in dynamic design and adjustment, time and energy consuming		
T5: her preference to simplicity	Facilitator	
T8: confident to stimulate vitality by effective utilization and optimized redesign, steerability	Facilitator	Self-efficacy
T12: anxious to organize blended teaching; not confident with how to use high-quality blended instruction stimulate students' self-regulated learning	Barrier	
T1: not confident; lack of persistence		
T4: speculation: being incapable and lazy		
T5: worried about whether it can work better and whether it is worth the detour		
T11: how to implement effective blended teaching entailing active participation and positive experience	Challenging	
T10: students' second voice on what is the real classroom is used for	Barrier	
T1: lack of peer's group work		
T3: peer's negative influence		
T3: self-discipline in students	unpredictable	Professional Field
T4: her envy of the skillful colleague		
T11: questionnaire survey, teamwork and research to improve blended practice	Facilitator	Close-in-touch circle, Social pressure
T4: her envy for the experts	Facilitator	
T13: four elements: policy, school <u>affordances</u> , epidemic and experience		
T2: school's practical measures such as policy, facilities, projects, support platforms, assessment, and training		
T14: pandemic		

I reviewed and defined the themes and dimensions by examining the two data sets several times until no new theme emerged. Therefore, a matrix was built where three groups of motives affecting teachers' implementation of mixed teaching were finally identified. Based on this table, the concepts, themes, dimensions, and the core category were merged or related. Thus, a thematic analysis process was completed (see Table 38).

Table 38 The Coding Scheme to Identify Motives Affecting Teachers' Implementation of

Dimensions and definitions induced from analysis	Themes and descriptions in this research	Relations and properties
External Environment: Expectations from a variety of external elements according to the physical or psychological distance from near to far	Close-in-touch circle: peers', superiors', administrators', stakeholders' or students' views and experiences using mixed teaching and subsequent effects from execution	physical or psychological distance from near to far; impeller
	Professional field: the influences from experts, research or other crucial figures in the field	
	Social pressure: the impact of pandemic, reform, policy, and expectation from the society about implementing blended teaching	
Subjective Controllability: college English teachers' self-assessment of internal motives on the extent to which they can control their own mixed teaching, or their own steerability over blended approach.	Technical skills and resources: whether they have got sufficient skills to handle the technical issues and whether the resources are available, rich and high-quality	Controllability over blended teaching in different aspects of the agents; hamper
	Teaching competence: college teachers' self-judgments on their own teaching capability, and the compatibility between their teaching values or practice and the blended teaching requirements	
	Self-efficacy: an individual college teacher's speculation whether he is capable of implementing a blended approach to improve their teaching practice and enhance students' learning outcomes, the degree to which he is confident that they can perform blended teaching	
Attitude: college English teachers' positive or negative evaluation about applying mixed teaching; favor or reject its use; being optimistic or anxious about its future implementation	Perceived utility: whether college English teachers believe that blended teaching can improve learning outcome, or bring benefits to teachers and students	The judgments of their blended teaching experience, such as its functions and features, teachers' likes and dislikes, benefits and drawbacks, pros and cons; unpredictable effects
	Perceived ease of use: whether college English teachers perceive it is easy, time and labor saving to use blended teaching	

Blended Teaching, from the Two Focus Groups

Eight themes and three dimensions are detected, which relate to or influence teachers' actual implementation of blended teaching.

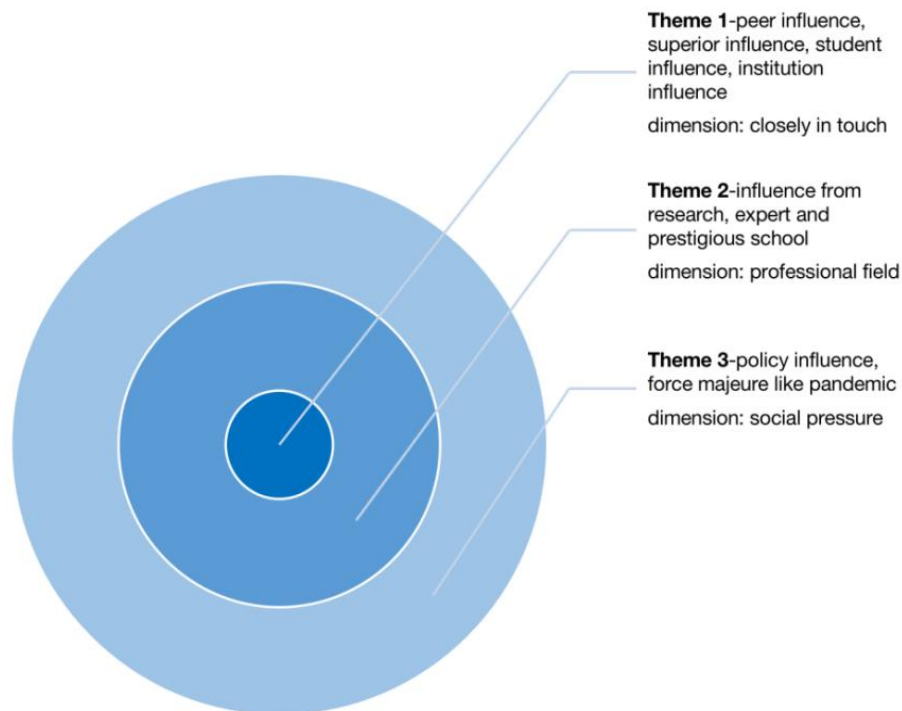


Figure 15 The Themes and Dimensions from the External Environment

The external environment, in terms of physical or psychological distance from near to far, can impact teachers' blended teaching practice. Moreover, it is worth noting that the outbreak of COVID-19 influenced teachers' implementation, categorized as the theme of social pressure. At first, they felt anxious. However, after online teaching practice for a few months in 2020, the second discussion showed the use of more positive expressions.

As an example to illustrate theme generation: the relevance among the aforementioned quotes and motives or themes belonged to the category of external influence, with three dimensions obtained by locating their physical or psychological distance from near to far (see Figure 15).

Teachers' subjective ability to control different aspects can also cause difficulties or barriers in blended teaching practice. Compared with the former discussion, the teachers disclosed that online teaching practice not only enabled them to better understand how to handle various software, applications or platforms, but also made them skilful at handling them. However, although their self-efficacy in the post-pandemic era tended to be better than before the pandemic, it did not reach the level of confidence and satisfaction. Teachers eloquently stated their demands for pertinent training, targeted at improving real teaching practice.

Attitudes based on the judgements of their blended teaching experience play dual roles in the actual implementation reality. Because the two motives in this dimension are intertwined, both can push teachers forward and draw them back. Notably, teachers are concerned about usefulness, to the extent that if it can meet their TL needs or improve TL outcomes, they tend to implement it; otherwise, they do not think it worth making any efforts. Also, if blended teaching is not easy to apply, such as involving too much software and taking up too much time, they do not like implementing it, unless it proves to be useful for teachers and students.

Table 39 Identification of Relations and Generalization of Theory

Dimensions	Core category	Range	Generalization of theory
Attitude	The motives affecting college English teachers' actual implementation of the blended approach	high	1. Teachers' attitude toward the utility and easiness of implementing a blended approach plays a role in the actual implementation.
External Environment		high	2. External environment, including different dimensions, the closely-in-touch circle, professional field, and social pressure, has an impact on teachers' decisions about blended teaching implementation.
Teachers' Subjective Control-ability		high	3. The subjective controllability, such as self-efficacy, teaching competence, and technical skills and resources, influences the adoption and implementation.
Complexity of Blended TL Forms		moderate	4. Teachers' perceptions of blended TL forms are moderately relevant to their implementation.

6.7 Summary

This chapter has focused on discovering the themes of the findings, using a thematic inductive approach. It mostly collected qualitative data from the two focus groups, and occasionally from online teaching observation and informal conversations. By applying thematic qualitative analysis of the teachers' perceptions and experience, it elaborates on the advantages and disadvantages of the blended approach, while also drawing out their different forms and their characteristics. In addition, it identifies the motives that facilitate and block the implementation of hybrid teaching. It then deductively analyses the conundrums and the tentative countermeasures to improve blended teaching practice, through informal online conversations. Finally, concepts, themes, and dimensions emerge and are defined. The categorization of these shapes a framework that describes the teachers' motives and their relations with the actual blended teaching implementation.

The results show that the more positive the teachers' attitude, the clearer the external environment, and the stronger the teachers' subjective

controllability, the higher their willingness to implement it, and the more effort the teachers will make. Thus, the actual implementation reality of the blended approach is influenced by attitude, teachers' subjective controllability, and the external environment, which determine the occurrence of individual blended teaching practice. However, teachers have doubts about their effects.

Therefore, the next chapter will examine the effects and relations of the identified motives, through a quantitative study. It will describe the specific blended teaching situation through a questionnaire survey, based on Neumeier's parameters. It will also use MLR methods in SPSS, to test the relations between the eight motives as independent variables, and the actual implementation of blended teaching in the given context as the dependent variable.

Chapter 7 Research into the Specific Blended Teaching Situation and Quantitative Measurement of the Influencing Motives

7.1 Introduction

Chapter 6 mainly collected data from focus groups, supplemented by observations and informal online conversations. It applied thematic analysis of the two focus groups to derive eight themes and three dimensions regarding the perceived important motives of implementing the blended mode. It also deductively analysed the impeding factors, such as conundrums, from the observations and informal online conversations, and discussed corresponding tentative countermeasures. This raised the question of the relationships between these motives and blended teaching practice, and which motives are decisive or less decisive. This chapter first presents a questionnaire based on Neumeier's parameters, to describe the concrete hybrid teaching situation of the college English courses. This chapter also uses quantitative multiple linear regression methods to test the relationships between the identified motives and the hybrid teaching practice, and to measure their different influencing levels.

7.2 Neumeier's Parameters in a Blended Context

Neumeier (2005) proposed a six-parameter descriptive framework for the mixed teaching quality of language, which includes the mode, integration model, configuration of learning content and goal, language teaching methods, participation of TL subjects, and TL location. The questionnaire in this research includes questions intended to test and validate Neumeier's descriptors in a blended context.

According to Neumeier, a hybrid teaching environment consists of two TL modes: face-to-face, and computer-aided language TL. The instructional mode of guiding learners, in which learners spend a relatively long time, is called the lead mode. To ensure a transparent layout and a clear structure of the blended course design, a lead mode should be defined, under which the organization, sequence, and negotiation of teaching content mainly take place.

The second descriptor, the integrating model, contains two metrics. One is the sequencing order of the two modes of face-to-face and online: alternating,

parallel, or overlapping. The other refers to the integration degree of the two modes, depending on the compulsory or optional nature of activities. For example, in my given context, preview, review, and exam-related activities are obligatory. If the contents and activities of both modes are mandatory in teaching, the level of integration is high. In a mixed teaching environment, F2F teaching is essential. Students cannot decide whether or not to participate independently, whereas the online part requires students to be responsible for their learning; they can choose whether or not to study independently (Le Vo, 2022).

In addition to learning from Neumeier's framework, the topic setting of this study also integrates the information obtained from the results in Chapter 6, to make the questions better aligned with the blended teaching reality of college English. As identified from the focus groups, the most commonly used classification of mixed modes is according to the degree of mixing; in other words, the extent to which the functions and tasks of an F2FT classroom are replaced by the online mode. The classification uses three categories. The first is only to attach some online resources to extend and support the F2F classroom, while the second is that some online activities replace some classroom activities, such as flipped classroom mode. The third type is the high-level blend, where F2F classroom instruction and online teaching serve the teaching objectives from the beginning; thus, they build the TL blocks. The physical classroom focuses on conducting question-and-answer and other knowledge internalization activities. The integrated online and offline TL blocks are applied through dynamic adjustment, alternating, in parallel, or overlapping. These three major categories are represented in the form of multiple-choice questions in the questionnaire.

The third parameter is the configuration of learning contents and targets, in two ways: parallel or independent. Parallel configuration means that a skill can be integrated and practised in both the classroom and the online environment, while in the independent configuration, it can be carried out only in one mode.

The fourth descriptor refers to language TL methods used in each mode. The fifth parameter, the interaction between TL subjects, denotes the interaction between person and person, between person and machine, and the

roles of teacher and student. The final parameter, the learning location, refers to the physical location where the learning takes place.

According to the *College English Teaching Guide* formulated by CMOE in 2016, the curriculum system of college English is composed of English for General Purposes, Academic English, English for Special Purposes, and English for Cross-cultural Communication (Wang, 2016). According to this, relevant items in the questionnaire were set to understand which types of college English use the blended mode.

Thus, the questions in Appendix 7 were designed in the form of multiple-choice questions, to collect data related to Neumeier's parameters.

7.2.1 Distribution of the Questionnaire and Data Collection

The questionnaire was distributed on 2 November 2020, almost a year after the outbreak of the COVID-19 pandemic. I anticipated that the educational situation of the post-pandemic era would differ to a certain extent from that before the pandemic. This indicates that as an insider and outsider, playing the dual role of teacher and researcher, I would pay attention to the influences caused by any changes in the whole HE system. For some questions, the participants were allowed to select more than one item. In order to reduce the variation caused by social desirability, the guidance of the questionnaire indicates that the survey is purely academic, and emphasizes the anonymity and confidentiality of the participants' information.

Compared with paper questionnaires, the online questionnaire survey has some advantages: first, the fast collection speed saves time. The electronic questionnaires are delivered directly to the respondent, and no matter where they are, they can submit the questionnaire online. Paper questionnaires can only be delivered to the respondents in person or by post, which is more time-consuming and laborious than online questionnaires. Second, they facilitate data processing. The online questionnaire has the function of compulsory answers; thus, if the respondents have not completed the compulsory questions, they cannot submit them, which avoids null values that can occur in the paper questionnaire, whether they are intentional or unintentional. In addition, more personalized settings can make the questionnaire meet the research needs and be easier to complete. For example, to avoid the risk of repeatedly filling in the questionnaire, this study

ensured that the same mobile number could only be used once to access it.

First, I found a contact person in each of the selected universities. Then the contacts were informed of the conditions for teachers to fill in the questionnaire, and other matters needing attention. These contacts could set up a social media group with teachers of college English courses, by emphasizing the requirements, and sending the questionnaire to qualified college English teachers. Then the gadget helped me check the questionnaires to eliminate invalid responses. Finally, a total of 166 questionnaires were collected.

To summarize, I distributed a questionnaire survey with multiple-choice questions to 166 teachers from six different private colleges and universities in Shanghai, to understand the current specific situation details about the implementation of blended teaching.

Table 40 Demographic Features of Surveyed Teachers

gender	1= "Female"	118	71%
	2= "Male"	48	29%
age	1= "≤35"	45	27%
	2= "36-45"	51	31%
	3= "46-55"	42	25%
	4= "≥56"	28	17%
schools	1= "Shanghai Jianqiao college (private)"	59	36%
	2= "Shanghai Normal University Tianhua college (private)"	17	10%
	3= "Shanghai Institute of Visual Art (private)"	20	12%
	4= "Shanghai Institute of Commerce & Foreign Languages (private)"	33	20%
	5= "Shanghai Donghai college (private)"	17	10%
	6= "Shanghai Sanda University (private)"	20	12%
experience (years)	1= "≤5"	46	28%
	2= "6 ~ 15"	78	47%
	3= "≥16"	41	25%
education	1= "Graduated from universities in China"	135	81%
	2= "Graduated from overseas school"	31	19%
academic degree	1= "Bachelor's"	22	13%
	2= "Master's"	123	74%
	3= "doctor's"	21	13%
professional title	1= "Assistant"	26	16%
	2= "Lecturer"	67	40%
	3= "Deputy professor"	49	30%
	4= "professor"	24	14%
Total		166	100%

All questions in this questionnaire, the 'Current Blended Teaching Situation of the College English Course', were set with 'required options', so there would be no missing values in each returned questionnaire. Then I translated it into English (see Figures 16–26 in Section 7.2.2).

7.2.2 Analysis and Results

This section examines the answers to each question in the questionnaire survey.

7.2.2.1 Types of College English Courses that Implement Blended Teaching

According to the data on the types of college English courses with mixed teaching, English for General Purposes or Comprehensive English classes account for 98.19%, which indicates that the mixed mode mainly takes place in Comprehensive English classes.

Options	Sub-total	Proportion
English for General Purposes, or Comprehensive English: listening, speaking, reading, writing, translation	163	98.19%
English for Cross-cultural Communication, such as English Language and Culture, Cross-Cultural Communication, Literature, etc.	48	28.92%
Academic English, such as academic reading and writing	43	25.9%
English for Special Purposes, such as business English, academic English, mechanical English, etc.	15	9.04%
Valid answers to this question	166	

Figure 16 Types of College English Course that Adopt Mixed Teaching

This is followed by English for Cross-cultural Communication (28.92%) and Academic English (25.9%), for understandable reasons. Listening, speaking, reading, writing, and translating are still the mainstream in college English teaching, provided in all schools. Compared with English for General Purposes, English for Cross-cultural Communication, and Academic English are not obligatory, but selective or minor subjects. Compared with the other three types, English for Special Purposes has fewer teachers and students involved; it is generally provided as a featured subject. Among all the teachers involved in the survey, 15 out of 163 used or have been implementing the blended mode in English for Special Purposes.

All these findings show that mixed teaching is gaining great popularity in all types of college English courses.

7.2.2.2 Channels and Platforms

The hybrid teaching mode combines two instructional modes: online teaching and F2F teaching. The existence of an online section means that there will be some online space, which is also the operational definition of the core concept of blended teaching in this study.

Options	Sub-total	Proportion
Professional teaching and learning websites (such as from a textbook publishing house, national online course, course era, etc.)	132	79.5 2%
Search engines (e.g. Baidu, Google, Wikipedia, etc.)	124	74.7 %
Public online video	65	39.1 6%
Campus network (e.g. school electronic library, school electronic video, etc.)	53	31.9 3%
We-media	70	42.1 7%
Peer recommendation (e.g. classmates, friends, etc.)	60	36.1 4%
Portal websites	40	24.1 %
Teachers' or researchers' independent design	45	27.1 1%
Valid answers to this question	166	

Figure 17 Resource Channels for Learning College English

This factor is also the ‘threshold of entry’ in the selection of survey participants. As can be seen from Figure 17, the primary online channels for learning college English prioritize those matching the textbook. Nearly 80% of college English courses using hybrid teaching prefer professional teaching websites (such as those provided by textbook publishing houses, national online courses, etc.). At the beginning of this century, the core of college English teaching reform was to change the mode of ‘chalkboard + textbook’ to ‘environment + resources’. The college English teaching platforms are developed by several leading foreign-language textbook publishers, and promoted in colleges and universities along with the textbooks, which are the most well-known and trusted platforms (Liu et al., 2021). Therefore, as shown in Figure 17, it is not difficult to understand why the online platforms supporting textbooks are still the most widely used channel at present.

The second category is the online search engine, with the characteristic of searching according to one’s own needs.

The third category is ‘We-media’. This refers to the general public’s communication mode of releasing their facts and news through the Internet and other means. It is a way for ordinary people to provide and share their news; it is also the general term for the new media that transmits normative and non-normative information to the majority or a specific individual, by employing modern and electronic means (Zhu, 2021). As a generation of

digital natives, most college teachers and students have smartphones. The convenience of using them to communicate is generally agreed, as shown in Figure 17.

Options	Sub-total	Proportion
A platform provided by a publishing house of textbooks, such as WeLearn	156	93.98%
Course management platform provided by other technological companies	79	47.59%
Online teaching platforms provided by the university	41	24.7%
MOOC platform, such as the national MOOC platform	60	36.14%
Social media official account	127	76.51%
Social media group	101	60.84%
Online homework or test platform (such as Itest: online test marking, WeWrite: automated essay scoring)	119	71.69%
Valid answers to this question	166	

Figure 18 Online Course Platforms

The platform provided by publishing houses of textbooks tops the list of online TL platforms. Social media official account ranks second, and the third most popular platform is online homework or testing platforms such as ITest and WeWrite (see Figure 18). This kind of platform features an automatic grading system, which liberates teachers from the heavy work of homework grading. For example, one university participating in the survey uses the latest platform to require students to complete 10 simulation test papers (not including the composition) each semester. After the students submit them, the system will give the score of each question and the correct answer immediately. Many college English teachers also choose to use online essay-scoring platforms such as WeWrite.

Social media groups ranked fourth, with about 61% of usage. The use rate of other platforms is low, as they have only been developed in the past few years and are rarely used in colleges and universities.

In this multi-choice question, all the choices amounted to 683, and the number of questionnaires was 166. Therefore, the average number of online platforms used by college English teachers participating in the survey is four.

7.2.2.3 Places and Tasks

In recent years, with the development of ICT, students' online learning cannot be restricted by time or place. Luo Ling (2017) analysed students'

English writing behaviour based on the mobile learning platform, and found that students' learning is featured with the learning of all-weather.

Options	Sub-total	Proportion
At school	111	66.87%
At home	94	56.63%
At dorm	92	55.42%
Anywhere online in public	34	20.48%
Valid answers to this question	166	

Figure 19 Online Learning Places

However, Figure 19 shows that about 67% of the teachers answer that students conduct their online learning at school, indicating that school is still the most chosen place to learn or urge students to learn.

Options	Sub-total	Proportion
Listening	158	95.18%
Speaking	129	77.71%
Reading	148	89.16%
Writing	143	86.14%
Translating	126	75.9%
Vocabulary	134	80.72%
Preview of texts	121	72.89%
Extended theme-based content	116	69.88%
Valid answers to this question	166	

Figure 20 Online Learning Tasks

The results in Figure 20 show that online learning has the characteristics of 'multi-tasking'. Among the listed tasks in Figure 20, the top three tasks assigned by every teacher are listening, reading, and writing. This result is related to the nature of college English courses. *College English Teaching Requirements* (2021) points out that all the subjects in the college English curriculum take English language knowledge and application skills, intercultural communication and learning strategies as the main contents, and have both an instrumental and humanistic nature. This shows that the cultivation of language skills is one of the main tasks of college English learning online.

7.2.2.4 Activities Taking Place in the Online Platforms

Figure 21 shows that the dominant online activities, taking up nearly 97% of the participants, can meet teachers' lecturing needs, and allow students' presentations of various forms. Then come interpersonal communication and specific purposes. The total frequency of the five options is 597, meaning each teacher conducts more than three online activities on average.

Options	Sub-total	Proportion
Teachers' lecturing and students' presentation (PPT, live broadcast, recorded broadcast, video, audio, pictures, eBooks, micro-course, MOOC, etc.)	161	96.99%
Operational interaction (questionnaire survey, seamless communication in online conference, screen projection in class, etc.)	92	55.42%
Specific purposes (quizzes, exams, intelligent writing and grading, original creation, vocabulary, comparing oral recordings)	111	66.87%
Course management (attendance, resources, course materials, assignments, picture, and text interaction, learning analysis, formative assessment, learning monitoring, etc.)	101	60.84%
Interpersonal communication by social media	132	79.52%
Valid answer to this question	166	

Figure 21 Activities Taking Place in the Online Platforms

7.2.2.5 Online and Offline Teaching Distribution and Reasons for the Usage of Blended Teaching

Options	Sub-total	Proportion
The content of online teaching platform is only supplementary, and the real in-class teaching is not affected by it.	100	60.24%
The online teaching platform undertakes part of the in-class teaching (such as part of knowledge teaching and part of self-study after class).	63	37.95%
I can teach by using different applications, websites, or other online platforms to teach knowledge, answer questions, report, and present tasks, and organize language application activities in the classroom.	3	1.81%
Valid answers to this question	166	

Figure 22 Distribution of Online and Offline Teaching

Most teachers, about 60%, perceive the blended mode such that the online part is supplementary, whereas approximately 38% of teachers consider that it replaces part of physical teaching. According to Figure 22, the two forms of supplement and replacement are commonly used, while the third type is almost never used in practice. This result is consistent with the results obtained from the focus groups.

Options	Sub-total	Proportion
Improve the classroom atmosphere	136	81.93%
Supplement teaching contents	123	74.1%
Expand thinking	125	75.3%
Extend class content	106	63.86%
Cultivate the ability of independent learning	128	77.11%
Enhance communication and interaction between teachers and students	100	60.24%
Increase interest in learning	113	68.07%
Improve information literacy	81	48.8%
Enhance academic achievement	80	48.19%
Valid answers to this question	166	

Figure 23 Reasons for the Usage of Blended Teaching

As shown in Figure 23, teachers mainly selected the following five reasons: improving the classroom atmosphere, cultivating independent learning, expanding thinking, supplementing teaching contents, and increasing learning interest. Improving the classroom atmosphere is the dominant concern, whereas enhancing academic achievement and improving information literacy are much less emphasized; this is because college English was not originally aimed to train students' academic abilities or information literacy.

7.2.2.6 Forms of Evaluation

Options	Sub-total	Proportion
Written work	152	91.57%
Class participation	150	90.36%
Online autonomous learning	149	89.76%
Self-assessment	53	31.93%
Peer assessment	52	31.33%
The mid-term exam	146	87.95%
The final exam	150	90.36%
Valid answers to this question	166	

Figure 24 Forms of Evaluation

For the blended teaching evaluation in the college English curriculum, the total frequency of the seven options is 852, meaning that each teacher uses five teaching evaluation forms on average. The top four are written work, class engagement, final exams, and online self-directed learning. The numbers of teachers using these four assessments are very similar, almost equal. Among them, written assignments, classroom participation, and online SRL all belong to formative assessment, indicating that blended college English teaching has achieved the combination of formative assessment and summative assessment. According to Figure 24, the evaluation subjects in the formative evaluation involve teachers, students, and their peers. However, the statistical results show that the proportion of teaching adopting students' self-evaluation and mutual evaluation is about 31% each, much less than other evaluation forms – indicating that students' self-evaluation and mutual evaluation are less welcomed by teachers and students.

7.2.2.7 Time Requirement and Training

Figures 25 and 26 show that 41% of teachers (n = 166) are required to implement 3–4 periods of online teaching per week, and students are required to study 3–4 periods per week. Approximately

55% of teachers surveyed have received blended teaching training, while 45% have not.

Options	Sub-total	Proportion
1–2 periods per week	32	19.2 8%
3–4 periods per week	68	40.9 6%
No minimum time, but based on tasks	56	33.7 3%
There are no tasks or time requirements. It depends on students' self-regulated learning.	10	6.02 %
Valid answers to this question	166	

Figure 25 Minimum Online Teaching Time Required for the Course

Options	Sub-total	Proportion
Yes	75	45.18%
No	91	54.82%
Valid answers to this question	166	

Figure 26 Participation in Mixed Teaching Training

7.3 Summary

Based on the above discussion, we can briefly summarize the current situation of blended teaching in Shanghai's private colleges and universities.

First, blended teaching is popular in the college English TL system. Among the various subjects in the college English curriculum, mixed TL mainly takes place in English for General Purposes, where almost all of the participants adopted blended teaching (see Figure 16).

Second, teachers prioritize professional TL websites such as those matching the textbooks, followed by search engines and We-media for the resource channels for learning college English (see Figure 17). They also rank platforms provided by the textbook publisher at the top of the list of blended TL platforms. Social media official accounts and online homework or testing are ranked respectively as second and third (see Figure 18). The channels and platforms provided by textbook publishing houses are so widely accepted because they are authoritative, and they can offer a series of professional services. Not only have they consulted a large number of experts, teachers and technicians in compiling the textbooks and designing the software or platforms, but they also update their online and offline contents constantly, and have set up a team to provide timely technical support. As teachers do not have to design and implement blended teaching from scratch, this meets their

demands. Thus, the publishers have become the primary resource and technology supplier, and are also making blended teaching practice easier.

Furthermore, online learning still happens most at school. Other places such as homes, dormitories and non-traditional locations have also become studying spaces. Nevertheless, traditional schools remain the best place among the offered options, for learning and urging students to learn (see Figure 19).

In addition, online learning enables multi-tasking. The top three tasks are listening, reading, and writing tasks assigned by teachers. Training language skills are one of the fundamental tasks in college English courses (see Figure 20).

The dominant activities taking place in online platforms comprise teachers' lecturing in all forms, and allow students' presentations. They also encourage interaction and communication, and help manage the course through formative assessment of students (see Figure 21). According to the teachers' average choices of three online activities, some of the activities that used to appear in the physical classroom can also be held online and with the conveniences of technology, such as serving specific purposes and interpersonal communication (see Figure 21). Written work or exams are still dominant, but class participation and online autonomous learning become the sources of formative assessment (see Figure 24). This indicates that blended college English teaching has achieved the combination of formative assessment and summative assessment.

Most teachers perceive that online teaching is supplementary to classroom teaching, whereas some others consider that online teaching partially replaces the F2F physical classroom (see Figure 22). Blended teaching is not diverse and balanced in this context: it is mainly basic level, then medium level, and lacks a high-level blend. Blended teaching is mainly applied to improve the classroom atmosphere, cultivate independent learning, expand thinking, and supplement teaching contents (see Figure 23). Teachers (n = 166) are usually required to implement 3–4 periods of online teaching per week (see Figure 25). Most teachers have received training in implementing blended teaching, whereas slightly fewer teachers have not (see Figure 26).

7.4 Quantitative Triangulation

In this section, I first conduct a quantitative experiment to test the hypotheses of the relations between the identified themes discovered in Chapter 6, and the blended teaching implementation. In other words, I use the quantitative methods as a supplement to examine the hypotheses developed from the framework (summary in Chapter 6). I then measure the value of each factor and their influence degree on the teachers. Finally, I refine and established the regression equation model. Hence, this section has also been designed to triangulate the qualitative findings and ensure the reliability and validity of this research.

Qualitative research relies on the views of participants. It conducts the inquiry subjectively and reflexively, and its data collection largely consists of words (or text) from the participants (Silverman, 2006). However, “A way of seeing is a way of not seeing” (Oakley, 1974, p.27). In other words, because the validity and depth of the research cannot be fully guaranteed by only relying on qualitative or quantitative data, triangulation or verification can be regarded as an effective remedy. Thus, statistical descriptions are used to observe the significant differences between two or more variables and test how closely two variables are related by examining the correlations. Therefore, the following quantitative triangulation was conducted.

7.4.1 Compilation of the Questionnaire

When compiling the questionnaire, I framed the aforementioned eight themes as independent variables, to facilitate testing the relations (Kane, 2013). Equally, the qualitative results laid the foundation for further quantitative measurement. I devised a few related questions on the identified themes influencing the adoption and implementation of blended teaching (see the Summary in Chapter 6), and then conducted a large-scale survey to understand college English teachers’ perceptions of these influencing motives. A questionnaire survey involving the teacher respondents from six different private colleges and universities can better identify the relations among the motives that produce an effect.

Then I compiled the questionnaire and processed it using item reliability analysis, before it was distributed to teachers for data collection. After designing the questionnaire, I invited two colleagues and an expert to try it out and give feedback. They suggested setting several reverse questions to avoid

fixed thinking. Therefore, I designed the four questions of 9, 14, 30, and 32 as reverse questions. The values of the four labelled questions were normally set as others in the questionnaire, and then reversed during the calculation. When analysing the data, their values were reversed and then their mean values were calculated. There was a 'must' requirement, so every questionnaire returned had no missing value.

7.4.2 Participants

The total number of measurement items for the variables in this study is 39. The questionnaire was distributed to about 200 English teachers from different private colleges and universities, who had carried out mixed teaching. They filled in the questionnaire mainly by scanning its QR code.

I distributed the questionnaire to teacher participants from six different schools, and obtained 187 valid questionnaires. The demographic features of their gender, age, workplace, working experience, education, academic degree, and professional title are listed in the following table.

Table 41 Demographic Features of Surveyed Teacher Participants

gender	1= "Female"	119	64%
	2= "Male"	68	36%
age	1= "≤35"	35	19%
	2= "36-45"	79	42%
	3= "46-55"	45	24%
	4= "≥56"	28	15%
School (workplace)	1= "Shanghai Jianqiao College" (private)	70	37%
	2= "Shanghai Normal University Tianhua College" (private)	16	9%
	3= "Shanghai Institute of Visual Art" (private)	33	18%
	4= "Shanghai Institute of Commerce & Foreign Languages" (private)	37	20%
	5= "Shanghai Donghai College" (private)	17	9%
	6= "Shanghai Sanda University" (private)	14	7%
experience (years)	1= "≤5"	50	27%
	2= "6 ~ 15"	88	47%
	3= "≥16"	49	26%
education	1= "Graduated from universities in China"	146	78%
	2= "Graduated from overseas school"	41	22%
academic degree	1= "Bachelor's"	30	16%
	2= "Master's"	130	70%
	3= "doctor's"	27	14%
professional title	1= "Assistant"	38	20%
	2= "Lecturer"	73	39%
	3= "Deputy professor"	44	24%
	4= "professor"	32	17%
Total		187	100%

7.4.3 Developing Hypotheses

Based on the thematic analysis in Chapter 6, and combing concepts and

connotations from the literature, such as the relationships among perceptions, attitudes, and behaviours shown in Section 2.2, I defined the identified motives for this research before I developed hypotheses for quantitative triangulation. The following Table 42 shows the descriptions of the identified themes and dimensions obtained from the qualitative thematic analysis (refer to Section 6.7).

Table 42 Descriptions of the Identified Themes and Dimensions

Variables	Descriptions in this research
Adoption and Implementation Reality (AIR)	College English teachers' practical adoption and implementation of blended teaching
Attitude (A)	College English teachers' positive or negative evaluation of applying mixed teaching; favour or reject its use; optimistic or anxious about its future implementation
Perceived Utility (U)	Whether college English teachers believe that blended teaching can improve learning outcomes, or bring benefits to teachers and students
Perceived Ease of Use (PEU)	Whether college English teachers perceive it is easy, time-saving and labour-saving to use blended teaching
Subjective Controllability (SC)	College English teachers' self-assessment of internal motives on the extent to which they can control their own mixed teaching, or their own steerability of the blended approach.
Competence (C)	College teachers' self-judgements on their own teaching capability, and the compatibility between their teaching values or practice and the blended teaching requirements
Technical Skills and Resources (TSR)	Whether they have sufficient skills to handle the technical issues and resources; whether the resources are available, rich, and high-quality
Self-efficacy (SE)	An individual college teacher's speculation on whether s/he is capable of implementing a blended approach to improve teaching practice and enhance learning outcomes, or the degree to which they are confident that they can perform blended teaching
External Environment (EE)	Expectations from a variety of external elements according to the physical or psychological distance, from near to far
Closely in touch Circle (CC)	Peers', superiors', administrators', stakeholders' or students' views and experiences of using mixed teaching, and subsequent effects from execution
Professional Field (PF)	The influences from experts, research, or other crucial figures in the field
Social Pressure (SP)	The impact of the pandemic, reform, policy, and expectations from society about implementing blended teaching

In this dissertation, perceived utility refers to whether college English teachers perceive blended teaching to be effective in enhancing both the subjective and objective learning outcomes, and whether it can provide benefits for teachers and students, such as improving efficiency. Perceived ease of use refers to college English teachers' perception of whether it is easy to understand, learn and use different blended teaching models. For this study, the attitude of college English teachers refers to teachers' beliefs regarding why they use this mode of teaching, whether it is useful, and whether it is easy to use. In short, it is defined as college English teachers' evaluation of blended teaching. Thus, the questions about attitude in the questionnaire investigate

teachers' disposition or opinions on using it, to achieve college English TL objectives. Below is the first group of the hypotheses about the relations among the three variables: perceived utility, perceived ease of use, and actual implementation reality.

Table 43 The First Group of Hypotheses on the Relations of Perceived Utility and Perceived Ease of Use, with Implementation

Attitude (A): Perceived Utility (PU), Perceived Ease of Use (PEU)

H1: The perceived utility of blended teaching has a significantly positive effect on implementing blended teaching.

H2: Perceived ease of use of blended teaching has a significantly positive effect on implementing blended teaching.

In this dissertation, a teacher's subjective controllability refers to the ability to steer when implementing blended teaching, as perceived by an individual teacher. It is an internal belief, formed when teachers access resources or have opportunities to perform the blended practice. It also reflects the individual's self-assessment of the internal motives that can promote or hinder the practical implementation, and the extent to which teachers believe they can control their mixed teaching.

The three motives (teaching competence, self-efficacy, and technical skills and resources) belong to the subjective control category. Teaching competence refers to the university teachers' self-judgements of their teaching capability, and the compatibility between the requirements of blended teaching and their pedagogy-related values or practice, such as their previous ideas, experience, teaching behaviours, methods, and style. Technical skills and resources refer to the teachers' technical ability to handle the technology and resources demanded by mixed teaching, such as integrating technology into the course, using the resources, matching the appropriate materials, publishing textbooks on blended TL, making full use of the rich functions, and dealing with other technical issues. Self-efficacy is the college English teachers' estimation of their ability to implement mixed teaching; it represents an individual's perception of confidence, satisfaction or anxiety in using a new pedagogy. Finally, technical skills and resources represent an individual's technical abilities and constraints in using a blended teaching mode. Accordingly, the second group of hypotheses tests the relations among the above themes: teaching competence, self-efficacy, technical skills and

resources, and actual implementation reality.

Table 44 The Second Group of Hypotheses on the Relations of Teaching Competence, Self-efficacy, and Technical Skills and Resources, with Implementation

Teacher's subjective controllability (SC): Teaching Competence (C), Self-efficacy (SE), Technical Skills and Resources (TSR)

H3: Teaching competence has a significantly positive effect on college English teachers' implementation of blended teaching.

H4: Technical skills and resources have a significantly positive impact on college English teachers' implementation of blended teaching.

H5: Self-efficacy has a significantly positive impact on college English teachers' implementation of blended teaching.

The dimension of the external environment contains the close-in-touch circle, the professional field, and social pressure. It involves a variety of elements according to the physical or psychological distance, from near to far. For example, peer pressure refers to peers' views and experiences of using mixed teaching, and subsequent effects of execution. Students also enact a significant role, such as whether they are more actively engaged after new elements are added to our traditional classroom, and how the students evaluate the blended teaching. How the students perceive the teachers' role dramatically influences the faculty's implementation. According to the discussion in Section 6.6, the student factors affecting teachers' blended teaching practice include students' learning initiative, information technology literacy, their foreign language level, and others. Therefore, the external environment here refers to college teachers' perceptions of pressure – how much their environment expects them to conduct and continue mixed teaching activities. Hence, the third group of hypotheses deals with the variables of a closely in touch circle, professional field, social pressure, and actual implementation reality.

Table 45 The Third Group of Hypotheses on the Relations of Close-in-touch Circle, Professional Field, and Social Pressure, with Implementation

External influence (EI): Close-in-touch Circle (CC), Professional Field (PF), Social Pressure (SP)

H6: The pressure from a closely in touch circle has a significantly positive impact on the actual implementation reality of blended teaching.

H7: The pressure from the professional field has a significantly positive impact on the actual implementation reality of blended teaching.

H8: The social pressure has a significantly positive impact on the actual implementation reality of blended teaching.

7.4.4 Scale Test

I distributed the questionnaire online to collect data through a typical

Chinese online questionnaire gadget, then downloaded the survey results. I then translated it into English and calculated the means of each variable.

This research examines the variables influencing the implementation of blended teaching. To ensure the reliability and validity of the data analysis, I first tested the questionnaire.

Firstly, Cronbach's alpha is used to test the reliability of the scale. As shown in Table 46, when a total of 39 items are analysed and divided into two parts, the number of analysis items in the two parts is not equal. Thus, the Spearman–Brown coefficient of unequal length is used to judge the reliability. The Spearman–Brown split-half reliability coefficient value is 0.981, which is greater than 0.9, indicating that the reliability of the questionnaire data is high. The value of the correlation between the front and rear halves is 0.946, which is also much higher than 0.9, meaning high reliability. The value of the split-half reliability coefficient of the data is higher than 0.9, indicating high reliability and readiness for further analysis. The Guttman split-half reliability coefficient value is reported to comprehensively explain the high-reliability level.

In most studies, the criterion for reliability analysis is Cronbach's $\alpha > 0.6$, which is an acceptable range (Zinbarg et al., 2005); Here, it is >0.9 , indicating good reliability. Cronbach's α is shown in Table 46. In conclusion, as these two values are far beyond the threshold standard, the measurement model has a good reliability.

Table 46 Split-half Reliability Analysis

Reliability Statistics (Split-half)			
Cronbach's Alpha	Part 1	Value	0.981
		N of Items	20
	Part 2	Value	0.976
		N of Items	19
Total N of Items			39
Correlation Between Forms			0.946
Spearman-Brown Coefficient	Equal Length		0.972
	Unequal Length		0.972
Guttman Split-Half Coefficient			0.971

The structural validity of the scale is tested by conducting Bartlett's sphericity test (see the following Table 47). The higher the KMO value, the more suitable it is for factor analysis. A KMO value above 0.9 is a good fit, between 0.8 and 0.9 is suitable, between 0.7 and 0.8 is general, and the minimum requirement is 0.6. In the scale of influencing motives for blended

teaching, I use exploratory factor analysis, and find that the KMO value is 0.964, indicating is a strong internal consistency among all the items and a significant factor structure, which is highly suitable for factor analysis ($p \leq 0.05$).

Table 47 Validity Test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.964
Bartlett's Test of Sphericity	Approx. Chi-Square
	3990.163
	df
	66
	Sig.
	0.000

The 39 questionnaire measures were designed and compiled initially based on the eight variables found in the qualitative results. Based on scores from the five-point Likert scale in the questionnaire survey, their mean values were calculated respectively for each of these variables, including the values of the reverse questions, reversed and then calculated. A new Excel table was obtained from the calculation, to explore the variables' impact on the implementation of blended teaching.

7.5 Statistical Measurement by Multiple Linear Regression Methods and Results

A regression analysis with two or more independent variables is called multiple regression. It is more effective and practical to predict or estimate dependent variables by the optimal combination of multiple independent variables, than by only one independent variable (Etemadi & Khashei, 2021). Therefore, multiple linear regression (MLR) is widely used to establish a MLR equation model and understand the significant influence of independent variables on dependent variables. Thus, in this quantitative test, I chose MLR to analyse the influences of independent motive variables on the adoption and implementation of blended teaching (the dependent variable). I then built the MLR equation model to measure the extent of each independent variable's influence. Hence, this section will follow the process of the eight independent variables entered, hierarchical regression, and stepwise regression.

7.5.1 The Eight Independent Variables Entered

The eight motives affecting the adoption and implementation of blended teaching are: perceived utility (PU), perceived ease of use (PEU), teaching competence (C), closely in touch circle (CC), professional field (PF), social

pressure (SP), self-efficacy (SE), and technical skills and resources (TSR). These are first tested regarding their relations with the adoption and implementation reality (AIR). Their values were obtained from calculating the means of the questionnaire items. As shown in Table 48, I use their acronyms (PU, PEU, PEU, C, CC, PF, SP, SE, and TSR) as independent variables to enter regression linear analysis in SPSS, and the adoption and implementation reality (AIR) as a dependent variable.

Table 48 Regression with Eight Variables Entered

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	TSR, SP, PEU, PU, PF, C, SE, CC ^b	.	Enter

a. Dependent Variable: AIR
b. All requested variables entered.

In Table 49, showing the model summary, first, the Durbin–Watson value 1.768. Regarding the basic conditions for the independence of linear regression residuals, it is generally believed that the distribution of Durbin–Watson test values is between 0 and 4; the closer to 2, the greater the possibility that the observed values are independent of each other (Turner, 2020). Furthermore, the adjusted R squared of the regression model is 0.869, meaning that these eight independent variables can explain 86.9% of the reasons for the change in dependent variables. In other words, 86.9% of the overall actual implementation is affected by perceived utility, perceived ease of use, teaching competence, close-in-touch circle, professional field, social pressure, self-efficacy, and technical skills and resources. Thus, the degree of fit is suitable for further analysis.

Table 49 Model Summary with the Eight Variables Entered

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.935 ^a	.875	.869	.3233	1.768

a. Predictors: (Constant), TSR, SP, PEU, PU, PF, C, SE, CC
b. Dependent Variable: AIR

The role of ANOVA in linear regression is to test the integrity of the established regression model, and whether the model is successfully built (Turner, 2020). In this case (shown in Table 50), $F = 155.163$, $sig. < 0.001$, indicating that at least one independent variable can explain a part of the variation of the dependent variable; so that as the regression variation

increases, the residual variation decreases. Hence, the model can be successfully established.

The result in Table 50 shows that sig. < 0.001, indicating that the coefficient of at least one independent variable in the MLR model is non-zero. The statistical significance of the regression model also indicates that compared with the empty model, the inclusion of independent variables helps to predict the dependent ones, or the model is better. At a certain confidence level, the closer F is to 1, the smaller the difference is, and the larger F is, the greater the difference. Thus, a large F value indicates the statistical significance of regression analysis.

Table 50 ANOVA with the Eight Variables Entered

ANOVA ^a						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1 Regression	129.737	8	16.217	155.163	<.001 ^b	
Residual	18.604	178	.105			
Total	148.341	186				

a. Dependent Variable: AIR
b. Predictors: (Constant), TSR, SP, PEU, PU, PF, C, SE, CC

Table 51 on coefficients shows that all the motives have positive correlations with the actual implementation (see the positive numbers of Column B in Table 51), but only three independent variables pose significant influences (sig. < 0.05). Specifically, perceived utility (sig. < 0.05), social pressure (sig. < 0.001), and self-efficacy (sig. < 0.001), each has a significantly positive impact on the actual implementation of blended teaching, whereas unexpectedly, other motives do not have any significant impact on it.

Table 51 Coefficients with the Eight Variables Entered

Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1 (Constant)	.156	.126		1.234	.219			
PU	.148	.071	.168	2.074	.040	.107		9.321
PEU	.082	.058	.069	1.415	.159	.299		3.344
C	.047	.075	.062	.633	.528	.073		13.695
CC	.016	.105	.021	.148	.882	.037		27.359
PF	.021	.060	.029	.345	.731	.102		9.790
SP	.232	.032	.328	7.308	<.001	.350		2.854
SE	.388	.088	.513	4.429	<.001	.053		19.019
TSR	.035	.081	.047	.436	.663	.061		16.362

a. Dependent Variable: AIR

Multicollinearity refers to the existence of a linear correlation between independent variables, meaning that an independent variable can be a linear combination of one or several other independent variables. If multicollinearity exists, the matrix is not invertible when calculating the partial regression coefficients of independent variables. Its main manifestations include: the variance analysis results of the whole model being inconsistent with the test results of the regression coefficients of each independent variable; the test results of the independent variables with statistical significance in professional judgement are meaningless; and the independent variables' coefficients or signs are highly inconsistent with the actual situation (Kim, 2019).

Shrestha (2020) discussed three methods to detect multicollinearity; the main test methods include tolerance and the Variance Inflation Factor (VIF). The value of VIF should be greater than 1, implying no multicollinearity among the independent factors. The value of tolerance is bounded between 0 and 1; when the value is smaller than 0, there is collinearity between this independent variable and other independent variables. The coefficient of variance inflation is the inverse of tolerance, and the larger VIF is, the smaller the tolerance of independent variables, and the greater the collinearity problem.

As shown in Table 51, VIF values are all > 1 , and tolerance is $0 \sim 1$. Thus, it is certain that the three detected independent variables do not correlate with each other or the dependent variable, which makes the variables under study statistically significant without multicollinearity.

Therefore, we can see that perceived utility, social pressure, and self-efficacy have a significantly positive impact on blended teaching implementation. However, in this process, we can only see whether the three factors have influences on actual hybrid teaching practice and the influencing degrees; the participants' demographic features are not included.

Hence, in the next section, I will also take the seven demographic variables into account and test their relations with the dependent variable.

7.5.2 Hierarchical Regression

The previous section showed that perceived utility in the dimension of attitude, self-efficacy in the dimension of subjective controllability, and social pressure in the dimension of the external environment, have significantly positive influences on the actual implementation reality of blended teaching.

This section will now investigate whether they still have significant positive influences after the control variables are added to the analysis.

Hierarchical regression examines the relationship between one or more independent variables and a dependent variable, after controlling one or more additional variables. It is used to investigate the influence of the newly added independent variables on the dependent variable, after adding one or more independent variables (Huang et al., 2021).

Table 52 Control Variables (Demographic Features) Entered

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	professional title, gender, workplace, education, academic degree, age, experience ^b	.	Enter
2	PF, SP, PEU, PU, C, TSR, SE, CC ^b	.	Enter

a. Dependent Variable: AIR
b. All requested variables entered.

There are two levels in this hierarchical regression. Demographic control variables are gender, age, professional title, experiences, working places, academic degrees, and education levels. I input the adoption and implementation reality of blended teaching (AIR) as the target; then the seven demographic features in the first block as the first level; and the eight factors (PU, PEU, C, CC, PF, SP, SE, and TSR) as the other level in the other block, as the independent covariates in SPSS (see Table 52).

The Model Summary in the following Table 53 explains the factors indicating why actual implementation takes place, referring to its R Squared Change (0.843). All the variables can account for 86.8% of the actual implementation. The Durbin–Watson value is 1.812, closer to 2, indicating a strong possibility that the observed values are independent of each other.

Table 53 Model Summary of Control Variables (Demographic Features) Entered

Model Summary										Model Summary ^c	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	df2	Change Statistics	Durbin-Watson
										Sig. Change	
1	.189 ^a	.036	-.002	.8939	.036	.951	7	179		.469	
2	.937 ^b	.879	.868	.3242	.843	148.708	8	171		<.001	1.812

a. Predictors: (Constant), professional title, gender, workplace, education, academic degree, age, experience
b. Predictors: (Constant), professional title, gender, workplace, education, academic degree, age, experience, PF, SP, PEU, PU, C, TSR, SE, CC
c. Dependent Variable: AIR

In this case, shown in Table 54, $F = 82.685$, $\text{sig.} < 0.001$, indicating that at least one independent variable can explain a part of the variation of the dependent variable – so that as the regression variation increases, the residual variation decreases, and the model can be successfully established.

Table 54 ANOVA with Control Variables (Demographic Features) Entered

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.319	7	.760	.951	.469 ^b
	Residual	143.022	179	.799		
	Total	148.341	186			
2	Regression	130.367	15	8.691	82.685	<.001 ^c
	Residual	17.974	171	.105		
	Total	148.341	186			

a. Dependent Variable: AIR
b. Predictors: (Constant), professional title, gender, workplace, education, academic degree, age, experience
c. Predictors: (Constant), professional title, gender, workplace, education, academic degree, age, experience, PF, SP, PEU, PU, C, TSR, SE, CC

I expected that the teaching experience would influence blended teaching implementation. But to my surprise, among the seven demographic features as control variables, none attributes a significantly positive influence ($p > 0.05$) to it. Thus, once again perceived utility, social pressure, and self-efficacy strongly influence the implementation of blended teaching. Hence, Hypotheses 1, 5, and 8 (perceived utility, social pressure, and self-efficacy have significant positive effects on implementing hybrid teaching) are accepted. Then another problem emerges: we cannot judge which of the factors has a relatively stronger influence. This has to be tested by stepwise regression.

Table 55 Coefficients^a with Control Variables (Demographic Features) Entered

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
2 (Constant)	.176	.206		.853	.395		
gender	-.055	.053	-.030	-1.043	.298	.875	1.143
age	.028	.027	.030	1.041	.300	.881	1.135
workplace	.004	.015	.008	.287	.774	.937	1.068
experience	.071	.041	.058	1.720	.087	.621	1.610
education	-.016	.062	-.007	-.253	.800	.858	1.165
academic degree	-.023	.046	-.014	-.495	.621	.883	1.132
professional title	-.046	.031	-.051	-1.488	.139	.599	1.670
PU	.144	.073	.164	1.965	.040	.102	9.820
PEU	.091	.059	.077	1.548	.124	.289	3.460
C	.032	.077	.042	.414	.680	.069	14.518
CC	.037	.107	.048	.344	.731	.036	28.036
PF	-.003	.063	-.005	-.054	.957	.092	10.888
SP	.230	.032	.325	7.136	<.001	.342	2.923
SE	.424	.093	.561	4.580	<.001	.047	21.162
TSR	.016	.083	.021	.187	.852	.058	17.195

a. Dependent Variable: AIR

7.5.3 Stepwise Regression

When there are more than five independent variables in MLR, we will look at the adjusted R square. Moreover, R² only indicates that the explanatory variables included in the model have a joint impact on the explained variables, not that all explanatory variables in the model have a great impact individually on the explained variables (Alin, 2010).

The eight independent variables (PU, PEU, C, CC, PF, SP, SE, and TSR) are selected to observe the stepwise in the linear regression analysis.

Table 56 Stepwise Regression with Eight Independent Variables

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	PU	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	SP	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	SE	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	PEU	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: AIR

The model summary in Table 57 shows the R squared change of each variable with DW = 1.76. As a result, we can see that perceived utility, social pressure, self-efficacy, and perceived ease of use have significantly positive influences on actual blended teaching practice. All of them can jointly explain 87.1% of the reasons why hybrid the mode is implemented in a given context.

Table 57 Model Summary of Stepwise Regression with Eight Independent Variables

Model Summary ^e										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. Change	
1	.872 ^a	.760	.758	.4391	.760	584.283	1	185	<.001	
2	.897 ^b	.805	.803	.3968	.045	42.604	1	184	<.001	
3	.933 ^c	.871	.868	.3240	.066	93.008	1	183	<.001	
4	.935 ^d	.874	.871	.3209	.003	4.472	1	182	.036	1.760

a. Predictors: (Constant), PU
b. Predictors: (Constant), PU, SP
c. Predictors: (Constant), PU, SP, SE
d. Predictors: (Constant), PU, SP, SE, PEU
e. Dependent Variable: AIR

Table 58 ANOVA of Stepwise Regression with Eight Independent Variables

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	112.667	1	112.667	584.283	<.001 ^b
	Residual	35.674	185	.193		
	Total	148.341	186			
2	Regression	119.374	2	59.687	379.141	<.001 ^c
	Residual	28.967	184	.157		
	Total	148.341	186			
3	Regression	129.136	3	43.045	410.156	<.001 ^d
	Residual	19.206	183	.105		
	Total	148.341	186			
4	Regression	129.596	4	32.399	314.571	<.001 ^e
	Residual	18.745	182	.103		
	Total	148.341	186			

a. Dependent Variable: AIR
b. Predictors: (Constant), PU
c. Predictors: (Constant), PU, SP
d. Predictors: (Constant), PU, SP, SE
e. Predictors: (Constant), PU, SP, SE, PEU

In the coefficients^a of Table 59, the significance values of perceived utility, social pressure, self-efficacy, and perceived ease of use are all less than 0.05, indicating that we can build a regression equation based on these.

Table 59 Model Summary of Stepwise Regression with Eight Independent Variables

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
4	(Constant)	.142	.123		1.154	.250		
	PU	.183	.060	.208	3.064	.003	.151	6.637
	SP	.216	.027	.305	8.033	<.001	.483	2.071
	SE	.464	.050	.614	9.295	<.001	.159	6.282
	PEU	.108	.051	.091	2.115	.036	.375	2.669

a. Dependent Variable: AIR

In MLR, we can judge whether the regression residuals approximate normal distribution according to the histogram, with a normal curve drawn by the normalized residuals or P-P Plot Diagram. After the above operations, SPSS output results are as follows. As can be seen from Figure 27, the standardized residual of the regression approximates normal distribution. We can further judge by the mean and standard deviation in the upper right corner of the figure above. In general, the closer the mean is to 0 and the standard deviation is to 1, the more the standardized residual of the regression tends to be normally distributed.

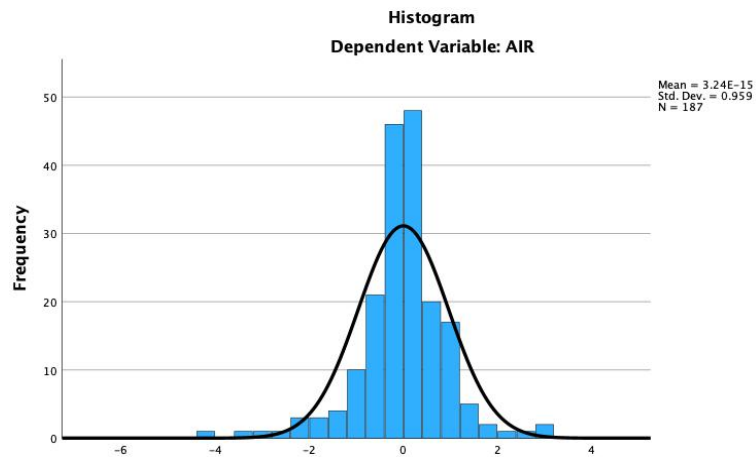


Figure 27 Regression Standardized Residual

At the same time, we can further verify the results of the bar figure through a P-P plot diagram, and see that the residual is approximately normal distribution, as shown in Figure 28 below. The closer the distribution of each point on the P-P graph is to the diagonal, the closer the data are to normal distribution. If everything falls exactly on the diagonal, the data are perfectly normally distributed. Whether the distribution is normal or not has little influence on the results of MLR. Generally, we believe that as long as the residual is approximately normal distribution, this is sufficient.

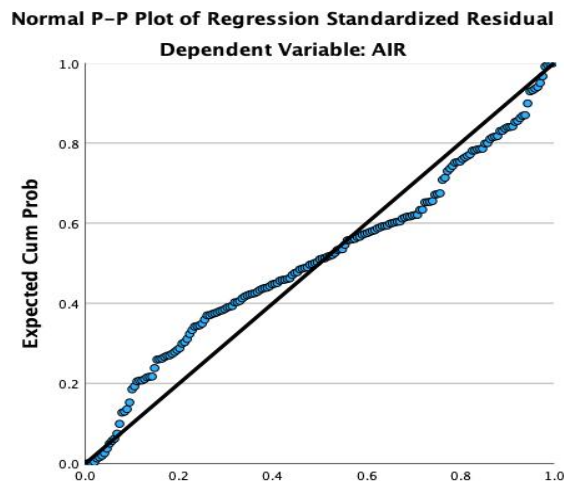


Figure 28 Observed Cumulative Probability

Therefore, according to the discussion, we believe that this study supports Hypotheses 1, 2, 5, and 8 (perceived utility, perceived ease of use, social pressure, and self-efficacy have significantly positive effects on implementing hybrid teaching).

7.6 Summary

According to the coefficients in Table 59, the t-values for perceived utility, social pressure, self-efficacy, and perceived ease of use, and the residual df, we can generalize the results to a wider population of college English teachers.

H1: Perceived utility of blended teaching has a significantly positive effect on implementing blended instruction.

H2: Perceived ease of use has a significantly positive effect on implementing blended instruction.

H5: Self-efficacy has a significantly positive impact on implementing blended instruction.

H8: Social pressure has a significantly positive impact on implementing blended instruction.

The qualitative results of the eight themes (motives) relate to or influence blended teaching practice. It was not expected that they would be narrowed down to only four motives to explain the causal relationships in the above quantitative test. The quantitative study in this chapter provides not only the correlations between the themes, and the actual implementation reality of blended instruction, but also their influencing degrees and the ranking order of their influences.

As shown in Table 59, the regression equation model, $AIR = 0.142 + 0.183 * PU + 0.216 * SP + 0.464 * SE + 0.108 * PEU$, can be completed by equating the dependent variable AIR to the constant value 0.142, plus the independent variables multiplied by their coefficients respectively.

The test statistic found from SPSS is $t = 1.154$, with 182 df, and associated p-values of 0.003, 0.001, 0.001, and 0.036. Because p is small in all cases, below 0.05, the correlations are unlikely to be a chance result. Hence, we can infer that there are cause–effect relationships between the independent variables and actual blended teaching reality. Hence, we reject the null hypotheses in favour of H1, H2, H5, and H8. In other words, perceived utility, social pressure, self-efficacy, and perceived ease of use can predict college English teachers' adoption and implementation of blended teaching at private colleges and universities in Shanghai, with self-efficacy as the strongest and the dominant factor, social pressure the second, perceived utility the third, and perceived ease of use the fourth.

In the next chapter, I will conclude the findings and discuss the contributions, implications, reflections, and future research.

Chapter 8 Conclusion

The background of this dissertation is that teachers' application of technological intervention in HE has not maintained much impetus, despite being advocated. Taking into consideration teachers' roles, I aimed to explore their motives and perceptions, in order to add more pedagogical value to the blended teaching practice, particularly regarding implementation.

I first conducted a small group interview as the pilot study, described in Chapter 4, and then adopted focus groups in Chapter 6. These collected data were analysed using a qualitative thematic approach, to identify and explore the motives influencing teachers' adoption and implementation of blended teaching. Chapter 5 examined the effectiveness of a blended course design through quantitative methods, comparing an AES system in a blended context with manual marking in a traditional one. Chapter 7 described the specific hybrid teaching situation through a questionnaire survey based on Neumeier's parameters, and used quantitative MLR methods to test and measure the identified influencing motives.

This chapter discusses the research findings and elaborates on the contributions to knowledge and practice. It also proposes research implications and suggestions; mainly from the perspectives of innovating teachers' concepts and roles, promoting teachers' professional development, optimizing the evaluation mechanism, and how institutions such as schools and departments build a campus culture with blended TL scenarios. Finally, it considers the study's limitations and makes suggestions for future related research.

8.1 Research Findings and Discussions

This dissertation has inquired into teachers' motives and perceptions of implementing blended instruction, based on TL experience in private colleges and universities in Shanghai. It aimed to explore the motives causing teachers to implement hybrid teaching (or not), test their relationships, measure their influence levels, describe the specific blended TL situation, and examine the effectiveness of an AES-supplemented blended course design, with the purpose of developing relevant theories and improving teaching practice in my context. The research aims are fulfilled by applying a mixed-methods

approach, comprising qualitative thematic methods and quantitative statistical methods.

When collecting and analysing data, I also took into consideration three aspects of each RQ concerning teachers' perceptions of the blended approach based on their blended TL experience: (1) the benefits for teachers and students; (2) how and why blended TL can improve teachers' or students' degree of motivation, engagement, and satisfaction; and (3) students' learning outcomes. In this research, two kinds of outcomes were used for measurement, gained from the blended TL experience. On the one hand, the objective criteria are the awarded scores of during-term, mid-term, or end-term examinations; on the other hand, the subjective measurement concerns motivation, engagement, and satisfaction gained from previous experience.

Table 60 The Overarching Framework of Data Collection

Data sets	Qualitative Data collected from teacher participants
Data set 1	Pilot study: an F2F small group interview conducted in the UK, with 2 teachers from 2 different private colleges and universities in Shanghai (2019)
Data set 2	A focus group online with 5 teachers from 4 different schools, exploring their motives and perceptions on implementing blended teaching, such as blended forms, their characteristics, advantages, disadvantages, facilitators, and barriers (2019)
Data set 3	A focus group online with 9 teachers from 6 different schools, exploring their motives and perceptions on implementing blended teaching, such as blended forms, their characteristics, motives, conundrums, and countermeasures (2020)
Data sets	Quantitative Data collected from student participants
Data set 4	Pretest: The Scores of Students' Paper Writing and Online Writing (2018)
Data set 5	Post-test: Teachers' Marking of Students' Paper Writing and AES Scoring of Students' Online Writing (2019)
Data set 6	A questionnaire distributed to the 2 groups of students on <i>The Difficulty Rating of the Writing Topics</i> (2019)
Data set 7	A questionnaire distributed to the 2 groups of students on <i>Student's Attitude Toward Teacher's Marking and AES</i> (2019)
Data sets	Quantitative Data collected from teacher participants
Data set 8	An online questionnaire on <i>Current Blended Teaching Situation of the College English Course</i> distributed to 166 teachers from 6 different private colleges and universities in Shanghai (2019)
Data set 9	A questionnaire on <i>The Motives Influencing College English Teachers' Adoption and Implementation of Blended Teaching</i> , distributed online to 187 teachers from 6 different schools (2021); data were collected for a quantitative test.

The following section expounds on the research contributions by illustrating whether it has achieved its aims, in terms of providing the research results and answering the RQs.

8.1.1 Identification and Exploration of the Influencing Motives

After conducting a pilot study and two focus groups, whose results were analysed using the thematic approach, I identified eight themes and three dimensions to answer RQ 1 (“What motives are perceived by college English teachers to influence their adoption and implementation of blended teaching?”). As shown in Table 39 in Chapter 6, the actual implementation of blended instruction is related to or influenced by the following motives and dimensions: perceived utility and perceived ease of use in the dimension of attitude; close-in-touch circle, professional field, and social pressure in the dimension of external environment; and self-efficacy, teaching competence, and technical skills and resources in the dimension of subjective controllability. These three dimensions and eight motives strongly influence the actual adoption and implementation, in terms of teachers’ real blended teaching practice in the given context; while teachers’ perceptions of blended TL forms are moderately relevant to their implementation.

8.1.2 Blended Forms in Practice and Their Characteristics

Table 61 shows the answer to Sub-question 2 (“Which blended forms do teachers undertake, and what are their characteristics?”). According to the thematic categorization of data collected from the two focus groups in Chapter 6, five blended forms are identified according to the degree of mixing, what to mix, and how to mix.

The first form of the blend provides online technological assistance without changing the original course content, and is characterized by simplicity. It also has the advantages of teachers and students picking it up easily, being less demanding, and lightening teaching burdens, resulting in broad applications. It is a basic-level blend, such as integrating an AES system into English writing. To define it, this model appends additional activities to an existing course, but does not make any changes to the dominant F2F classroom TL. In this model, the online part presents related TL contents, supplements F2F teaching by adding extra activities, or expands teaching resources through online extensions of vocabulary, quizzes, and tests. It will not replace any of the classroom teaching but complements it. Thus, it holds the same function as the auxiliary theory. The effectiveness of this form is examined in Chapter 5.

Among all the models, the basic level is acknowledged by teachers in

unison, while from the students' perspective, a similar finding indicated that undergraduates preferred a blended approach that supplemented their face-to-face learning experience (Jefferies, 2011).

The second form is the flipped classroom, in which teachers assign students to preview TL contents; then, students' classroom brainstorming and discussion serve as the main body, and teachers act as an invisible hand. Preparing the preview materials requires teachers' careful designs and ingenuity, to form an engaging flip.

The third form is topic-based integration of online and offline resources, which requires the preparations and contributions of teachers and students. It involves multiple mixing, such as a mix of teachers' and students' teaching, a mix of individual and team learning, and a mix of online and offline assessment. Teachers can have a good grasp of the students' pre-learning situation through the big data and their classroom performances, to provide help with personalized characteristics.

The fourth form integrates online synchronous and asynchronous elements, with the former providing synchronized interaction and immediate feedback, whereas the latter facilitates students' autonomous learning.

The aforementioned second, third, and fourth forms are defined in terms of complexity as the medium-level blend. It aims to design the courses by purposefully replacing some activities in the existing traditional ones, such as deliberately using MOOC to flip the classroom, or a mix of topic integration with online resources and offline activities. Online teaching is an organic part of course design, to supplement or be supplemented by F2FT on the spot. The most typical kind is following this procedure: F2FT (workshop) + online learning + discussion (online or offline workshop) + F2FT (workshop). It partially changes the F2F classroom teaching or flips it, and thus has the same role as substitution theory.

The fifth form has the characteristic that teachers adjust TL dynamically; they reorganize all the contents of a semester's resources. Teachers and students can take control of the self-study pace, and conduct continuous interactions to stimulate vitality in a class. It is acceptable to the participants; however, they have not tried it out in their teaching reality, as they harbour doubts about it. This form is regarded as difficult. It is classified as a high-level

blend in terms of complexity.

This model builds the blended course from scratch, to enhance the teaching effects. It is like the menu model, in which teachers and students can select whatever they want – like ordering food in a restaurant or preparing a big feast. This kind of blended model breaks the obvious chapter sequence in traditional TL. It connects the three methods of F2FT, synchronous, and asynchronous online teaching. This model specializes in increasing the pace and vitality through more communication and interactions. It brings evident changes to the traditional classroom for merging multiple TL results. Thus, it is similar to the strengthening or improvement theory.

Table 61 The Blended Forms in Practice and Their Characteristics

The forms discussed	Model themes and complexity
(1) The simple hybrid, integrating with the marking network	The basic-level blend, simple
(2) Flipped classroom supported by the textbook press, MOOC, SPOC, or micro-lessons	The medium-level blend, challenging
(3) Topic-based integration of online and offline resources	
(4) Online synchronous and online asynchronous elements	
(5) Dynamic adjustment; complex mixing with continuous interaction	The high-level blend, tough

No matter what form is being used by an individual teacher, it is agreed that the teacher plays a scaffolding role, while students' independent ability is the key to the overall quality of the blend.

8.1.3 Facilitators or Barriers?

The answer to Sub-question 2 (“Which motives are perceived as facilitators or barriers when blended teaching is implemented in the given context?”) is complicated, as shown in Table 37. The identified motives can all influence teachers' blended teaching practice. However, professional field and social pressure act as facilitators. Motives such as close-in-touch circle, self-efficacy, technical skills and resources, and perceived ease of use, play the dual roles of facilitator and barrier. Technical skills and resources tend to facilitate the implementation, with the epidemic as a watershed. This shows that from the outbreak of the pandemic in 2020, when teachers and students widely adopted and implemented online TL, they have displayed remarkable adaptability. We should notice that perceived utility is not holding teachers back or facilitating them, but it is unpredictable. Teaching competence is still an obstacle, as successful implementation places challenging requirements on

teaching competence in all aspects. This point is consistent with the literature, as was illustrated in Section 2.5.4.

The advantages of blended instruction can promote hybrid teaching implementation, whereas the disadvantages can hinder it. As discovered in Sections 6.4.4, (1) in blended instruction, teachers scaffold and students dominate, which emphasizes students' engagement in learning. (2) Blended instruction adopts various means to cultivate students' abilities in English, through group cooperation, discussions, and other teaching forms. (3) It can make teachers get to know the students through their learning records, and helps to evaluate students. (4) It enables learning to occur in different places and encourages students' independent learning all the time. (5) It leverages educational technologies to incorporate course treatments conveniently. (6) It can help solve the big class-size issues and save costs. However, as shown in the discussion, the disadvantages cannot be ignored, and dialectically coexist with the advantages. They include the contradiction between the technological involvement and the lack of teachers' computer ability, the risk of handling learning resources, the lack of competence to use the blended approach appropriately, the difficulty of holding discussions or integrating the Western elements, and role change. All these suggest that whether teachers are proficient at using blended teaching is the core of successful adoption and implementation. Therefore, how to improve teachers' blended teaching competence in all aspects is a major concern that requires further discussion.

Similarly, the conundrums hinder the process of implementing blended instruction, whereas the tentative countermeasures can develop it (see Section 6.5.7).

According to the analysis of the second focus group, observations, and informal online conversations, teachers consider their challenges in implementing blended teaching to be revitalizing a blended class, cultivating students' abilities, matching students' needs, low self-efficacy, time and energy consumption, role changes, and doubts about its effects. They also execute tentative countermeasures to tackle these problems.

A blended TL class can be revitalized by diversified voices from teachers and students, or by customizing resources and diversified methods – for

example, engaging the students in debate and discussion, to enable the values to flow into their hearts (see Section 6.5.7 and Section 6.6).

Blended teaching can make a difference in that it provides room for teaching differences, and allows multiple interactions. The blended approach can improve the learning outcomes of those self-disciplined and efficient students. However, it disadvantages those who cannot conduct self-disciplined independent study (see Section 6.5.7 and Section 6.6).

As for low self-efficacy, it is crucial to build or rebuild it by overcoming difficulties. The time- and energy-consuming design of a blended course can be solved by teachers' effective utilization or optimized redesign, taking the best of what other schools have already done, such as MOOC and micro-classes, or making full use of the available resources (see Section 6.5.7 and Section 6.6).

Teachers can cultivate students' abilities with different methods, and meet their needs by matching them with the proper available resources. The real F2F classroom aims to cultivate crucial values through debate and discussion, the manipulative ability by practical operation, and creativity through independent or collaborative thinking and design. By contrast, conceptual introduction, inference procedures, or other knowledge can be conveyed online, because it allows students to watch materials as they want. It is necessary to customize the MOOC to match students' needs; thus, for different categories of learners, teachers can provide diversified learning methods and resources to match students' needs (see Section 6.5.7 and Section 6.6).

Regarding the issue of role changes, independent learning online and discussion offline are the crux. Due to characteristics of Chinese culture and personality, students are not good at or unwilling to show their ideas, which makes discussions difficult. First, the teacher should explain some content more deeply than the students' teaching group in the F2F classroom. Second, students should discuss more. While peers play a role, teachers should guide them to stimulate the discussion. Third, teachers can scaffold students' independent learning, such as organizing and designing students' online learning by adding a mandatory rhythm. Fourth, conducting effective blended teaching behaviours can promote the change of teachers' roles; for example,

multiple assessment methods that motivate students to engage actively. Outcome-based education aims to facilitate what is difficult to achieve by traditional teaching, and can be measured by “creativity, difficulty, breadth, and time in class” (see Section 6.5.7 and Section 6.6). The teachers in their own right have varied views of their roles according to the school’s environment, teaching methods, personality characteristics, and cultural background.

Therefore, the blended reform of college English has injected new life into traditional and online teaching. ICT has come to the forefront of education. and various factors in the teaching system have changed correspondingly. However, technocentricity (Chamber & Bax, 2006, p.467) overstates the role of technology in foreign language curricula, and it is absurd to think that technology can solve all the problems in second-language acquisition. In this age, we should keep a clear head and admit that the integration of technology and college English courses is an inevitable trend (Liu, 2021). However, while affirming the advantages of the blended reform model, teachers and all the parties involved need to objectively analyse the conundrums, and find the pertinent methods and approaches to solve the problems in its implementation. The above findings also suggest that teachers take an active attitude in detecting problematic issues and trying out the countermeasures.

8.1.4 The Relationships Between the Identified Motives and the Hybrid Teaching Practice

To answer Sub-question 2 (“What are the relationships between the identified motives and the hybrid teaching practice?”), this section specifies the details of their relationships and their influence levels.

8.1.4.1 The Correlations

(1) Table 62 indicates that when teachers perceive a blended approach can bring effectiveness or benefits to their teaching practice, they will evaluate it positively and tend to apply it. From the perspective of utility, the blended approach is recognized by teachers as one of the critical approaches in my context. It is considered to have some advantages, such as enabling study to occur in different places, and encouraging students’ independent learning all the time (see Section 5.4.3). The hybrid teaching mode can enhance the advantages of ICT and combine offline with online teaching to maximize the teaching effect. This is why most of my participants showed an optimistic

attitude towards the blended approach, though at the same time, they revealed anxiety caused by its disadvantages.

Table 62 Theoretical Framework of the Motives Influencing Teachers' Adoption and Implementation of Blended Teaching in My Context After Qualitative Thematic Analysis

Dimensions	Themes / Motives	Descriptions
Attitude (positive or negative; favour or dislike; optimistic or anxious)	Theme 1 Perceived utility (effectiveness, benefits)	When teachers perceive blended teaching can bring effectiveness and benefits to their TL, they will evaluate it positively and tend to apply it.
	Theme 2 Perceived ease of use (less complex, time and labour saving)	If it is easier to use, such as time and labour saving, teachers will be in favour of using it.
External environment (pressure from the surroundings)	Theme 1 Closely-in-touch circle (peers, students, superiors, institution)	The pressure from the close-in-touch circle, the professional field, or society will increase or reduce the external influence on teachers' adopting and implementing mixed teaching, but the relations are complex and uncertain.
	Theme 2 Professional field (academic research, experts, and prestigious schools)	
	Theme 3 Social pressure (reform, policy, pandemic, expectations from the parents and society)	
Subjective controllability (self-judgement of steerability)	Theme 1 Self-efficacy (confidence, self-assessment of impact)	Self-efficacy will increase or decrease teachers' subjective controllability in their implementation of a blended approach.
	Theme 2 Technical skills and resources (facilitation and constraints)	Technical skills and resources can also increase or reduce teachers' subjective controllability over their implementation of blended teaching.
	Theme 3 Teaching competence (matching with teachers' teaching ideas, values, and experience)	Teachers will become optimistic when they perceive that blended teaching pedagogy, such as blended teaching requirements, is in line with or overlapping with their teaching ideas, values, and experience. Teachers will tend to use it when they judge that they are capable of implementing it smoothly.
The three dimensions: attitude, external environment, and subjective controllability, can affect teachers' adoption and implementation of the blended approach in my context. The implementation reality is influenced by the following motives: perceived utility (PU), perceived ease of use (PEU), close-in-touch circle (CC), professional field (PF), social pressure (SP), self-efficacy (SE), compatibility (C), technical skills and resources (TSR).		

(2) If it is easier to use, such as time-, energy- and labour-saving, it will encourage teachers to implement it (Summary in Chapter 5). The qualitative analysis in Chapter 4 and Chapter 6 showed that teachers generally held a positive attitude when they perceived the blended teaching practice was not complex. If the technology could not facilitate teaching in a perceived easy way, it was likely to be considered to add complexity to TL in a blended environment. Hence, the complexity of a hybrid approach indicates a risk for teachers when they are supporting their students or handling other blended teaching problems.

(3) This research also shows that teachers will become optimistic and tend to apply it when they perceive that blended teaching issues can be solved by their teaching competence – such as parts that overlap with their teaching skills, ideas, values, and experience. My participants valued blended teaching highly for its advantages, but were worried about its challenges. The teacher participants set elementary TL goals. They trained the memorization and understanding of the knowledge by online teaching, and taught students' skills by operational practice, engaging analysis and application. Teachers cultivate students' higher-level abilities by completing tasks in groups or by mutual evaluation between groups. For these reasons, the compatibility between blended teaching requirements and teaching competence has a positive influence.

(4) According to the thematic analysis, factors such as peers, students, superiors, and institutions can influence teachers' adoption and implementation of blended teaching. Other factors such as academic research, experts, prestigious schools, policy, the pandemic, and the expectations from students' parents and society can also have an impact. Hence, it is found that the pressure from the close-in-touch circle, the professional field, or society, can increase or reduce the external influence on teachers' adoption and implementation of mixed teaching.

(5) Self-efficacy represents an individual's perception of confidence in using a blended approach; specifically, the subjective self-assessment of using it to improve students' learning outcomes, or pedagogical reform. In addition, technical skills and resources represent an individual's abilities to solve technical issues and retrieve resources, as well as their constraints in applying a blended teaching mode. Both self-efficacy and technical skills and resources belong to the internal control category. In the specific blended teaching context, the higher the teacher's self-efficacy, the more confident they are in steering mixed teaching, and the stronger their sense of controllability of the hybrid teaching behaviours. The greater the technical skills and resources, the richer and more reliable the technological system, and the stronger the teacher's sense of control over the mixed teaching behaviours. Thus, self-efficacy will increase or decrease teachers' internal influence on their adoption and implementation of a blended approach. Technical skills and resources will also

increase or reduce teachers' subjective controllability over blended teaching implementation.

8.1.4.2 The Influencing Degrees of the Identified Motives

Next, this theoretical framework was tested using MLR methods, with eight independent variables entered, to identify their correlations. It was found that perceived utility has a significant positive impact on blended teaching implementation. Social pressure and self-efficacy also have a significant positive effect. These three motives are also emphasized in the theme exploration in Chapter 6. However, this process shows whether only three motives influence the implementation of hybrid teaching, and their influence degrees, but the other factors were excluded. Hence, the demographic features were also taken into consideration.

Then I used hierarchical regression to include the seven demographic features: gender, age, professional title, experiences, working places, academic degrees, and educational level. Altogether 15 variables were considered, with the actual implementation reality as the target, and perceived utility, perceived ease of use, close-in-touch circle, professional field, social pressure, self-efficacy, compatibility, and technical skills and resources as the independent covariates. I expected that teaching experience might have an influence. However, to my surprise, among the seven demographic features as the control variables, none had any significant influence (sig. > 0.001) on the actual implementation of blended teaching. Thus, perceived utility, social pressure, and self-efficacy can influence the implementation reality. Stepwise regression was then conducted, to reveal which motive has the strongest influence.

Furthermore, the eight independent variables were selected for the stepwise linear regression analysis: perceived utility, perceived ease of use, close-in-touch circle, professional field, social pressure, self-efficacy, compatibility, and technical skills and resources. In the coefficients, the sig. values of perceived utility, social pressure, self-efficacy, and perceived ease of use are all less than 0.05, indicating that we can build a regression equation based on these.

From the information provided, we can make use of the coefficients, the t-value for perceived utility, social pressure, self-efficacy, and perceived ease

of use, and the residual df. Here follows the generalization of results to a wider population of college English teachers:

Perceived utility has a significantly positive effect on college English teachers' implementation of blended teaching.

Perceived ease of use has a significantly positive effect on college English teachers' implementation of blended teaching.

Self-efficacy has a significantly positive impact on college English teachers' implementation of blended teaching.

Social pressure has a significantly positive impact on college English teachers' implementation of blended teaching.

Compared with the qualitative results and findings, the eight themes are narrowed down to only four motives. The quantitative study provides the correlations between the motives and the implementation reality, their influencing degrees, and their order of influence.

Perceived utility, social pressure, self-efficacy, and perceived ease of use can have significant positive influences on college English teachers' adoption and implementation of blended teaching at private colleges and universities in Shanghai, with self-efficacy (0.464, meaning it explains almost 50% of reasons for implementation) being the strongest dominant factor. In the regression equation model "AIR = 0.142 + 0.183*PU + 0.216*SP + 0.464*SE + 0.108*PEU", attitude can assume the function of deciding whether an individual teacher will accept or reject certain new teaching modes.

From the dimension of external influence, it was unexpected that in a larger survey, neither close-in-touch circle (including peers, superiors, institutions, and students), nor professional field had a significant influence on teachers' adoption and implementation, whereas social pressure had a significantly positive impact on the implementation reality. Social pressure was an emerging theme discovered in the qualitative analysis, including factors of reform, policy, the pandemic, and expectations from society. Therefore, the greater the social pressure, the more teachers will be driven to adopt a blended approach.

The dimension of subjective controllability shows that since the pandemic, teachers' apparent concerns about technology have declined, with more optimism and confidence. Hence, technical skills and resources, which used to

be a poison that destroyed teachers' results, are now the medicine to improve their teaching efficiency. According to the statistical test, technical skills and resources no longer dramatically influence the adoption and implementation of a blended approach. However, self-efficacy turns out to have a significantly positive influence: the higher the teacher's self-efficacy, the more possible it is for them to adopt and implement the blended mode.

Therefore, self-efficacy, social pressure, perceived utility, and perceived ease of use are significant positive predictors of teachers' acceptance and behaviours of blended teaching practice. To a large extent, whether teachers can maintain a high level of self-efficacy predicts the sustainability of blended teaching implementation.

8.1.5 The Effectiveness of Automated Essay Scoring System in a Blended Course Design

A small-scale quantitative study was conducted in a blended context, with 71 participants in their second year of studying college English in a Chinese private college. They were divided into two groups, to compare automated essay scoring (AES) in a blended context with teachers' manual marking in the traditional one. The effectiveness of and attitudes towards the two approaches were measured and compared using quantitative methods.

To answer RQ 2 ("Can we observe significant differences in effectiveness and attitudes between a blended instructional design integrating an online writing marking system, and traditional face-to-face teaching using human scoring?"), based on the statistics in Chapter 5, both groups show some improvement in writing over time. As a deep human cognitive activity, scores marked by human teachers tend to be lower or stricter, but in no circumstance does this prove that the online writing system scores better than the teacher's marking. Students are not disadvantaged by the technological intervention, such as writing in the blended context using AES. It is seen as double-edged; a necessary development, but is suspected to be disastrous for human activity (Elliot & Williamson, 2013). AES is in alignment with human scoring in the experiment; hence, it is valid. Both traditional ways and a blend with AES work well for the students, but the data do not show if one is more significantly effective than the other.

The difficulty and easiness of the 10 assigned essays were perceived as almost the same between the two groups. There is a negative correlation whereby students performed better in the topics they perceived as difficult, while they received worse scores in those they regarded as easy. This may be attributed to the avoidance of the ceiling effect.

8.1.6 Promoting or Restricting Teaching Effects?

To answer Sub-question 1 (“Does the blended instructional design promote or restrict teaching effects?”), this study agrees that AES integrated into a blended writing-course design is as effective as traditional teaching for improving writing outcomes. It can enhance teachers’ working efficiency and students’ learning experience; furthermore, it has the potential to enhance both the effectiveness and efficiency of meaningful learning experiences. In this respect, this blended form is consistent with the values of traditional HE institutions. However, the results of this study do not show that the blended approach is better, and students hold varied and complex attitudes towards it.

The above findings provide a positive answer regarding the effectiveness of a blended form. As shown in Chapter 5, blended course design with AES integrated into the college English writing course can be as effective as the traditional writing correction mode, but benefits from some obvious advantages. Compared with the traditional way of writing, it can provide real-time automated grading through the online writing platform, and detailed individual feedback on the syntax, structure, and writing norms. In my context, compared with human teachers being able to mark just a few assignments manually for all the students in one semester, AES can provide feedback for numerous writing assignments to each student more quickly. Thus, it is applied to supplement the traditional classroom teaching, which is mainly conducted via face-to-face lectures and tutorials in classrooms.

These advantages can compensate for the shortcoming that the teacher is unlikely to give students comprehensive and detailed feedback in their traditional paper writing. Not only can it reduce the teacher’s burden of grading a large number of compositions, but also the teacher can devote more time and energy to the writing instruction in and outside class. This represents a step forward to emancipate humans through science and technology in the educational field. In addition, it can also help students develop the habit of

repeatedly revising their compositions, in order to develop their SRL in the direction of personalized learning.

8.1.7 Students' Attitudes

In terms of Sub-question 2 (“What are students’ attitudes towards them?”), to clarify the relationship between learners’ attitudes and performance, the results were more complex than expected. There was a significant difference between AES and paper writing in low-score achievers, who tend to be more demanding towards teacher’s marking, but favour AES. This phenomenon may be due to the specific features and functions of the AES system. However, we cannot see a great difference between teacher’s markings and AES in high-score achievers, who are positive or satisfied with both. Both methods are acceptable for them. As some scholars have pointed out, students can have higher satisfaction with online systems if their performance or behaviours have been changed, but not necessarily enhanced by the system (Gairs, 2007). Their writing behaviours with AES have been changed more than in the traditional routine way; thus, both high- and low-score achievers are satisfied with this AES-supplemented writing experience (Yu & Barker, 2020).

8.2 Implications and Recommendations

As discussed above, in my context, whether to implement blended teaching is not an issue; the important question is how to optimize its implementation, by considering the above motives in the TL process. This dissertation thus proposes a path suitable for college English teaching within the blended environment of local private colleges and universities, to provide theoretical support and a practical basis for developing the blended teaching practice of college English.

According to Babansky’s theory of optimization of the teaching process, a systematic approach is required to see the whole process of blended teaching. All the elements of online and offline are interrelated. To optimize college English TL in the process of implementing a hybrid model, we should not only scientifically organize the activities for teachers and students, but also choose the best teaching methods and means, the best teaching content and form, and build the optimal teaching structure (Babansky, 1973; Liu, 2017). Thus, in the blended teaching environment, college English teaching should use different forms for different contents, to achieve the most effective

combination.

As indicated by the results in Chapters 4, 6, and 7, self-efficacy is the dominant factor influencing teachers' adoption and implementation of blended teaching. Social pressure, perceived utility, and perceived ease of use are also influential. Chapter 5 shows that students are not disadvantaged by a blended TL mode; it is at least as effective as the traditional blended course design. Similarly, blended teaching has its unique advantages and benefits, though it can be challenging.

Accordingly, to take full advantage of the blended model to improve the quality of college English, this paper puts forward suggestions on optimizing the elements in blended TL. It aims to construct an optimization framework, with teachers' professional development and students' autonomy as the core and a blended TL environment as the support, under the guidance of teaching optimization principles. This framework involves three sub-frameworks: teachers' professional development, students' autonomy, and a blended teaching environment for college English. (1) The teachers' professional development framework refers to promoting teachers' modern professional development, with the innovation of teaching concepts and professional training as the core, aiming to improve all-around teaching competence. (2) Students' autonomy refers to the cultivation of students' SRL abilities. This study suggests that students should be trained in two aspects: explicit and implicit, guided by foreign language learning theory. A multiple-component monitoring system is proposed, involving teachers, administrators, and platform technology. (3) The blended TL environment of college English refers to creating a campus culture of high-quality online–offline teaching scenarios; providing a solid infrastructure, service, and rich resources; and optimizing the blended TL evaluation mechanism.

The framework of the teachers' professional development is the premise for the students' SRL framework. The students' autonomy framework is the ultimate goal of the framework for teachers' professional development. The framework of environmental construction supports the framework for teachers and students. Therefore, the three sub-frameworks are mutually compatible and supportive.

Table 63 An Optimization Framework for the Process of Implementing Blended Instruction, Created by the Author

Sub-framework	Connotation	In detail
<u>Teacher's professional development</u>	Innovation of teaching concepts and roles	Innovating teaching concepts, changing roles, diversifying teaching methods and means
	Professional training	Improving information literacy, creating intelligent development platform, improving teaching skills
<u>Student's autonomy</u>	Explicit SRL	Promoting information literacy, engaging themselves, using BL strategies, improving learning outcomes
	Implicit SRL	Boosting learning motives, managing emotions, improving their self-judgment
	Supervision	Multiple component monitoring
<u>Construction of blended TL environment</u>	Infrastructure, service, and resources	Optimizing hardware and software environment, providing timely and individualized service, sharing rich resources
	A campus culture with blended TL scenarios	Publicity of blended approach, giving full play to the role of the basic units of the departments, colleges, and backbone teachers
	Blended TL evaluation mechanism	Policies, financial support, decision-making

8.2.1 Innovation of Teachers' Concepts and Roles

Carl Rogers, an advocate of humanism, proposed the student-centred teaching concept and criticized the teacher's role, characterized by lecturing. He paid attention to the emotional interaction between teachers and students, and emphasized that teachers should be the promoter of students' learning. Supporters of constructivism, such as Jean Piaget, believed that teachers are one of the tools for students to achieve their learning goals; they play a crucial role in learners' meaning construction of knowledge, problem-solving in real situations, social communication, and collaboration. He emphasized that teachers should respect, trust, and empathize with their students, to achieve the desired educational effect.

According to the analysis of this research, in the hybrid context, the renewal of teachers' concepts and the change in their roles are the key factors in the success of blended teaching (as shown in Sections 6.6 and 6.7). As for implementing blended TL in college English, the teacher plays a crucial role in changing TL from teacher-centred to student-centred. The carrier of language learning itself is the situation. Teachers are creators of learning situations. Thus, regardless of how the curriculum is reformed or set up in the college English stage, it is a basis for creating a harmonious situation that is conducive to knowledge exploration. This includes macro and micro levels. The macro is the general social and cultural background of a unit or a class, keeping pace with the era, while the micro level can be developed according to a link or

students' interest. However, the micro situation cannot deviate from the general direction of the macro one (Liu, 2021). Blended teaching requires a teacher to be a keen builder of the situations, and the creator of a harmonious classroom atmosphere. The classroom here includes real and virtual classrooms. Teachers can make use of public platforms, social media groups, and teaching apps to guide students to learn independently. In addition, the teachers help the students maintain a certain pace in their independent learning.

The roles of teachers and students have changed in blended TL; in fact, this shift has placed greater responsibility on teachers, because the classroom model requires professional educators to be more responsible, caring, and knowledgeable about instructional design. In the blended teaching practice, teachers should ensure the quality and quantity of pre-class teaching video production, PPT quality, assignment of learning tasks, communications with, and guidance of students, arrangement of group activities, evaluation and feedback, and other links. Therefore, the new classroom teaching mode introduces higher requirements for teachers' teamwork coordination and cooperation ability, comprehensive teaching skills, consciousness of relearning, and action.

8.2.2 Professional Training

According to Section 6.5, it is challenging to match the educational resources with learning needs. Unsystematic learning resources and insufficient well-trained teachers are two shortcomings in blended teaching practice. Moreover, it is also demanding for teachers to cultivate students' targeted abilities using different methods. As illustrated in Section 6.4, the study identified at least five forms and three corresponding models in teachers' blended teaching practice. How teachers can manage multi-modal blended TL poses challenges to teaching competence. Thus, carrying out regular professional training for teachers can enhance the ease of implementing blended teaching practice.

However, how educational institutions provide effective practical training support for teachers is a primary challenge; equally, it is difficult to maintain the training results. As the findings of this research show, perceived ease of use affects college teachers' attitude to using blended learning. If they lack

sufficient informational and pedagogical knowledge, it will increase the difficulty of implementation, and reduce their willingness to use it.

In terms of training, it should mainly include technological and teaching methods. Training content can involve the use of online learning platforms and micro-class production. The professional training should enable teachers to master the various functions of the online platforms, be familiar with the operation of micro-class production software, and be able to record micro-classes by themselves. Regarding teaching methods, we should pay attention to training teachers' blended course design ability, and the ability to connect online and offline teaching seamlessly. We can invite experts and teachers to demonstrate training methods, and can adopt F2F or network training.

8.2.3 A Campus Culture of Blended Learning Scenarios

Both constructivism and social constructivism emphasize the context in learning (Amineh & Asl, 2015), which refers to the social and cultural background. People are usually interested in real problems or things that are related to them. To create a situation is to establish a social and cultural background that is closely related to the content learned, which students are interested in, and which is conducive to students' initiative in meaning construction (Timmer et al., 2019).

Creating a campus culture of blended TL scenarios can help overcome the divisions between online and on-site in a classroom, and blur the boundaries between the school and the out-of-school (Engel & Coll, 2022). Because the external environment, including peers, students, superiors, and institutions, all play important roles in the adoption and implementation of blended teaching, culture is a way of working together towards a common goal that is frequently pursued and achieved. Developing a blended TL culture in the institution will increase teachers' enthusiasm to apply blended teaching.

Firstly, we can strengthen the publicity about blended teaching through various channels, such as employing conference presentations and expert reports, and let teachers evaluate the utility of blended TL (or any other new mode), with the necessity to carry it out. Secondly, we should give full play to the role of the basic units of the school, and encourage them to carry out blended TL and research activities. Thirdly, we should consider the role of the

backbone teachers, give some praise and rewards to those who actively carry out blended teaching, encourage them to play a leading role, and create a positive sustainable atmosphere for applying the hybrid mode in the whole school.

8.2.4 Students' Autonomy

This research analysed the challenges of managing hybrid education from teachers' perspectives. Universities want to adopt it and seek out better-trained teachers with technical knowledge, competence, and openness to new technologies. The main challenges faced by students are self-regulated learning (SRL), while one of the major problems teachers confront is how to support SRL (see Section 6.5). In blended teaching, teachers should attach great importance to students' autonomous learning ability, and actively cultivate students' self-motivation, self-regulation, self-management, online inquiry, and online collaboration in the information environment. To carry out blended teaching smoothly, both sides should acquire, process, explore, and absorb knowledge and skills, as well as the necessary basic skills, such as information retrieval technology and using learning platforms fluently.

Regarding traditional learning concepts, the dignity of teachers is an inviolate educational rule in traditional Chinese culture. This traditional concept is an obstacle to students' independent learning, leading to students' inactivity in questioning teachers or participating in group discussions. Teachers need to help students transform from passive receivers of knowledge into planners of learning activities. Students should take the initiative to set learning objectives, plan group activities, evaluate independent learning outcomes, and be able to provide suggestions for others' learning. The reform of college English teaching modes within the network environment will be successful only if students are taught to realize role (concept) changes.

In terms of information literacy, students' information literacy is a crucial prerequisite for implementing blended teaching. Teachers need to help students acquire the ability to find resources and interact in the network environment. We should also provide cognitive support to help students achieve meaningful learning and improve information literacy.

For learning motivation, we should help students transform extrinsic motivation into intrinsic motivation in learning. With students' life development

as the core, we should guide them to actively explore the unknown world, and stimulate their interest and motivation for independent learning.

Finally, regarding independent learning strategies, we should take measures to help students master independent learning strategies for college English learning in the network environment.

8.2.5 Providing Services and Resource Affordances

A study shows that commitments to BL involve elasticity, inclusiveness and accessibility, and acknowledging the demands for structures and support from all sides (Hill & Smith, 2023). With the development of ICT, learning service and resource affordances are also developing towards digitalization and mobility. Compared with traditional learning resources, online learning resources are more abundant, diverse, and conducive to independent and personalized learning (Xu, 2022).

In blended teaching, teachers support students with learning resources to facilitate their independent learning, so that students can shift learning from teachers to resources (Sorokova, 2020). The American Association for Educational Communication and Technology defines resources as people, tools, technologies, and materials designed to help learners. High-quality learning resources should be conducive to the improvement of independent learning ability and language ability, provide affordances with rich content to meet the different needs of students, have a supporting system, measure the learning outcomes efficiently, and supervise students to study independently and effectively through a guaranteed mechanism (Li, 2020). This research (Sections 6.5 and 6.6) analysed the features of high-quality digital learning resources: they must meet learners' needs or be necessary to solve problems, be appropriate for the learners' cognition and dynamic adjustment, be presented in an easily acceptable form, and have a clear navigation layout.

Service and resource facilitation is a great advantage of blended teaching. Thus, we should develop timely structural service, rich learning resources, advanced software, and hardware to improve TL initiative and effectiveness. Meanwhile, high-quality third-party services, resources and applications can be gathered to build a bridge between society, school, and family, to realize the trinity of education. For example, it is necessary to provide high-specification hardware facilities, improve Internet speed, and equip

students with smart classrooms. In addition, in the technical aspects of teachers' video recording and PPT production, institutions should actively provide professional technical support to ensure high-quality TL services, resources and effects.

8.2.6 Optimizing the Blended Teaching Evaluation Mechanism

Colleges and universities should strengthen support for blended TL. Institutional support is an important external factor affecting the willingness of college teachers to use blended learning. Therefore, colleges and universities should provide technical equipment and issue incentive policies and other aspects to give strong support. In addition to the conventional hardware facilities, the school should ensure a stable learning platform and the convenience of the various functions, so that teachers and students can upload and download learning resources smoothly and conveniently. In addition, the university should realize full WiFi coverage throughout the campus, so that students can get fast online communications and use mobile terminals such as mobile phones, tablets and laptops for online learning. In terms of policy, HE schools should introduce guidance documents on blended TL, to explain the hybrid models, evaluation criteria, and time arrangement, to enable teachers to implement blended teaching with reference materials. Furthermore, they can introduce policies to encourage blended teaching, such as giving financial support to teachers who implement blended TL, and reducing the workload of teachers outside the curriculum.

Teaching evaluation involves summative evaluation, which is routinely conducted through standardized tests, and formative evaluation obtained from the learning performance. Mixed teaching adopts summative and formative assessment to comprehensively evaluate students' learning motivation, behaviour and effectiveness. A hybrid mode provides conditions for formative assessment because its process is complex and the teaching activities are rich and varied. Therefore, mixed teaching should adopt the formative evaluation vigorously, construct the evaluation mechanism with formative evaluation as the primary part, and give full play to the evaluative and incentive functions of teaching evaluation.

8.3 Contributions

In this dissertation, I conducted four experiments and performed an iterative process, pursuing all means to eradicate potential limitations that would have arisen in the methods, such as data collection and analysis. Teacher participants' different experiences have provided broader opportunities to gather a range of voices and perspectives. Indeed, these diverse contributions allowed rich stories to emerge gradually. However, as this also required strict measures, I used focus groups and questionnaires to collect primary data. I also adopted observations and informal online conversations to allow possibilities from different sources, and to deductively analyse the themes. I applied different perspectives and analysis methods to triangulate the results and findings. The methods, analysis, and findings from this research may make useful contributions to theory, policy, and practice.

Since originality is a requirement for doctoral study, which should deliver novel and significant knowledge (Baptista et al., 2015), this research shows originality due to its context-dependent nature. It has also produced a few but significant new findings from the four empirical studies: a pilot study; a quantitative intervention to examine the effectiveness of automated essay scoring in a blended course compared with traditional human marking; an experiment using qualitative thematic analysis of the motives influencing teachers' adoption and implementation; and a quantitative testing of the motives, their relations, and influence levels.

Baptista et al. reported the relations among the three elements for assessing a doctorate as a contribution to knowledge: originality, creativity, and innovation. When innovation is evaluated as part of a doctoral study, it relates to changes to earn a competitive edge in the market society, and it gives priority to economically useful knowledge concerning technological advances, professional policy, and practice or social use (Baptista et al., 2015). The knowledge generated from the results and findings of the four experiments can be called innovative, given that it contributes not only to policy-making for changing the TL mode, with wise use of technology in the field of pedagogy, but also contributes to teachers' professional practice and development.

8.3.1 The Topic

My reason for choosing the topic of the blended approach was to keep pace with the educational reform policy mentioned above, or to take into

account the current ‘hot issue’ affecting teachers, researchers, and any party engaged in the context of China’s pedagogical reform. Thus, the topic is necessarily novel and significant; it requires investigations into the motives influencing the adoption and implementation of blended teaching practices. This, in turn, can help teachers adapt to the deep integration needs of the curriculum and the continuous development of technology, and improve teachers’ performance and the quality of their hybrid teaching practice – thereby promoting the sustainable development of technological integration in HE.

8.3.2 Contribution to Theory

In recent years, many scholars have discussed blended TL by citing theories in other fields, such as the Technology Acceptance Model (TAM), The Theory of Planned Behaviour (TPB), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Community of Inquiry (CoI). There have been many important research results and findings; for instance, Davis (1989) summarized the Technology Acceptance Model (TAM) to explain the factors that affect individuals’ acceptance of information technology. The original TAM divided the attitude variable into perceived usefulness and perceived ease of use; however, it cannot measure behavioural intention without giving full consideration to the variables. In addition, because TAM studies the behaviours within the complete online environment, especially technology, it is not adaptable to the acceptance of blended teaching, which involves a combination of online and offline teaching. TAM was further developed by Ajzen (1991) into the Theory of Planned Behaviour, to explain people’s decision-making and actual behaviour. The findings in this research have some overlapping parts with TAM: the dimension attitude relates to the implementation of blended instruction.

However, most of research focuses on the design, principles, and effectiveness of blended teaching. There is very little research on the group of foreign language teachers at Chinese colleges and universities, and a lack of studies on this group’s blended teaching practice at private colleges and universities in Shanghai.

Moreover, this dissertation embraces originality, the value of which lies in the following three aspects. First, it explores the blended teaching forms in

practice and its features; identifies advantages, disadvantages, facilitators and barriers; and describes conundrums and countermeasures in the current landscape of hybrid TL practice in the given context. Then it also generates a unique framework to measure the motives influencing teachers' implementation. As an overall package, it also evaluates the effectiveness of an AES-supplemented blended course design, while deductively exploring the blended teaching barriers and countermeasures that affect the quality of hybrid teaching. To date, there is little or no literature on systematically investigating the application of the blended approach to college English at private colleges and universities in Shanghai. This dissertation has filled this gap.

8.3.3 Contributions to Policy

This dissertation also intends to make some recommendations for educational policy, in the aspect of using technology to support TL. ICT-related initiatives were introduced more than 10 years ago, to help meet the needs of technological advancements and globalization (Suleimen, 2019).

CMOE has issued broad guidelines for including technology to assist students and develop education in response to educational reform. However, these guidelines, and those of other countries, are too general to pragmatically guide the application, resulting in either temporary trial or lacklustre uptake (Tan et al., 2010; Yan & Yang, 2021). Therefore, this dissertation provides a potential list of considerations for policymakers, regarding integrating blended TL into a curriculum, with its analysis of core issues required in an effective hybrid course design, the influential motives surrounding the implementation of blended teaching, and the conundrums and feasible countermeasures.

CMOE has formulated *An Education Informatization 2.0 Action Plan* (2018), which calls for the success of informationalized education and accelerating the modernization of education. It puts forward two principles; the first is adherence to the education-oriented principle. Facing the need for talent cultivation in the new era of the information society, we should build a new learner-centred ecology, realize quality education, and promote people's all-around development. Second is the pursuit of integrated innovation. We need to give full play to the advantages of technology, change the traditional model, promote the deep integration of new technology and education, and truly realize the transition from integrated application to innovation and

development (Yan & Yang, 2021).

The results from my survey and empirical investigations are intended to help college English teachers or people working in similar contexts. The research contents are related to advancing educational reform throughout China. I have framed no alienating concepts in writing this dissertation, which targets policymakers, researchers, teachers, and other practitioners, who have the same interest; thus, it is reader-friendly and accessible to the end-users. Hence, this research can provide a valuable reference for the reform of college English courses.

8.3.4 Contributions to Practice

This dissertation will also be especially useful to inform institutional and local practitioners who seek to apply mixed TL. It aimed to explore the motives for sustainable (unsustainable) development of integrating a blended approach into the curriculum, and to help teachers successfully incorporate blended TL. As English is a foreign language in this given context, applying a blended approach within the local constraints can also offer insights into the practice, where a foreign curriculum's demands and objectives are mediated by local educational policies.

The dissertation may also have a positive impact on the participants' TL mode. I recruited a large number of colleague teachers and students as participants. In turn, their perceptions have given them opportunities to reflect on their blended TL experience. The methods of engaging in qualitative analysis and quantitative surveys also provide valuable practical contributions.

Personally, as a practitioner, I am interested in constantly making changes in my teaching practice, to meet TL needs and keep up with the times. I have conducted this inquiry into what problems a pedagogical reform (such as a blended approach) can bring to our current education system, what motives promote and hinder the adoption, the relations among them, whether a blended course design achieves significantly different results, what countermeasures can help tackle the problems. These discussions can be helpful for my job.

8.4 Reflections

As a limitation, the pilot study did not build a theory, as its sample was too small. With only two participants, the data could not be measured or compared. To rectify this, the main study used two focus groups on a larger scale, questionnaires, observations, and informal online conversations. It adopted different data collection tools to collect several groups of data sets. In addition, it used qualitative and quantitative methods to generate rich results.

Another major limitation emerged during the focus groups: the participants tended to influence each other when expressing their views. This was rectified through observations and individual informal conversations, allowing in-depth elicitation.

The final limitation relates to the influence of the pandemic, which struck suddenly, and tremendously changed HE. It transformed the practice of blended teaching. Thus, the later results, compared with the pilot study, were dramatically different. Participants before and after the pandemic did not express similar views, and their opinions were inconsistent.

During the implementation process, in reality, teachers have discovered the common conundrums and taken tentative measures. According to their descriptions, the TL outcomes from these trials still need testing before generic application, but they are fruitful and have pedagogical value.

Considering the above, future research can make improvements to eliminate the limitations. For example, more creative methods could be devised to collect and analyse data, and the interview and questionnaire questions could be made more interesting for the future participants.

8.5 Future Research

In this project, I have produced an influencing framework of the motives for implementing blended education in the given context, and explored the relationships between the motives and implementation. This makes a significant contribution to developing new pedagogical approaches, such as blended teaching. The framework built in this research has also provided the basis for exploring the rationale for why teachers implement pedagogical reforms with sustainable motivation or not, by offering a unique perspective on understanding teachers' experiences.

The investigation into the effectiveness of blended teaching provides interesting findings about integrating an online tool such as AES into teaching

design. Hence, the findings are transferable for teachers and researchers using a basic blended course design. I will design my teaching in different blended forms based on the findings of this research. My future work will test and refine these designs in blended teaching environments. It will serve to theoretically develop the existing frameworks and inform the future discussion on e-pedagogies, in order to practically guide teachers' hybrid design.

Based on this, a critical implication of this study is that I will develop a deeper understanding of the drivers of changes in language teachers' thoughts, actions, identity, and roles. I anticipate my future research will also explore the relationship between the changes in teachers' blended course designs, blended forms or behaviours, and students' academic performance or satisfaction. As indicated by this project, although F2F teaching is irreplaceable, blended TL is an acceptable and practical solution, especially after the pandemic. So it is here to stay; this suggests that investigating the potential of blended education has become a worldwide pedagogical trend for HE in the future. It also implies transformation for teachers and students at private colleges and universities in Shanghai, in terms of their TL experiences, even their living habits and life routines.

In a nutshell, teachers' or students' experience, supported by different online applications and platforms, remains an intriguing topic. Future research is recommended to concentrate on effective blended education in China's HE, and contribute to levelling it up and enhancing its quality.

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Appendices

Appendix 1 Consent Form

UNIVERSITY OF HERTFORDSHIRE
ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS
(‘ETHICS COMMITTEE’)

FORM EC3
CONSENT FORM FOR STUDIES INVOLVING HUMAN PARTICIPANTS

I, the undersigned
.....

of Shanghai
.....

hereby freely agree to take part in the study entitled
Perceptions of Blended Learning in a Chinese Higher Education Context
.....

(UH Protocol number04067.....)

1 I confirm that I have been given a Participant Information Sheet (a copy of which is attached to this form) giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, how the information collected will be stored and for how long, and any plans for follow-up studies that might involve further approaches to participants. I have also been informed of how my personal information on this form will be stored and for how long. I have been given details of my involvement in the study. I have been told that in the event of any significant change to the aim(s) or design of the study I will be informed and asked to renew my consent to participate in it.

2 I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.

3 I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used.

Signature of participant.....Date.....

Signature of (principal) investigator.....Date.....

Name of (principal) investigator [in BLOCK CAPITALS please]
WENHUA YU
.....

1 for participant; 1 for researcher

Appendix 2 Ethics Approval Notification

Version 1



**SOCIAL SCIENCES, ARTS AND HUMANITIES ECDA
ETHICS APPROVAL NOTIFICATION**

TO Yu Wenhua

CC Bushra Connors; Trevor Barker

FROM Dr Tim Parke, Social Sciences, Arts and Humanities ECDA Chair

DATE 16/04/2019

Protocol number: **cEDU/PGR/UH/04067**

Title of study: Perceptions of Blended Learning in a Chinese Higher Education Context

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Approval Conditions:

The applicant must add 'United Kingdom' to the top of the EC6 Participant Information Sheet and EC3 Consent Form.

The applicant must also add United Kingdom to the contact details at the end of the EC6 Participant Information Sheet.

This approval is valid:

From: 16/04/2019

To: 20/03/2022

Additional workers: no additional workers named

Please note:

Your application has been conditionally approved. You must ensure that you comply with the conditions noted above as you undertake your research. You are required to complete and submit an EC7 Protocol Monitoring Form once this study is complete, available via the Ethics Approval StudyNet Site via the 'Application Forms' page <http://www.studynet1.herts.ac.uk/ptl/common/ethics.nsf/Teaching+Documents?Openview&count=9999&restricttocategory=Application+Forms>

If your research involves invasive procedures, you are required to complete and submit an EC7 Protocol Monitoring Form, and your completed consent paperwork to this ECDA once your study is complete. Failure to comply with the conditions will be considered a breach of protocol and may

result in disciplinary action which could include academic penalties. Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. Should you amend any aspect of your research, or wish to apply for an extension to your study, you will need your supervisor's approval (if you are a student) and must complete and submit form EC2. In cases where the amendments to the original study is deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately. Failure to report adverse circumstance/s would be considered misconduct.

Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 28/05/2021

To: 20/03/2022

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit a further EC2 request.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A or as detailed in the EC2 request. In cases where the amendments to the original studies are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.

Version 2



SOCIAL SCIENCES, ARTS AND HUMANITIES ECDA

ETHICS APPROVAL NOTIFICATION

TO Yu Wenhua

CC Trevor Barker

FROM Dr Ian Willcock, Social Sciences, Arts and Humanities ECDA Chairman

DATE 28/05/2021

Protocol number: acEDU/PGR/UH/04067(1)

Title of study: Perceptions of Blended Teaching in a Chinese Higher Education

Context

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

no additional workers named

Modification:

- Revise the title
- Change of supervisor
- All changes as listed on the EC2 application

Original protocol: Any conditions relating to the original protocol approval remain and must be complied with.

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission. **Validity:**

This approval is valid:

From: 28/05/2021

To: 20/03/2022

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must

complete and submit a further EC2 request.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A or as detailed in the EC2 request. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately

Appendix 3 Transcription: Data Set 1 for Pilot Study

Interviewer: Please firstly allow me to say something about MOOC, Mass Open Online Courses. The first character that must be mentioned is Dave Cormier, from the university of Prince Edward Island in Canada. In 2008, Dave, in cooperation with Bryan Alexander, from National Institute for Technology, in Liberal Education, proposed the concept of MOOC, which literally means massive open online courses. MOOC derives from the previous developing system involving resources distribution, learning managing system and the integration of learning managing system with other online learning sources.

In 2012, some American top universities set up online learning platform providing free online courses. For example, Sebastian Thrun and Peter Norvig from Stanford University cooperated to open a course online- AI Introduction which attracted more than 160,000 audience all over the world. This is unprecedented for the traditional universities.

The concept of Small Private Online Courses, or SPOCs, was developed by Dr. Armand of the University of California, Berkeley. It was first proposed and used by Professor Fox. In contrast to Massive and Open in MOOC, Small refers to the number of students ranging from a few dozen to a few hundred. Private refers to the setting of restrictive admission conditions for students who meet the requirements to be included in the SPOC program.

Flipped classroom teaching mode means that students watch the teacher's video explanation before class or after class and learn independently. Teachers no longer occupy class time to teach knowledge, and the classroom becomes a place for interaction between teachers and students, including answering doubts, cooperating in research and completing studies, in order to achieve better educational effects.

Q1. When and how did you get to know or use blended teaching?

TA: The time I got to know the exact statement about blended teaching was the last time (2018) I heard you give a talk about your thesis. I didn't touch the concept until December this year (2018). Thanks to your information on blended approach provided last time, I got clearer with what is blended teaching. Our school had a special period of time to invite teachers to talk about flipped classroom. We tried to make micro videos, just five minutes, three minutes, but I didn't do micro classes (personally), so I didn't really use it. I didn't touch the concept until December this year, so I certainly didn't really do it personally.

TB: Not really. I have heard of it from your lecture (2018), I know that our online courses are part of blended teaching. Then is there any form of teaching nowadays not blended at all?

TA: There are some general courses in our school, which are posted on the Internet for students to watch. I think they are being (used) in the form of micro classes, but not made by me, maybe not by the teachers in our school, but by some of the famous teachers on the Internet. I tried making micro videos. I notice they (famous teachers from prestigious schools in the area) all have posted (micro-videos) on the Internet.

Follow-up: How many teachers at your school incorporate these videos into their teaching?

TA: It's more based on their own teaching needs and research. Most teachers around have used it, but I'm not sure if they stick to it. I have received a lot of training in making micro-lessons. Half of my colleagues are trying to do it for their own need, and the other half depends on school requirements. Videos like MOOC are more used.

TB: I guess a lot of teachers in my school use it, and a lot of teachers from other schools use it. I've seen it on some platforms in and out of school. I noticed some teachers using it, but not sure about how many or how long had they been using. I am curious. I guess teachers use it according to their own preferences.

Follow-up: For example, when did you start to learn about micro-classes you just mentioned?

TA: Last year and the year before that, the school was asking for flipped classroom, and the micro-class was put together with flipped classroom. So the school was asking teachers to do the micro-video, and we were really going to do it, including Katyusha's software, which we had learned about, you know, screen recording and stuff (like that), but I didn't really use it in the classroom. We had to push it, but we actually did not do much.

TB: It's the same story. It's like school convention to follow mainstream trends. Or it is just following educational policy for a trial. We're doing this like a gust. We might have been pushed harder. Put another way, the school seems supportive to provide infrastructure and investment to keep up with times.

TA: From time to time, we have meetings discussing the details. It is not an alien to me, but I cannot say I am familiar with it.

Follow-up: How many teachers in your school are involved in the creation of the micro-lesson?

TA: Well, the whole Department of Foreign Languages was encouraged to learn. All the teachers in the Department of Foreign Languages know about flipped classroom. Our school used to invite Dong Jianqiao (a professor in this field) to come to give lectures every week, several weeks of training together, and teachers listened to them if not having classes. Professor Dong provided some impressive advice on making and using micro videos. Teachers from other departments, if available and interested, could follow us to listen to the lectures, too. I noticed peer views based on their experience, it's positive.

TB: I'm not involved. It's just that there were some teachers who took part in teaching competitions and

did this kind of thing. Our school didn't hold such lectures specifically. The teachers who participated in the lecture competition actually went out and created the micro-lesson, for various teaching competitions. TA: Similar to TB, quite a number of teachers in our school also make micro-lessons by themselves for the reason of participating in teaching competitions. Some of the teaching competitions are held at the Shanghai or national level. Since the use of flipped classroom will increase the competitiveness and teaching effect in the teaching competitions, my colleagues will use blended teaching for the purpose of participating in the competitions. I also attended the teacher's training in Shanghai, which involved specific college English curriculum innovation and teaching methods. Dong Jianqiao and his students were invited to teach micro-lesson production. In reality, I often use other people's MOOC or micro-courses, as well as my own, not many (of my own). My leaders did not put evaluations on that.

Q2: What do you think are the motives affect your adoption of blended teaching?

TA & TB: Blended Approach is not easy. It puts higher requirements on teachers.

TB: I used mostly traditional teaching prior to online tools, but I didn't use MOOC, but I usually ask students to prepare presentations by using online materials. We are discussing blended teaching, maybe because according to some of our coworkers' experience, it can meet TL needs, achieving objectives, improving efficiency and enhancing teaching effects. Things like results driven made people want to have a shot.

TA: Useful but challenging if we implement it. What I concern most is whether it is an easy job to find teaching resources by blended teaching. Or is it easy to get the teaching information/ knowledge and rich resources, thought it seems there are rich and reliable techs apps and websites. In a word, it should be easy to understand, learn or use, and it had better be compatible with previous teaching values and experience

TA: A team can accomplish this. And it's kind of collaboration with all. I have a lot of theoretical knowledge, but little practical experience. I think there are a lot of obvious advantages in helping students. My technical skills have a great influence on the implementation of blended teaching. If it's too difficult, it would not be possible to be put in practice. If the students have good learning outcomes and the teachers use it easily, I think it will be useful to apply to a larger scale.

TB: It's a teamwork. If I were a student, I would hate a teacher who has nothing to say but insists on technology. I don't like my blended learning to involve too much software or be too complicated, either. Probably I should continue to try hybrid teaching, but will it result in different teaching for every teacher? If so, blended teaching may depend largely on the personality and computer skills of the teacher.

TA: The design of the whole classroom will be more demanding, caused by no fixed teaching materials. If there are teaching materials, at least you (teachers) can follow it all the way. But if there are many kinds of tricks (in blended teaching), you (teachers) will have to pay more efforts and prepare the lessons fully. Teachers are required to be more thoughtful. Personally, I feel a little bit anxious with the implementation of this change in teaching.

TB: The age composition of our school. Young people taking up a larger proportion are very busy, and middle-aged teachers are also very busy. You can also imagine what happens especially where there are a lot of young and middle-aged female teachers, and then there are older people occupying a little less, are facing technical problems. Then there are issues about time, energy, textbooks and so on.

TA: We usually have to use a set textbook, (but) there are no set textbooks here in the UK. If we have a content management system, our class content will be unified. All of our teachers have a content management system that can be added content to, then it will help you create the PPT that you want. We have a similar thing with the textbooks in our school. The accompanying PPT works very well. But direct use will be discriminated against (by colleagues and students, usually). It is a very formal (courseware) with the content covering comprehensively.

TB: Based on that, taking only a few steps, you (teachers) can add some of your own creativity and ideas to implement blended teaching.

TA: Sometimes I also want to see how the students are reacting to BL, which is a big influence on my teaching adoption. Take automated essay scoring system for example, after the students got the score, they changed it according to the online system suggestions. It was much better than that I corrected the paper writing and sent it to them. Most of them would not carefully look at the corrections or simply throw it away. Take the blended teaching class for another example, students' feedback can be shown on screen like bullet screen in blended teaching. We have this type (of students) in our school. They like to listen passively. If the class is given to them for discussion, they do not discuss deeply. They just discuss for a while, and then they start chatting. You (teachers) make the class very lively and give them a lot of time to discuss. Traditionally, you (teachers) talk about new words and so on. (However,) language is really just a basic tool. I want them to learn the content. We learn English as a pure language, so I hope to treat it as a kind of content and information acquisition, rather than directly taking it as the knowledge of words and grammar. Because he is already a college student, I hope that he can discuss the ideas and content covered by the language, and I hope that this effect can be achieved, so that he can use the language to discuss the set topic.

TB: It can push them to broaden their horizons to a certain extent. It does fulfill part of the purpose of teaching to a certain extent. It mainly requires them to understand background knowledge in spare time. Beneficial in the way that it enables us to learn new technical issues and seek all latest teaching resources.

TA: I feel envious of others who are skillful at all types of software assisting teaching. But for me, sometimes I am lazy enough to use this (ready-made powerpoint) and if I am not lazy some other times, I do it myself.

TB: Our school is following fashion. It requires teacher to teach what is trendy and buys software in vogue. When it comes to training, there is a gap in training and practice. You know, I know it in theory, but do not implement it in practice. In the past, we usually tried it for a while. So I am still confused whether I can keep on if the school requires me to do that.

Follow-up: What is the maximum number of platforms and software you can accept for use in a course?

TB: That's a good question. As for "one course", I think for one course in a semester, there should be a fixed platform for mixed teaching, rather than a single shot then to change the place. Students will get lost. I don't think "many" is a good idea, but a small number to achieve good teaching effect is the key. No matter what platform and software are used, it must be relatively simple for teachers and students to use and become proficient.

TA: I haven't thought about it in detail. I tend to serve my teaching purpose. I think there shouldn't be too many platforms and software, which would cause chaos. A textbook supporting platform, and then mixed with a software, should be about right. I don't need any platforms or software. I mainly use the traditional teaching style, and then I will use the multimedia classroom. All schools are using multimedia classrooms. But I didn't use that MOOC, because the computer in our classrooms can't access the Internet. I don't know if it is possible in your classrooms, because the classrooms in our school can't access the Internet.

TB: We cannot access the Internet in your school, either.

TA: I am not sure with blended teaching till now, as it is challenging and unpredictable to me. I am also apprehensive with my computer skills. It might be difficult for me to just steer it and place it under control as what I deal with any new teaching mode.

TB: With a fixed platform, it might be possible that we can handle it fluently.

Appendix 4 Transcription: Data Set 2 from the First Focus Group

Q1: What are the forms of blended teaching you have ever known or tried?

T1: I came across this concept-blended teaching or learning, 9 months ago. Listening to the speech and conferences, I felt it was quite vivid, but in practice, I started much earlier. I had a project about online teaching in 2011, and then I studied video production in 2013, using online resources to teach.

T1: After learning what hybrid teaching is, the one I have used is the Marking Network. This simple mixture really lightened my burden in teaching students' writing and is broadly applied in your language course. I agree with its application.

T2: I push them to study independently. From the perspective of students, a kind of the most ideal learning situation is that the students themselves create resources, learn themselves, and teach each other, yes, peer study. I would ask students to find their own solutions when they encounter problems in the preview stage. Students would create surprises. I think the gap between students is relatively large. About half of the students will create surprises. I can tell at a glance whether they put some efforts, because they do it differently.

T2: At the moment, (personally) I would urge students to study independently. For example, I would ask students to make presentations in groups according to the unit topic. I tell them to look for background information on the subject. I require that a group must work together to present a PPT, but not make 5 PPTs in a group of 5 people. I ask everyone to be responsible for one part of the presentation, but the style of the entire presentation should be consistent, such as the background. In essence, I want to urge them to find the time to go online, find the resources and get the background knowledge for themselves.

T2: So if you use this, technical training is definitely needed. Mixed teaching is good, and I'm definitely going to do it. But I think the online part cannot be leading but supporting. If this is a better model, the question is about the degree of mixing, what you mix, and how you mix.

T3: I tried flipped classroom. I also assign students to read relevant materials and watch relevant teaching videos in advance. I ask them to study independently after class. But our students would have a lot of problems if they were asked to watch a lecture video and then discuss it in class. For example, if flipped classroom is implemented and students mainly discuss in class, in our Chinese educational background, students will think teachers are lazy and have a low evaluation of teachers. This will affect teachers' enthusiasm to use flipped classroom.

T3: Well, I think it's a common practice. Some teachers just assign homework or videos in advance without any changes in classroom teaching. In the current practice of some schools, it only has form, ignoring the nature of mixing, or even just looks similar without connotation. Other teachers hand all contents to students without guidance, feedback, or assignments. As a result, there is a lack of interaction between students and teachers, or between students and students, or between students and content, which cannot meet the requirements of "knowledge internalization and thinking expansion". It is also difficult to monitor students' online self-directed learning. If the relationship between teaching form and content cannot be solved in blended curriculum design, no matter it is "learning before teaching" or "learning before discussion", it is doomed not to go very far.

T3: Nowadays, there are many applications that allow students to search information and interact with their mobile phones at any time. In addition to interaction, I think educational technology should better serve teaching content. In this respect, blended teaching must achieve better results than traditional teaching and network teaching. So do you often provide materials to students?

T3: What's more, cooperation or community formation among college English teachers is also a part of blended teaching. We're connected, we can update teaching resources in our community, and we can share blended teaching experiences.

T4: If there is any material needed in class, students can be assigned to watch it before class, I think, which is already a hybrid teaching method. After class, they can complete the learning content they should watch in class through the Internet or independent learning, involving some subject-related content. Relevant videos will be recommended to them online.

T4: I agree with T3 on the relationship between teaching form and content. We may all have rich theoretical experience, ha ha. All these suggest that it is necessary to discuss what is effective blended teaching in order to achieve better learning results. I think there was some interaction. Our school has a hybrid teaching platform, how to interact with students. You (the student) can clock in, and it has a lot of functions.

T4: And the mode of continuous interaction. The teacher in class designs the content appearing on the public screen with continuous interaction. During a class, both teachers and students are busy. There is teaching and learning substance. I think this model is acceptable. Students accept it well, but I doubt whether students can learn anything.

T4: If conditions permit, we can continue to carry out the basic level mixing supported by Marking Network and flipped classroom supported by MOOC, SPOC or micro-lessons. And then we can also carry out the topic integration model we just discussed, which depends a lot on students' independent study. At the same time, we can form a community of teachers implementing mixed teaching to update our teaching resources and skills. As for complex mixing with continuous interaction, most of us have not tried, and the effect is not yet certain, but overall, I am confident about the future development of blended approach.

T5: If the mix is too complicated, I don't know what it's for. I used theme-related integration of online resources for teaching, which should be considered as a simple blended teaching. This is the particularity of our language class, which requires setting scenes, imitation and audio-visual speech, and cannot be separated from using technology.

T5: It is equivalent to that the students are matching the theme-related learning resources themselves, and the teacher will see the rich materials found by the students. I will play European and American movie clips of relevant topics for students in listening and speaking class, so that students can participate in the discussion. This uses online resources and technology. This way must be very common in our language class.

T3, T4 & T5: Yes, yes, yes, we've used it.

Q2: What are your thoughts about pros and cons of the blended approach?

T1: As for its pros, there are obvious advantages in helping students. I think blended teaching is a change in teaching brought about by technological development. It can show the gap between students in the aspects of both free time and class time using online data. Because blended learning in practice can identify students who have a strong learning ability and those who do not learn much, by the learning records left on the Internet. On this basis, teachers can connect with students, know their strengths and weaknesses, design or apply learning resources according to the needs of specific students, and help students to create the best learning plan together, so as to urge students in a personalized way. At the same time, we can refer to more when evaluating students. Reporting in the field of teaching requires data, and blended teaching can provide comparable data.

T2: I agree with personalized teaching and differentiated assessment. In addition to online data, in this mode, teachers can test and supervise students' autonomous learning after class through the classroom demonstration of students. Each student's performance will be different, and teachers can send private messages to him according to the situation. After consulting materials, students process knowledge and then create knowledge resources to share, which will bring surprises to the classroom and help improve students' autonomous learning ability.

T2: However, there are a lot of restrictions. I think there are some older teachers themselves not particularly high in computer ability, and if teachers haven't done the systematic learning of some new software, it will be really very difficult to use. The technology must be taught by someone, because after all, we haven't learned this kind of thing in our whole pre-service experience. We language teachers haven't learned this kind of technology. I think it's going to take a special class and a special lecture, or else, you know, it didn't say you could learn it in one or two lectures, right?

T3: In fact, it is difficult to tailor our courses to students, such as the matching of learning objectives and resources. Even if students have clear needs and learning objectives, it is difficult to match appropriate resources. Moreover, the online learning environment is not restricted by the time and space of the class, which in itself should be an advantage. But both good and bad things happen together. That's our philosophy. Blended teaching could not be limited by time and space, but at the same time, there is a risk of excessive use of learning resources and activities. How to conduct blended learning and progress is an issue from the student's perspective. Sometimes when they look at cyberspace, they don't know how to improve themselves through blended learning, and they get confused and probably waste their time. The application of technology in education is very limited, and also in many other industries, such as business, trade, agriculture and so on. How can technology promote teaching? It makes no sense to use it where you actually don't need it. Whether it's not used or overused should be concerned. Blended teaching seems like a solution, but before teachers get used to it, it's just a big cake that we don't know where to start (eating).

T3: I played a movie clip on a certain theme before, and there was no discussion. I asked the students directly, and the effect was quite good. Most of the students could express something about the theme. Some students' answers were brilliant. Occasionally I try letting them discuss in English. Some students pretend to be in discussion, but in fact they are chatting in Chinese. Some students in a group are too unfamiliar with each other and embarrassed to speak English to each other. Some students in one group are too familiar with each other, and they look up some new words and giggle, ignoring the good expressions (for the assigned task). I don't think it's all about the teaching model, it's about a lot of factors. In my opinion, neither pure traditional teaching nor pure dependence on network teaching can achieve teaching objectives perfectly but can only ensure partial realization. It is good for technology to serve teaching. It is not necessary to place the position of technology too high. It should be put behind teachers and students, teaching objectives, and teaching effects. The same case as hybrid teaching and traditional teaching.

T4: However, the way I pursue in teaching is technology serving people. The development of information technology should support educational reform. People should not deliberately change teaching in order to use technology. This should not put the cart before the horse. After all, teaching should have a clear teaching purpose. If technology can help me realize the teaching purpose more conveniently, then it is consistent with my teaching.

T4: Yes, because more demands are made on teachers. It must be that the more requirements, the more difficult. If there is no relevant support but instead only blind demands on teachers, teachers alone, then cannot achieve (successful implementation). Courseware design, course recording, teaching design and so on all test teachers' computer skills and teaching competence. But I think it's safe to believe that great

teachers will never be replaced by technology. Good teachers have their own unique value, and technology will not affect him.

T5: It's partly consistent with my teaching goals. If I understand the flipped classroom correctly, the students are the more active party, right? But in fact, if we do that in class, our students, who are bound by 9 years' compulsory education coming from high school, to become freshmen, will feel that the teacher has not taught me anything.

T5: Actually, it is more difficult than traditional teaching.

T5: Lack of long-term support from human and digital resources from the school or relevant organizations. The teacher is confronted with a not very easy task, as blended teaching just looks easy in this form. In order to achieve a good blended curriculum, it places relatively high requirements on teachers, but the teachers are actually not very strong in technical ability. [Schools] don't have some of the hardware or software. Neither the technology nor the content.

Follow-up: Beyond the benefits to students, what about schools and institutions?

T5: In terms of institutions and schools, if the class size is very large, each student can watch these micro-classes by themselves and then discuss in groups to express their own ideas. Students may feel better than simply listening to the teacher in the classroom environment, because their opinions have been heard. Therefore, for schools, the use of blended teaching can help the management of large-class teaching. Is it possible to save some costs?

T2: It should be possible to save management costs. After all, in this case, the number of classes is smaller, and the management of all aspects of course scheduling and adjustment is smaller.

T4: Yes, and (cutting off) the cost of using the physical space in the school. As far as I know, in a school with 10,000 students and students, the cost of water and electricity in the school is at least 1 million yuan per month. I think we can save some of that.

T1: It can save human and material costs for the school. For students, it is not certain whether it is completely good or not. Online micro-class provides students with materials and important and difficult points; thus it is only better than pure classroom environment.

T3: It is also beneficial to the long-term development of the school.

Q3: What do you think are the motives affecting your implementation of blended teaching?

T3: So should the software be more straightforward, like the point-and-shoot cameras that we used to have, that everyone could use? In my experience, when schools promote it, teachers get excited and then drop it. On the one hand, it is difficult for schools to provide supporting facilities; On the other hand, technology is a hard wound for foreign language teachers. Once blended teaching requires teachers to use technology to solve some problems, they will easily get into difficulties. These make the practical implementation of blended teaching more difficult.

T4: For my own reasons, I am lacking in skills. Mr. Dong Jianqiao, a retired old teacher, his PPT is so beautiful. As a young man, I feel ashamed, because we all have the supporting PPT in class, but I seldom make PPT by myself. I can't even do a PPT well, including the screen-recording we learned at that time, making micro videos, the kind of network micro class. He taught us, such an old person taught us how to record PPT into a video. You (teachers) could choose to appear or not to appear (in the video), later sound was added into your video, and a complete video was presented. He taught us everything. I find myself really lacking in this area (putting the video-making skill into practice). How lazy am I!

T2: The technology must be taught by someone, because after all, we haven't learned this kind of thing in our whole pre-service experience. We language teachers haven't learned this kind of technology. I think it's going to take a special class and a special lecture, or else, you know, it didn't say you could learn it in one or two lectures, right?

T1: Marking Network (an intelligent composition marking system), is functional to reduce your (teachers') workload. It is not required or purchased by the school. It is for my personal use and may be used by other colleagues as well. Composition correction is very troublesome. After uploading the essay, the Marking Network gives a basic score. Students can get feedback immediately after reading the most basic mistakes in your vocabulary sentences. I am also sure about the score, because you may not be accurate when you make subjective corrections, but the Marking Network will give you a particularly accurate score. In fact, it reduces a lot of workload for me, suitable for the large class teaching. For example, if we write four compositions in a semester, I may correct 1 of them by myself, and the rest are all put on the Marking Network, and the scores are all out. In order to get high marks, he (the student) would submit several times. I think it is good for students to revise the composition. I set the maximum number of revisions to 5 times, because he (the student) needs to have a good grade. Well, at least when he gets his score, he can change it (the essay) according to the amendment suggestions. It's better than the situation that if I change it and send it to him (the student), he throws it away. Because when you (the teacher) realized you make a lot of efforts to comment it (the essay), he (the student) didn't read them (the suggested corrections). Therefore, this software is quite good. In order to improve the score, he (the student) modified it himself before submitting it.

T3: All college English teachers in our school have used this model. Online intelligent writing system is used to assist English writing teaching. Our writing knowledge is trained and completed offline. Students have the opportunity to exercise (writing) fully, and all training is done online. Teachers can spot check, and in class to take out the good student composition as a model. Marking Network has no technical requirements for teachers and students, which reduces the burden of teachers. Students will revise it

repeatedly. It increases their participation and promotes students' formative evaluation. Teachers are more willing to use it. But an important thought that influenced me was the question of whether it was useful, whether it could produce better results than our regular teaching. Simple hybrid models, such as the intelligent marking system we mentioned to assist English writing courses, have obvious effects and usefulness in training students, evaluating students and reducing the burden on teachers. But for other blends, if too complicated, like a bit juggle, are they really necessary? What's the point?

T5: I've seen people show off their technology for a whole class. It didn't cover anything. It didn't cover much in one class, just fiddling with the equipment to interact with the students. Is this called a class? Looking at the (seemingly) unfathomable (derogatory) look of the technology, I don't know whether the effect is good, but at the time I felt quite boring. Simplicity is so good that everyone (teachers) can mix. Student terminals are not complicated too.

T2: If I were a student, I would hate a teacher who has nothing to say but insists on technology. I don't like my blended learning to involve too much software or be too complicated, either. Probably I should continue to try hybrid teaching, but will it result in different teaching for every teacher? If so, blended teaching may depend largely on the personality and computer skills of the teacher.

Follow-up: What other motives or people influence you?

T1: And teaching resources. It takes time to find (appropriate) teaching resources. It's up to you if you're willing to make some efforts to search them and put them in the work. I was not confident that I would succeed with blended teaching. For example, we didn't stick with the flipped classroom. Just because, you know, it's nice to imagine (the successful implementation of the flipped classroom), but it takes energy and time. I'm lazy. And as for group work, and if you have kids at home, you will leave (directly after class). Even if a group is formed, it may be a formality. It really needs a team. It takes mind work. So there is no confidence (in me).

T3: Also, I agree that rich teaching resources should be preferably selected by teachers, and also be helpful for teaching. When it comes to teams, one man can't make a team. I also agree the cooperation with my colleagues, who have both positive and negative influences on me. I personally still learn from good people. But if people around me are lazy, it affects me, too.

T4: Most of my colleagues are similar to my situation. Everyone wants to do well but has difficulties in practice and is not willing to spend too much time on it. That kind of our attitude is basically posing mutual influence, negative influence (to each other).

T5: I think blended teaching is useful, but it has its challenges. In addition to computer skills and age, the extra time and energy and curriculum design can cause stress and even anxiety for teachers. If I look around only to find the same result after I've spent more time and energy than anyone else, I don't want to (use blended teaching) any more. Worst of all, if it doesn't work any better, why detour? After all, a lot of extra burdens and things.

T2: There is definitely a lot of work that needs to be done, a lot of work, in fact, in all aspects. No matter from technology to hardware to software, ah, that we have to deal with.

T1: Our school likes to follow the trend. We teach the class in the way that is popular, and buy whatever software is popular now. When flipped classroom came out, we also had people come over to give lectures, and now we have dynamic classroom, smart classroom, multimedia and tables with eight screens in circles. Our school is also very new in form and philosophy. It requires you to follow the fashion, including hiring a special computer teacher to build the platform (for blended teaching). Our teachers' final assessment is partially based on how you interact with the students on that platform. We are taking it as one of the assessment criteria, including specially borrowing curriculum building center. If you want to make a lot of money at the end of assessing teachers, you have to rank high on the list. The platform requires students to hand in homework or something. My school has requirements, but I use them very little. I'm not very active. I teach students in the first year of college, (there is no such requirement or internet access for the freshmen), who don't use. Neither do I. But there are teachers, who can use it well. Homework was assigned and students punch in every day, (so) his assessment score will be higher, and there are also assessment awards. At curriculum construction center, there are several teachers using it, and students can hand in homework through it.

T3: My school has followed suit, and I've tried flipped classrooms and MOOC, basically. In the past, the school provided some support platforms for blended teaching, but the practical use was not ideal. For example, in the past, we had a BB platform, which could give students after-school tests and see their scores, but whether they did it carefully, how long it took, whether they copied the homework, whether they modified it, we could not know. That kind of monitoring was not that effective. From 2011 to 2013, I tried teaching listening and speaking courses by combining BB platform with classroom teaching. In recent years, I also tried combining MOOC or micro-class with actual classroom teaching. I found that students' comments were good, but teachers spent too much time. In previous years, the hardware facilities were not perfect, and its use for students and teachers was also subject to many restrictions, so the acceptance of teachers and students was relatively low. The Internet is much better and smoother over the years, but the technology has also become more complex and varied.

T4: The school (where I am working) buy some software and apps, encourage teachers to download them, and then support you (the teacher) to apply for various educational reform projects. In the past two years, education reform projects were established, and are also developing in the direction (of blended teaching). We have the advantage of many languages, and we will teach students cultural courses when we open English, Spanish and Japanese halls. We use it every semester. In the era of big data, it is easy

to talk with data. Especially at this school, data data data. Blended teaching leaves the data. If you (the teacher) send a teaching document now without the data, you (the teacher) will feel embarrassed. The project itself is an incentive providing a great review for teachers at the end of the year.

T3: Taking the implementation of flipped classroom as an example, there is a disconnect between training and reality of its use. Our school also provided some technical training support for all teachers. In addition, the school may also need to encourage people by the relevant management and evaluation methods. If teachers are well trained in the application of blended teaching practices and are strongly supported by the school, it can have a positive effect on teachers. In other words, to improve the teacher's soft power of teachers. As for the advantages of blended teaching, if we do not practice enough and do not excel at personalized teaching, differentiated assessment and data analysis of blended teaching, its advantages will become empty talk. I use MOOC, but I choose them carefully and then show them to my students. The electronic teaching materials (unmodifiable) bound with the textbook, is provided by textbook publishing house, but it is not very bright with the words too small. If students sit in the back row, it is difficult to see the electronic teaching materials clearly. It is not convenient to operate. The sound of the page turning is so loud that it startles me sometimes. I'm really looking forward to the pop-up textbook, which is based on the content that can also interact with teachers and students.

T1: I received flipped classroom training by Professor Dong. Our school has a special online platform for teaching materials training. Our school has paid for a system, but our teachers use it sparingly. The Internet access is restricted for our freshmen. So the platform doesn't work for me. When you (the teacher) listen to a lecture, you are excited and determined to do well. After that, you go your own way. The group would get together and tease that the students are not cooperating, and then go on their separate ways.

T2: The students' cooperation will affect us.

T5: Specifically, students' participation, cooperation, interest in learning and interaction all influence our blended teaching. So are other modes of teaching. Because attending classes is what students have to do, teachers can't make all classes attractive. The student factor is adrift. So we need to think about how to make online and physical classes engaging for students, and if they're not, don't mess around for blended teaching.

T1: Sometimes I feel that spending a lot of time and energy on mixed teaching is almost the same as the result of random teaching in all aspects, so I give up.

T3: In this day and age, the ability of students' independent learning is very important. How can blended teaching be implemented when there is no self-discipline in students who depend entirely on the teacher? Traditional teaching also requires students to have independent learning ability.

T4: We had one teacher who held on (blended teaching). I heard he used all kinds of software to help teach, so he is using it all the time. And then I was kind of envious.

T5: Many teachers of large classes in our school use many of our domestic mobile teaching software to assist their teaching, which can be used to check the attendance of the class by mobile phone. Students' mobile phones are occupied by teachers, that is, all the answers to your questions are directly displayed on the big screen through mobile phone links. Put in other words, the feedback of students will appear on the screen.

T4: There are some contradictions in this, for example, when you are in class, do you make your students put away their phones first?

T5: If it is hybrid teaching, mobile phones are given to students. Mobile phones are used exclusively for class. That is, the teacher will monitor on this host computer what every student is doing with the mobile phone in the whole class, so it involves the monitoring platform. And then there's the Internet. You have to have Internet in class.

T2: We have a similar system in our school. For example, we have a design cell phone that comes up with a question every once in a while, and then asks him (the student) to look at the next question after answering it. Something like that.

T1: It's like those big classes where you have to listen to all the time and then you have to answer questions. You can't move on without answering them. The data left behind from each lecture is the formative assessment. Now, this is not about your final grade being the final evaluation. So it's like all of this data, such as the student imprint, are going to be on the teacher's mainframe. Every class can be displayed (later with students' performance), so students must pay attention to it. This is also a supervision function that blended teaching platform must have for students.

Appendix 5 Transcription: Data Set 3 from the Second Focus Group

Q1: Is there anything special about your blended teaching? Or what are the characteristics of your blended practice?

T6: I have tried the simple hybrid of the marking network, and the flipped classroom. Our blended teaching is a step-by-step process. At the very beginning, the whole department, that is, the whole school, used correcting network to assist our writing teaching. This online form of assistance without changing the original course content was relatively easy to implement, and we could pick it up quickly, so we easily accepted it. Because it is useful and easy to use, we still use it now. The other forms are somewhat limited by the types of class, because we have two kinds of college English classes. One is the small class, for going abroad. The other class is a basic course, so there are more people. There are usually classes of about 50 people, but there are also large classes of several hundred people. So the question was, how could we implement a hybrid flip? I started with small classes. I flipped the international classes first. That was the first time I've tried it. And we thought it would be great to get as many students to use it as possible, and then we used it in large classes. However, with more than 300 people, it's very difficult for us to implement a seminar or achieve a flip. So at that time we did it in the way of some of the content flipped, and some of the students flipped. For example, in view of the learning needs of some students, we directly made them form a small class and carried out flipped teaching, which is basically relatively stable now.

T7: The college English I teach is English for Special purposes. My blended teaching is to reorganize all the course contents of a semester's online MOOC and offline textbooks according to the course objectives. I used to teach in the chapter order, as I always did. That's also what the students did. When he got the book, he thought I should look at it from the beginning. Yeah, they had an expectation there. But I suddenly found that in my big classroom, because the gap between them is very big, and some students' knowledge system has a lot of holes. If I had just given him the second chapter, for example, it would have been an impossible mountain for him to climb. So at this point I actually made an adjustment. I broke up the sequence of chapters for him. That's a dynamic adjustment. This should be a higher order mix. I want to control the rhythm of the whole process, or the pulse of the learning process. This can also be regarded as an important difference between blended teaching and traditional teaching. Because we are taking a fixed pace in traditional teaching. Now we give the students a change of pace. We used to think that students sitting there were just students. But now in the classroom, we can see a lot of vitality, because you have more time to communicate with them.

T8: The teaching website of our course is provided by the textbook press. We mainly integrated flipped classroom teaching practice based on the theme. In this process, we gained a lot, but there are also a lot of lessons. First of all, we should have a more accurate grasp of the students' pre-class learning. In fact, the course website provides us with great help. It has rich resources on the topic. With the data of the website, I can clearly see what videos the students watched at what time and how they finished the exercises within this period of time, such as oral practice. Then I would know what the common problems of the students in this class were. Then I'm going to talk about those in class. I'll talk more about some of these things. On the other hand, according to our previous teaching experience, we can predict where students may have problems. I will carefully design several typical questions, which cover all the questions that students may make mistakes.

T9: I have tried blended teaching supported by MOOC. When I adopted this teaching model, the first question I thought about was, "How can I bring MOOC to the offline classroom? What should we do in the offline classroom if we take the processes we are familiar with in the classroom and put them into a MOOC?" So I want to talk a little bit about what I did before I went into the blended classroom. Preparing the lesson. In the past, we used ready-made powerpoint. Our traditional class was like we were cooking a pot of rice. It required use to prepare rice, water, rice cooker and wait for the rice to be ready. But in blended teaching, I think we are not just cooking rice, we want to prepare delicacies. In addition to preparing the original ingredients, we have to prepare various spices and even different ways of eating. We're also going to prepare different recipes. When preparing the course, I need to think, "what is the goal of the course, including the key points, difficulties and content. What model should I adopt?" That's what I need to think about when I'm preparing the lesson. That is, if we're really going to cook today, are we going to cook kung pao chicken? Or spicy chicken?

T10: Let me talk about another form, which is the form of flip with students' free discussion as the main body. After I assigned exercises, I did not ask all students to compete in groups. Nor did I ask them to present their ideas in front of the class. Instead, I asked the students to work in groups. I walked around the room, making small talk to push the discussion in the right direction. Students can contact the teacher in time if they have questions during the discussion. In this form, I act more like an invisible hand, moving the discussion forward.

T11: Our school also uses the marking network and flipped classroom. What is consistent with the previous teacher is to make full use of online resources. In addition, we also take questionnaires to keep improving. First of all, my questionnaire is divided into two levels. The first level is a questionnaire for each course, and the second level is a questionnaire for the implementation of all courses within the whole school. In this way, we have investigated and sorted out all the blended teaching courses implemented by our school in the past year.

T12: I used synchronous online streaming and asynchronous online learning during the pandemic in last

term. I believe it is also a form of mixed teaching, though no face-to face teaching and learning in physical classroom was engaged as we were all quarantined. I used it because I want students to learn as they see fit. The existence of online classes often makes students feel as if they already have this knowledge. We call this the "illusion of Owning knowledge". I think most of you have that experience. When you want to learn something, you will find a lot of resources on the Internet. So you download it, and once it's on your disk, and it's in your pocket, you're probably not going to look at it for a long time. Until one day, maybe the disk is broken and you never see it again. This is what we call an "illusion of knowledge". Because knowledge has to get into your head and solidify, and it's actually not as easy as downloading it. If you can't tell the students that the acquisition of this knowledge is a difficult process, the students will form the illusion. That is to say, teacher has worked hard to arrange so many online resources both synchronously and asynchronously, like very dedicated to preparing a big table feast, it is a pity that the student do not appreciate. Second, is the same true of teachers? Many teachers think that all of these online materials, once deployed, are the bulk or even the entirety of blended teaching. Because these parts seem to be as good as they can be. Because everything is there, and it's already standardized once and for all. In fact, I think you're getting the sense that it's not. The reason why we put so much emphasis on online autonomous learning is that it is the key to the overall quality of blended learning and online streaming can be equivalent with the face-to-face teaching in the way of synchronous interaction and immediate feedback.

T13: My College English - Academic English course also uses a blended teaching style supported by MOOC. First, I need to communicate well with the students and tell them that we use a teacher-student mixed learning. I'll tell them on the first day of class how we're going to teach, and two-thirds of the lecture is going to be student-led, and it's going to be a team discussion. The other third, which is more difficult, but very basic, I'll do it myself. This is also a demonstration of how to explain. In addition, we have a mix of individual learning and team learning throughout the process. It means that there are certain things that students have to do individually, such as homework, final exams. In the other part, students work as a team to explain in class, while other students ask questions. It is clearly stated in the syllabus: 30% of online performance, 30% of final exam, 20% of offline classroom discussion, and 20% of dissertation. We use such a way of assessment, to cooperate with the concrete implementation of the blended teaching measures.

T14: Similar to T12, my course during pandemic was a blended teaching supported by online resources and asynchronous teaching videos recorded from my synchronous online streaming. We had a good foundation. And then on the modern app, we did this hybrid class. Generally speaking, this was agreed with by the students. They would like to see teachers on screen every morning when they got up during that time to keep their normal routine of school life. Judging from the feedback from students, including our observation in class, we can see that the synchronous online teaching is necessary, which can be used for streaming lecturing, online discussion, and immediate interactions. The app also allowed me to record the streaming in case students needed that after the synchronous teaching and learning. In terms of group design, our idea today is that students take the initiative to learn, teachers should lead learning. I want to design this curriculum system well, to lead the students in all aspects. This leadership is actually to discuss the design of the question, to lead the students to learn with the question. Since each knowledge point involves a different discussion topic, it is difficult for teachers to design and lead the students to learn with the question and the discussion needs to be redesigned to be more clever by teachers. It was likely for all of us to try this form during the pandemic, because we could not see face-to-face with students who were all over the country.

Q2: Can you talk about the facilitators and barriers you faced when implementing blended teaching practice? How did you overcome the conundrums?

T6: In this term especially after the pandemic, we have currently become proficient in handling technical issues which used to be a big concern for implementing blended teaching. However, how can students, after all, be motivated to participate in blended learning on their own initiative? Because we use the flip form, in order to arouse the enthusiasm of the students to participate actively. There are also doubts about the effectiveness of MOOC or micro-courses. The first criticism: Will students watch videos before class? I'm still not sure the students are prepared, you know? So the question is, if he's not prepared, what do you do? From another point of view, the teacher might not know what the student is really suitable for and blindly put forward some unrealistic requirements. Teachers should put aright the state of mind. The first thing is to understand what the student is, what does he want, what is his motivation, what is his appeal? A student must have his own habits. Some students may be in a kind of ignorant state, he may not be able to know what he is really suitable for. That would require some individualized tips, or some mandatory measures. First of all, on the one hand, your video should be suitable for him, to let him feel able to grasp, which is very important for him. And you need to do a little homework so he can evaluate himself. But it's likely that some students find it too easy or find it too difficult. This is all normal. In this case, they may come to class dissatisfied. It can be very challenging.

T10: Yeah, a lot of students think I've watched the video, why am I listening to you? In this case, he may have a second opinion of what the real classroom is used for, too. The student thinks he knows everything after watching the video, but as soon as he answers the question, he will find himself wrong. In response to this situation, we should first let the student know that he needs to be evaluated in class, so he will naturally be on the alert. He's going to watch a video with a purpose. That's a measure in a sense, keeping him in check. Second, the physical classroom is used to solve problems. If we guide him

well, his curiosity will be inspired. Because he will think that I have already studied so much, and I understand a lot, but still there is something worth making progress in a certain place. After a lot of positive encouragement and assessment in real classroom, he will also have more respect for his teachers.

T9: I think I started blended teaching by changing my mindset. It used to be ready-made ppt with knowledge in it, and I would carry out good classroom teaching by using it. But now that the epidemic is lasting almost a year, we have mainly done two things, online teaching and so much live broadcasting. And we archived a lot of our live streams, which could be turned into MOOC in future. Now these MOOC are being used to support today's blended classes. And we put a lot of knowledge into other types of MOOC. So I found that as my technology became more skilled, a lot of the ideas in teaching changed. At present, different teaching plans need to be designed according to different students' needs. I find that things have changed, the roles of teachers and students have changed, and the teaching nature has changed.

T7: One of the reasons I use blended teaching is because of the benefits it can bring. It gives students some room to expand. If the teacher can design the course carefully, the students can keep a certain pace in the whole process of online learning. To take the simplest example, you will find that part of our course is very suitable for self-study and it is easy for students to accept. For some students, he is willing to watch it again and again. In this way, learning efficiency can be improved. But for some other part of the course content you will find it easy to create suspense, you can take these to the students. Like our scripts when we were preparing for a movie. It's also like the tricks we prepare when we say crosstalk. And are all these tricks really useful in the theater? So at this time, the teacher should think about whether these tricks and links are suitable to express in class and consider that I have time to get students involved in such a play. This is when you'll find something that will revitalize a class that you thought was a little dead.

T11: During and after the pandemic, we are looking forward to effective blended learning, that is, figuring out ways to create a positive and cooperative learning experience for students through the redesign of the curriculum, and to help students actively construct their own understanding of knowledge through active participation in learning. In this case, more research is needed to the teaching and learning process in order to make the blended teaching process satisfying and beneficial to both teachers and students. That is what we are aiming for when implementing this mode. Therefore, our team is considering how to use the results of the questionnaire to adjust and improve our blended teaching process. By the way, we do have a team, almost the whole department involved, it's hard to do it alone. The 2 questionnaire for each course was sent out at different time. The first time is at the beginning of the semester, to find out what the students were expecting from the course. The second time was at the end of the semester to find out what the students thought about the course after a semester.

T14: After a semester of online courses, I was forced to learn everything about technology. My biggest difficulty is changing my role as a teacher. We are no longer just teaching in the traditional classroom. Therefore, it is reasonable for us to regard blended teaching as opening a new course. So it comes to the question of course design. Before we talk about curriculum design in detail, we should first introduce the concept of outcome-based education. This concept is originated from the field of engineering education and has been widely used in various professional certifications internationally. Now, with China's accession to the Washington Agreement, everything from professional certification to the revision of the curriculum is gradually adopted in China. I hope that the blended teaching induced by MOOC can achieve what the traditional teaching mode is difficult to achieve. Generally speaking, goals can be measured in four dimensions: creativity, difficulty, breadth, and time in class. You can make progress in one or more areas. For example, you can improve your creativity while maintaining the difficulty, breadth, and length of the class, or you can increase the difficulty and length of the class without training your creativity, or you can reduce the length of the class while maintaining the creativity, difficulty, breadth, and content of the class. Of course, you can achieve more than two goals at once. But obviously it's harder, and different types of schools may want to adopt very different goals. Some famous HE schools hope to train students' innovative spirit, while some others hope to implement the employment plan well. Some private schools in HE sectors hope to enhance students' interest in learning, while some others may just hope to provide students with flexibility in learning, and so on. This is the fundamental reason why each school is building its own curriculum.

T13: There are now four factors that necessitate a change in the curriculum and in the way we teach. The first, educational policy always requires us to reform our teaching. Now schools strongly encourage the cultivation of innovative talents, which guides the concept of education and teaching reform. In addition, the school has created some objective conditions to carry out mixed teaching, including the construction of MOOC, a large-scale online teaching platform. I am also fortunate that my academic English course has participated in the construction of this online version of MOOC. Third, under the influence of the epidemic, I am proficient in online teaching and know how to combine offline teaching. Another point is that in my own experience of developing undergraduate thesis writing, I find that there is a bit of a disconnect between coursework and research training. So in this context, I think I should try mixed teaching in my course to make up for the deficiency in this aspect. Therefore, my first driving force is to use such an undergraduate course to bridge the gap between students' degree courses and dissertation research. To be specific, in fact, I want to cultivate their good learning habits, promote their teamwork spirit and help them lay a certain theoretical research foundation during the course. I want to take into

account these three aspects.

T8: I think the blended teaching design tests teachers' teaching competence. For example, a lot of our blended teaching materials actually come from the original MOOC, which form a system. However, for a specific blended classroom, the teacher must spend a lot of effort to make corresponding adjustments. That's what we say about the dynamic design and adjustment when you're relatively still? This also leads to my second difficulty, that is, how do teachers utilize the resources they have at this time? That means knowing what these resources are for. Do students have to learn everything and then ask you questions? Or do you think there are some things that are more appropriate for teachers to talk about? You will find that the content in different courses, even the content in a class, has its own characteristics. In fact, I think the resources of MOOC have vitality, which can be expressed in a good way, so I think the vitality of course resources can be obtained through optimization.

T12: Can you build high quality MOOC and design high quality online classes? This is my primary concern in adopting blended teaching. First of all, we must have a clear awareness of the myths or illusions we have just said and be able to avoid and correct them consciously in practice. So going back to what we call the ideal classroom, what is a high-quality online learning in terms of blended instruction? In my own opinion, the important hallmark is whether it can effectively guide students from the state of spontaneous self-regulated learning.

Details of Collation for Table 35

Barriers	Conundrums and Countermeasures
Role change of teachers and students (teaching competence)	<p>T14: changing roles</p> <p>T14: Relating to outcome-based education, hope it can achieve what is difficult to achieve by traditional teaching, which could be measured by "creativity, difficulty, breadth, and time in class".</p> <p>T9: tough to adapt to changes, specially role change</p> <p>Reasons by T9: independent learning online and discussion offline are the crux of the role change; due to Chinese culture and personality, students are not good at or unwilling to show their ideas which made discussion difficult.</p> <p>T9: First, the teacher explains some content more deeply than the students' teaching group in the F2F classroom. Second, students should discuss more. While peers play a role, teachers should play a guiding role to stimulate the discussion. Third, teachers can provide support for students' independent learning, such as organizing and designing students' online learning by adding a mandatory rhythm. Fourth, conducting effective blended teaching behaviors can promote the change of teachers' roles, for example, multiple assessment methods that motivate students to engage actively.</p>
Cultivating students' abilities; matching students' needs (teaching competence and close-in-touch circle)	<p>T6: Cultivating students' abilities with different methods; matching what the students' needs with proper resources; matching needs and resources by some individualized tips or some mandatory measures; not mention the ability cultivation</p> <p>T8: compared with the traditional one, the blended approach could make some difference in the learning outcomes of those self-disciplined and efficient students.</p> <p>T8: matching students' needs with the proper resources available and cultivating students' abilities with different methods, customized MOOC to match students' needs was about meeting the needs of different categories of students. For different categories of learners, teachers can provide different learning methods, learning resources</p> <p>T9: The real F2F classroom is for cultivating crucial values through debate and discussion; the manipulative ability by practical operation; creativity by either independent or collaborative thinking and design. By contrast, conceptual introduction, inference procedures, or other knowledge alike, should be accomplished online because it allows students to watch them as many times as they want</p>
Revitalizing a blended class (teaching competence)	<p>T7: by "tricks and suspense"</p> <p>T8: Difficulty in dynamic design and adjustment, time and energy consuming</p> <p>Time and energy consuming (perceived ease of use)Reasons by T8: the student may feel the illusion of owning knowledge without really acquiring it.</p> <p>T8: diversified voices, customize resources and methods</p> <p>Using MOOC from multiple sources, interactions, seminars, and small group discussions to tackle the big class issue resulting in efficiency. engaging the students in debate and discussion to enable the values to flow into their brains or hearts</p> <p>redesigning the discussion questions cleverly to lead the students to learn with the question, improving students' independent study is the key to the overall quality of blended learning.</p> <p>T8: teachers' effective utilization or optimized redesign, taking the best of what other schools have already done, such as MOOC and micro-classes; making full use of the available resources</p> <p>T9: flexibility in resource and methods</p>

	<p>T11: how to implement effective blended teaching entailing active participation and positive experience</p> <p>T11: Teamwork with colleagues and research to improve blended teaching practice</p>
	<p>T10: what the real classroom is used for after students have watched the teaching video online</p> <p>students' second voice on what is the real classroom is used for</p> <p>T10: be encouraged with the results from taking the two countermeasures: learning with a purpose, curiosity, progress, and respect</p>
	<p>T10: The real classroom is for evaluation and problem-solving</p>
<p>Qualm (perceived utility)</p>	<p>T8: Can blended teaching make a difference? The blended approach can make some difference in the learning outcomes of those self-disciplined and efficient students. However, it makes worse for those who cannot conduct self-disciplined independent study</p>
<p>Low self-efficacy</p>	<p>T9: both experiences and lessons from practice, built self-efficacy by overcoming countless difficulties</p> <p>T12: anxious to organize blended teaching; not confident with how to use high-quality blended instruction stimulate students' self-regulated learning</p>

Appendix 6 Data Set 6: Ratings of Difficulty

Paper Group's Ratings of Difficulty

Students' IDs	From the most difficult one to the less difficult ones			3 easiest ones		
	1721117	14445 (E8)	14222 (E6)	14594(E11)	13457 (E3)	13945 (E5)
1721125	14445 (E8)	14449 (E10)	14594 (E11)	13945 (E5)	13457 (E3)	13455 (E2)
1721113	14594 (E11)	14222 (E6)	14359 (E7)	13457 (E3)	13455 (E2)	Pre-Test (E1)
1721119	14449 (E10)	14594 (E11)	14222 (E6)	13945 (E5)	13457 (E3)	13455 (E2)
1721130	14449 (E10)	14446 (E9)	Pre-Test (E1)	14594 (E11)	13868 (E4)	13455 (E2)
1721107	14594 (E11)	14359 (E7)	14446 (E9)	13457 (E3)	Pre-Test (E1)	13945 (E5)
1722081	14594 (E11)	14446 (E9)	14222 (E6)	13457 (E3)	13945 (E5)	13868 (E4)
1722096	14222 (E6)	14594 (E11)	14446 (E9)	13457 (E3)	13945 (E5)	13868 (E4)
1722102	14594 (E11)	14445 (E8)	14359 (E7)	Pre-Test (E1)	13457 (E3)	13868 (E4)
1721116	14446 (E9)	14359 (E7)	14449 (E10)	13945 (E5)	13457 (E3)	13868 (E4)
1721126	14449 (E10)	14594 (E11)	14445 (E8)	Pre-Test (E1)	13868 (E4)	13455 (E2)
1721128	14594 (E11)	14449 (E10)	14222 (E6)	13455 (E2)	13457 (E3)	13945 (E5)
1722100	13868 (E4)	14359(E7)	14594(E11)	14446 (E9)	14445(E8)	13457 (E3)

1722135	13945 (E6)	14359 (E7)	14446 (E9)	13457 (E3)	14594 (E11)	13868 (E4)
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Online Group's Ratings of Difficulty

Students' IDs	From the most difficult one to the less difficult ones			3 easiest ones		
	1722120	14594 (E11)	14449 (E10)	14222 (E6)	13457 (E3)	Pre-Test (E1)
1723965	14449 (E10)	14594 (E11)	14359 (E7)	14446 (E5)	13457 (E3)	13455 (E2)
1722138	14359 (E7)	14594 (E11)	14445 (E8)	Pre-Test (E1)	13457 (E3)	14446 (E9)
1722128	14222 (E6)	14449 (E10)	14594 (E11)	Pre-Test (E1)	14446 (E9)	13457 (E3)
1722120	14445 (E8)	14594 (E11)	14449 (E10)	13945 (E5)	Pre-Test (E1)	13457 (E3)
1722123	14359 (E7)	14594 (E11)	13868 (E4)	13455 (E2)	13457 (E3)	14446 (E9)
1722133	14445 (E8)	14449 (E10)	13868 (E4)	13457 (E3)	13455 (E2)	13945 (E5)
1722142	14449 (E10)	14359 (E7)	14222 (E6)	Pre-Test (E1)	13457(E3)	13455 (E2)
1722144	14594(E11)	13868 (E4)	14445 (E8)	14446 (E9)	13457(E3)	14359 (E7)
1722156	13868 (E4)	14222 (E6)	14445 (E8)	14359 (E7)	14446 (E9)	13457(E3)
1723972	14446(E9)	14445 (E8)	Pre-Test (E1)	14359 (E7)	13455 (E2)	13457(E3)
1722130	14594(E11)	14445 (E8)	14222 (E6)	13457(E3)	14594(E11)	13455 (E2)
1722132	Pre-Test (E1)	14446(E9)	13945(E5)	14359(E7)	14222(E6)	13457(E3)
1722139	14446(E9)	14594(E11)	14359 (E7)	14222 (E6)	13457(E3)	13455 (E2)

Appendix 7 Questionnaire on the Current Blended Teaching Situation of College English Course

Please make choices as required. All your information will not be known by the third party. All the information filled in this questionnaire is only for the research of the current situation of blended teaching. Thank you for your support and cooperation.

1. What college English courses are you currently teaching with blended approach? (multiple choice)

Options	Tick Area
A. English for General Purpose or Comprehensive course-- listening, speaking, reading, writing, translation	
B. English for Cross-cultural Communication , such as English Language and Culture, Cross-Cultural Communication, Literature, etc.	
C. Academic English, such as academic reading and writing	
D. English for Special Purpose, such as business English, mechanical English, etc.	

2. Through what channels do you usually obtain the information and resources about college English? (multiple choice)

Options	Tick Area
A. Professional teaching and learning websites (such as from textbook publishing house, national online course, course era, etc.)	
B. Search engines (e.g. Baidu, Google, Wikipedia, etc.)	
C. Public online video	
D. Campus network (e.g. school electronic library, school electronic video, etc.)	
E. We-media	
F. Peer recommendations (e.g. classmates, friends, etc.)	
G. Portal websites	
H. Teachers' or researchers' independent design	

3. What course online platforms are used (online platform refers to the online communication space where teachers arrange and store teaching resources, students conduct independent learning and examination, and teachers and students interact)? (multiple choice)

Options	Tick Area
A. A platform provided by publishing house of textbooks	
B. Course management platform provided by other technological companies	
C. Online teaching platforms provided by the university	
D. MOOC platform, such as national MOOC platform	
E. Social media official account	
F. Social media group	
G. Online homework or test platform (such as Itest: online test marking, Wewrite: automated essay scoring)	

4. To the best of your knowledge, where is the online course carried out by the students? (multiple choice)

Options	Tick Area
A. At school	
B. At home	
C. At dorm	
D. Anywhere online in public	

5. What are the online learning tasks you usually assign? (multiple choice)

Options	Tick Area
A. Listening	
B. Speaking	
C. Reading	
D. Writing	
E. Translating	
F. Vocabulary	
G. Preview of texts	
H. Extended theme-based content	

6. What purposes are the applied online platform and resources used for? (multiple choice)

Options	Tick Area
A. Teachers' lecturing and students' presentation (PPT, live broadcast, recorded broadcast, video, audio, pictures, eBooks, micro-course, MOOC,	

etc.)	
B. Operational interaction (questionnaire survey, seamless communication in online conference, screen projection in class, etc.)	
C. Specific purposes (quizzes, exams, intelligent writing and grading, original creation, vocabulary, comparing oral recordings)	
D. Course management (attendance, resources, course materials, assignments, picture, and text interaction, learning analysis, formative assessment, learning monitoring, etc.)	
E. Interpersonal communication especially by social media	
7. How are face-to-face classes and online learning divided? (3 different models as described below) (single option)	
Options	Tick Area
A. The content of online teaching platform is only supplementary, and the real in-class teaching is not affected by it.	
B. The online teaching platform undertakes part of the in-class teaching (such as part of knowledge teaching and part of self-study after class).	
C. I can teach by using different applications, websites, or other online platforms to teach knowledge, answer questions, report, and present tasks, and organize language application activities in classroom.	
8. In your opinion, blended teaching in college English can: (multiple choice)	
Options	Tick Area
A. Improve the classroom atmosphere	
B. Supplement teaching contents	
C. Expand thinking	
D. Extend class content	
E. Cultivate the ability of independent learning	
F. Enhance communication and interaction between teachers and students	
G. Increase interest in learning	
H. Enhance information literacy	
I. Improve academic achievement	
9. What forms of teaching evaluation are included in the final assessment of this course?	
Options	Tick Area
A. Written work	
B. Class participation	
C. Online autonomous learning	
D. Self-assessment	
E. Peer assessment	
F. The mid-term exam	
G. The final exam	
10. What is the minimum online learning time required for this course? (single option)	
Options	Tick Area
A. 1-2 periods per week	
B. 3-4 periods per week	
C. No minimum time, but based on tasks	
D. There are no tasks or time requirements. It is all depending on students' self-regulated learning.	
11. Have you ever participated in blended learning training such as flipped classroom, live streaming, resource production and sharing? (single option)	
Options	Tick Area
A. Yes	
B. No	

Appendix 8 Questionnaire Scale for Motives Influencing College English Teachers' Implementation of Blended Teaching

Please tick according to your real situation.

completely disagree	disagree	uncertain	agree	completely agree
=1	=2	=3	=4	=5

Variables	Items	Scoring (see above)				
		1	2	3	4	5
Actual Implementation Reality (AIR)	1. Blended teaching has been rolled out in all the classes here.					
	2. I have already made plans to use hybrid teaching in the future.					
	3. I apply blended teaching to my course all the time.					
Perceived Utility (PU)	4. The mixed teaching mode can cultivate students' language knowledge, language competence and communicative competence.					
	5. Using hybrid teaching enables me to complete my tasks more efficiently.					
	6. Using hybrid teaching enables me to achieve my goals more efficiently.					
	7. Blended teaching is very interesting.					
Perceived Ease of Use (PEU)	8. Mixed teaching can improve the quality of teaching.					
	9. The burden of mixed teaching preparation is heavy and laborious.					
	10. Organizing classroom activities, such as discussions in the classroom, required improvisation, are not a challenge to my language skills.					
	11. In blended teaching, the organization of face-to-face classes makes me more able to give play to my teaching potential.					
	12. I can apply different levels of blend with varied difficulties into practice due to my teaching demand.					
	13. Why I choose certain a blend depends on my perception of its difficulty level.					
	14. I don't accept hybrid teaching because of my previous experience with it.					
	15. I can blend automated essay scoring systems easily into my teaching practice.					
	16. I can make the course related MOOC or micro-class.					
	17. I can design from 0 to create a good blend.					
Teaching Competence (C)	18. My teaching experiences and personal values for that matter, have led me to accept and carry out the hybrid teaching.					
	19. I always try out new teaching methods in the hybrid teaching process.					
	20. I know what contents to complete through online platform, and what to be solved face-to-face.					
	21. Mixed teaching can serve my teaching style well.					
Closely-in-touch Circle (CC)	22. I can feel that my environment is supportive of my hybrid teaching approach.					
	23. Most of the students in my current class are highly motivated to have a mixed approach.					
	24. In order to jointly implement mixed teaching, our teaching and research group teachers work together, such as sharing resources.					
	25. Our school includes the workload of teachers running online platforms into the teaching hours.					
	26. I am required by my school to use online platforms to teach the course.					
Professional Field (PF)	27. I have been regularly required to get trained on blended teaching provided by the prestigious schools or experts.					
Social Pressure	28. Policy has encouraged me to use hybrid teaching.					

(SP)							
Self-efficacy (SE)	29. The use of hybrid teaching is completely within my control.						
	30. When I encounter difficulties, I am not able to use mixed teaching mode to complete tasks without the help of others.						
	31. I have enough confidence to adapt to blended teaching.						
Technological Skills and Resources (TSR)	32. The resources on the online platform used for this course are not of good quality.						
	33. This course uses rich resources on online platforms.						
	34. The online platform used in this course has powerful functions, reasonable navigation, easy to use, stable and reliable, and it can meet the teaching needs.						
	35. I can see the students' online learning behaviors on the platform.						
	36. Hardware devices (computers, mobile phones, etc.) provided by the school or by students themselves affect students' learning on the online platform.						
	37. When I encounter technical problems in teaching, I can always get the help of staff concerned in time.						
	38. The school will provide teachers with training in commonly used technologies and electronic resources.						
	39. Most of the students in my current class have high information technology literacy, which is convenient for me to carry out mixed teaching.						

Appendix 9 Abstracts of Original Papers

Abstract of Original Paper 1

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Original Paper

A Study on the Effectiveness of Automated Essay Marking in the Context of a Blended Learning Course Design

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Abstract

This paper reports on a study undertaken in a Chinese university in order to investigate the effectiveness of an online automated essay marking system in the context of a Blended Learning course design. Two groups of undergraduate learners studying English were required to write essays as part of their normal course. One group had their essays marked by an online automated essay marking and feedback system, the second, control group were marked by a tutor who provided feedback in the normal way. Their essay scores and attitudes to the essay writing tasks were compared. It was found that learners were not disadvantaged by the automated essay marking system. Their mean performance was better ($p < 0.01$) than the tutor marked control for seven of the essays and showed no difference for three essays. In no case did the tutor marked essay group score higher than the automated system. Correlations were performed that indicated that for both groups there was a significant improvement in performance ($p < 0.05$) over the duration of the course and that there was a significant relationship between essay scores for the groups ($p < 0.01$). An investigation of attitude to the automated system as compared to the tutor marked system was more complex. It was found that there was a significant difference in the attitudes of those classified as low and high performers ($p < 0.05$). In the discussion these findings are placed in a Blended Learning context.

Keywords: automated marking systems, blended learning, empirical study

Abstract of Original Paper 2

Research on Innovative Ways of College English Teaching Mode from the Perspective of Cross-cultural Communication

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Keywords: Cross-culture; College English; Communication; Teaching mode

Abstract: Under the background of economic globalization and political multipolarization, exchanges and cooperation between countries have been continuously strengthened. In order to achieve the goal of cooperation better, it is necessary to realize effective communication on the basis of understanding each other's cultural background, which requires us to strengthen the cultivation of intercultural communication talents. As the main body of the new era, college students should not only understand their own culture, but also deeply understand foreign cultures, communicate with foreigners, and improve their intercultural communication ability in the process of communication. Mastering the ability of cross-cultural communication in an all-round way will help English majors in their future work. Therefore, it is also the most important thing to apply college English teaching forms to cross-cultural communication. This paper discusses the importance of cross-cultural communication, and analyzes how to reform the teaching mode of college English under the background of global cross-cultural communication, and then puts forward the methods and strategies for college students to improve and enhance their awareness of cross-cultural communication.