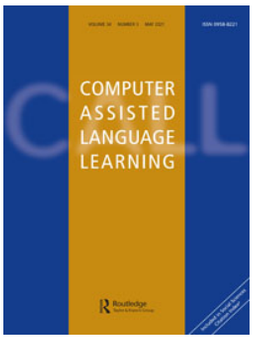

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# Blended learning for Chinese university EFL learners: learning environment and learner perceptions

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**ABSTRACT**

This article reports the design of a course blended through a small private online course in a Chinese university EFL context, with an emphasis on the blended learning environment created thereby and on learners' perceptions of their blended learning. In a survey-based approach, 1603 students' experiences of blended EFL learning in two consecutive terms were examined. The questionnaire survey focused on the participants' perceptions of their engagement with blended learning, their motivation, learning autonomy and overall satisfaction. An analysis of students' responses reveals that the blended design can create an efficient EFL learning environment and gain positive learner perceptions.

**KEYWORDS**

Chinese EFL context; blended learning environment; learner perceptions

## Introduction

As in many other areas, the rapid developments of information and communication technologies (ICT) have had a profound impact on education worldwide. The ICT advancements and their concomitant development of Massive Open Online Courses (MOOCs), Small Private Online Courses (SPOCs) and Learning Management Systems (LMSs) have revolutionized instructional methodologies in higher education in more ways than one. Improvements have derived from the use of ICT, which can offer new ways of producing, distributing and receiving university education (Orton-Johnson, 2009; Wang, Wang, Wen, Wang, & Tao, 2016; Golonka, Bowles, Frank, Richardson, & Freynik, 2014; Chen Hsieh, Wu, & Marek, 2017), complementing and even optimizing traditional methods of teaching and learning. Against this background, universities and educational institutions in China have been making considerable efforts to integrate ICT into classroom teaching and learning. Concepts like blended learning, a flipped classroom approach to

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learning, MOOCs, and SPOCs are favored by education experts and teachers, and pedagogical practices are widely explored across many disciplines. Though relatively new for EFL teaching in tertiary education, offering blended courses supported by new ICT to enhance language instruction for EFL learners have become a growing trend of foreign language teaching in Chinese universities, where there is a need to teach English to large numbers of students. While there exists a huge body of literature on blended learning in an EFL context (Ko, 2017; Liu, Lin & Zhang, 2017), blended design in higher education is still a developing area. The volume of research targeting blended learning environments for EFL teaching in higher education is still relatively limited.

This study aims to report our design of a blended English course incorporating a SPOC into flipped classroom learning in a Chinese university. Specifically, our focus is on the blended learning environment created thereby and learners' perceptions of it. In alignment with the scope and purpose of this study, the following research questions are addressed:

1. How can ICT be optimally integrated into an EFL course to provide a blended learning environment for Chinese university EFL learners?
2. How do the EFL participants in question perceive the blended learning environment created by the blended course design?

## Review of the literature

### *EFL MOOCs and SPOCs in China*

Currently, China has four leading MOOC platforms: XuetangX (www.xuetangx.com), China's first MOOC platform built by Tsinghua University in 2013; iCourse (www.icourses163.org), co-built by the Higher Education Press and NetEase in 2014, and responsible for the operation and management of China's national-level MOOC courses; CNMOOC (www.cnmooc.org), a non-official MOOC organization established in 2015 and composed of several top universities in China; and Chinese MOOCs (www.chinesemooc.org) by Peking University, which has the aim of 'serving global Chinese with better courses through better teaching.' Of these four platforms, the first two also serve as SPOC platforms. Some universities (e.g., Tsinghua University, Peking University, and Zhejiang University) have also developed SPOCs for their own students' learning. SPOCs, first coined by Professor Armando Fox of University of California Berkeley to differentiate a more localized use of the popular MOOCs in the 'post-MOOC' era (Coughlan, 2013), provide a more customized experience for learners in smaller groups. Most of

the MOOC sign-ups can sign off without completing their courses, and it is questionable how tens of thousands of students on a course can ever satisfactorily be taught, assessed and accredited. SPOCs, still free and delivered online, but accessible to a specific group of on-campus learners, can remedy these defects in learner engagement and the management of MOOCs. Initial research results have showcased improved learning outcomes (Wang et al., 2016).

Though there is a rapid growth of language MOOCs for university EFL learners on the aforementioned four MOOCs platforms, none of the courses can be easily blended with classroom instruction due to different course requirements across universities and the inherent drawbacks of MOOCs with regard to learner engagement and management. SPOCs developed for university EFL learners are even fewer in number, often serving only the specific pedagogical needs of the SPOC-developing universities.

### *Blended EFL learning in China*

Blended learning may mean different things to different people (Driscoll, 2002; Motteram & Sharma, 2009, cited in Aysel, 2014). Graham (2006) defined blended learning as a system that combines face-to-face instruction with computer-mediated instruction, thereby combining instructional modalities or methods. Targeting blended learning in higher education, Oliver and Trigwell (2005, p. 17) identified 'the integrated combination of traditional learning with web-based online approaches' as the most common interpretation. Since blended learning was introduced into the academic and corporate fields, there have been various attempts to employ it in the field of English Language Teaching (ELT) (Yang, 2014; Behjat, Yamini & Bagheri, 2011; Grgurović, 2011; Miyazoe & Anderson, 2010; Neumeier, 2005; Bañados, 2006; Yoon & Lee, 2010). In ELT, Yoon and Lee (2010, p. 180) further narrowed down the term, and defined it as 'bringing together the positive attributes of online and offline education, including instructional modalities, delivery methods, learning tools, etc., in relation to language teaching and learning approaches and methods in order to reinforce the learning process, to bring about the optimal learner achievement, and to enhance the quality of teaching and learning'. This article follows Yoon and Lee's definition and will specify a blended instruction design in the Chinese university EFL context.

Blended learning designs, which integrate a wide range of teaching modes, tools and resources via ICT, have witnessed a growing momentum in EFL contexts in China. Traditionally, language courses here are

conducted in formal settings, with limited class sessions and much less time and space for classroom output in the target language. For most EFL learners in universities, the class hours for English are only four per week (180 minutes all together). In addition, before and even after entering university, most EFL learners in Chinese universities have been taught in "the traditional transmissive pedagogy" (Liu et al., 2017) and with test-oriented approaches to English learning. There is a lack of an immersive, supportive, constructive and participatory learning environment to which English as a Second Language (ESL) learners can easily get access, and EFL learners have very limited opportunities to experience. Therefore, the design of a blended learning model should draw upon the attributes of both online synchronous–asynchronous learning and offline face-to-face language learning. This can increase learners' input and output opportunities and enrich their experiences of using the target language.

While a burgeoning body of literature has discussed the application of ICT in EFL education, few studies have investigated the blended learning environment created by the integration of EFL SPOC and face-to-face classroom learning. This paper proposes a blended learning design that incorporates an EFL SPOC into offline classroom instruction, restructuring traditional classroom learning to create an immersive, supportive, constructive and participatory learning environment for EFL learners in a Chinese university.

### *Learner perceptions about blended learning*

According to Ginns and Ellis (2009), one of the central aspects of learning and teaching is students' perceptions of their own experience. Previous research on blended learning has studied learners' perceptions about the use of some ICT for the development of the four skills in various languages, reporting positive perceptions about their usefulness, especially in assisting students in the areas of spelling and grammar (Ayres, 2002), in the development of communicative skills (Lee, 2002; Yanguas, 2010), in listening (RamÍrez Verdugo & Alonso Belmonte, 2007) and writing (Byrne, 2007; Chao & Lo, 2011), and in all the skills and areas of language in an EFL blended course in Spain (Bueno-Alastuey & López Pérez, 2014). However, previous research seldom addresses EFL learners' perceptions about blended learning environments (Aysel, 2014), and little if any work has been done to examine students' perceptions on a large scale longitudinally.

Therefore, we sought to analyze learners' perceptions of their blended learning experience longitudinally. The present study, using the

questionnaire method, surveyed five aspects of Chinese EFL learners' perceptions. As earlier research has indicated, learner motivation is a critical factor affecting student performance and learning outcome, particularly online learning success (Cole, Field & Harris, 2004; Ryan, 2001). Among the most important elements that influence learners' motivation are their interest in the course content and activities and how relevant they perceive online learning to be to the course (Benbunan-Fich & Starr, 2003; Rovai, 2007; Zimmerman, 2008; Huang & Chou, 2015). Apart from the motivation reported by EFL learners, our study also examined the students' perceptions of the effectiveness of their blended learning, their engagement with it and their learning autonomy, and their overall satisfaction level.

## Methods

### *Research context*

This research was undertaken at the University of Science and Technology of Beijing (USTB), China. The instructional goals of the *College English* course in this university are (1) to develop students' competence in using English effectively in daily life, learning and working contexts, (2) to strengthen students' awareness and competence for cross-cultural communication, and (3) to develop students' autonomous learning ability. The course has eight credits, covering one academic year (two terms, 128 class hours in all). To meet the instructional goals within such limited class time, an instructional design was developed to create a blended learning environment. The design was intended to provide an immersive, supportive, constructive, and participatory learning environment. The current research sought to discover learners' perceptions of this blended learning environment after two terms.

### *Participants*

A total of 1603 Chinese EFL students taking the blended *College English* course participated in the study. They were freshmen and studied *College English* for two consecutive terms. They had an average age of 19; 53.5% were male and 46.5% female. They came from different disciplines, including mathematics, materials sciences, civil engineering, business management, computer science, mechanics, etc. In general, they had 12 years of English learning experiences, starting from their primary school years. Their English proficiency was upper-intermediate, based on the university English placement test.

**Table 1.** Major components of the blended EFL learning environment.

| Blended course design components | Potential functions in blended language learning |
|---|---|
| EFL SPOC learning | Delivering multi-modal language input of different types and topics |
| | Offering key language learning strategies |
| | Creating quizzes and assignments of different types |
| | Supporting peer review |
| | Constructing an online learning community |
| | Empowering synchronous-asynchronous discussions |
| | Helping students to monitor their progress |
| Flipped classroom learning | Checking EFL SPOC learning outcomes through various activities |
| | Consolidating EFL SPOC learning through interactive activities |
| | Highlighting key points of knowledge and language skills |
| | Addressing common problems in EFL SPOC learning |
| | Increasing meaningful instructor-student and student-student interactions in English |
| | Creating, through various activities, opportunities for students to utilize what is learned in the EFL SPOC |
| | Providing a stage for students to showcase their learning products |
| Out-of-class language use | Collaborating with peers to accomplish teamwork projects |
| | Preparing classroom presentations |
| | Accomplishing out-of-class writing or speaking activities |
| Mobile learning via WeChat | Offering resources targeting difficult points |
| | Showcasing the results of students' learning in written or spoken form, and even in videos |
| | Sharing students' learning strategies and tips |

### *Blended EFL learning environment*

As blended EFL course designs can vary considerably, the blended EFL learning environment created thereby may look rather different depending upon the context. The blended course in this study was designed through integrating an EFL SPOC (synchronous–asynchronous learning), flipped classroom learning (face-to-face interactive learning), out-of-class language use (project-based learning) and mobile learning via WeChat (learning on the fingertips (Zhang & Liao, 2015)).

Table 1 summarizes the major components in the course design that worked together to create the blended EFL learning environment.

### *EFL SPOC learning*

The EFL SPOC is accessible only to USTB students taking this course on the iCourse platform (https://www.icourse163.org/). Information and computer technology integration must be built on pedagogical foundations with the aim of improving instruction and the educational experience (Dillon-Marable, & Valentine, 2006). With this in mind, the EFL SPOC in this study was designed to optimize the delivery of EFL course content on EFL pedagogical foundations.

Comprehensible input is critical for language learners, and especially for foreign language learners. Krashen (1985) argues that acquisition takes place only when learners are exposed to comprehensible input

**Table 2.** Topics in the EFL SPOC.

| No. | Topic (1st Term) | No. | Topic (2nd Term) |
|---|---|---|---|
| 0 | Course Orientation | 8 | Business and Brands |
| 1 | College Life | 9 | Great Minds |
| 2 | Learning Strategies | 10 | Creating a Greener World |
| 3 | Living on Your Own | 11 | Tourism |
| 4 | Technology | 12 | Cloning |
| 5 | Ways to Success | 13 | Addiction |
| 6 | Love and Friendship | 14 | Catastrophe |
| 7 | Leisure Activities | 15 | Lifelong Education |

which is 'roughly tuned to the level of the non-native speaker' (Krashen, 1985, p. 9). For EFL learners, the target language is hardly acquired with roughly tuned input, but learned with the help of formal instruction (White, 1987). In the EFL context in China, we have identified several qualities of 'comprehensible input' for Chinese EFL learners. First, the input should be contextualized. An authentic and communicative context helps students learn specific input knowledge with meaning and purpose. Therefore, the EFL SPOC was designed following a topic-based approach. It contains 15 topics, each selected as of high relevance to real-life communication and of high interest to upper-intermediate EFL learners in this university. The 15 topics are detailed in Table 2. Each topic covers four reading passages and four videos of real-life scenarios chosen from the *Experiencing English Integrated Coursebook* and *Experiencing English: Viewing, Listening and Speaking* published by the Higher Education Press (HEP). These textbooks aim to enable students to learn and use English for communication in various ways by experiencing English in meaningful interactions. Each passage showcases the textual features, sentence patterns, useful expressions, idioms, collocations, words and phrases that are used by native speakers on the given topic in a real-life context. Each topic lasted two weeks, and face-to-face classroom learning took place once a week. In the course orientation, students were explicitly informed of the blended course design and its elements, course components, course content and assessment.

Secondly, the input should be sufficient. For EFL learners, input should be sufficient both in quality and in quantity so as to support and foster deep learning. Various learning materials and resources for each topic were developed specifically for the EFL learners at USTB and these EFL SPOC materials and resources can be easily accessed anytime anywhere as long as the students are connected to the internet via computers or such mobile learning devices as ipads or smart phones. Students were required to make full use of these materials and resources as indispensable input in the blended course. This increased sufficiently students' exposure to the input of multi-modal materials, including texts, audios and videos. Students could learn at their own pace in the EFL

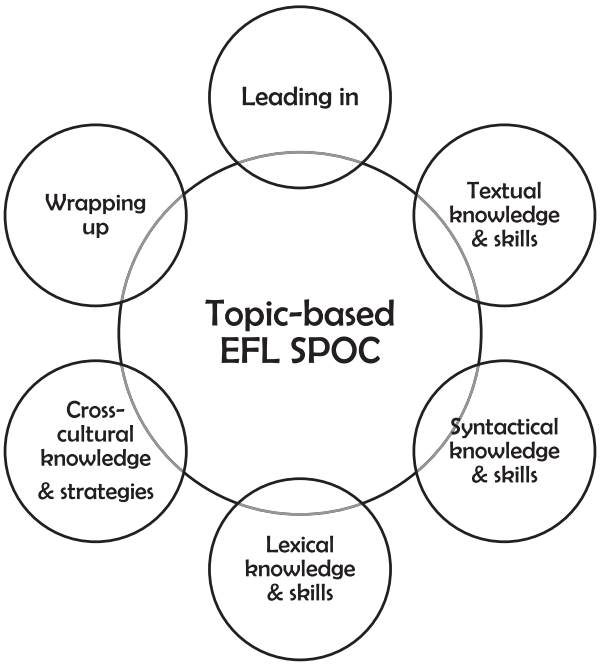


**Figure 1.** The content and instruction delivered in the EFL SPOC mini-lectures.

SPOC learning process because they could pause, replay, rewind, and fast-forward the videos or audios and decide according to their own needs which part to learn first and which later.

Thirdly, the input should be explicit. White (1987) believes that formal instruction may be necessary to ensure that learners obtain the input data they need to acquire. This is especially the case for EFL learners. Formal instruction makes the input knowledge explicit for learners so that they will not make incorrect generalizations about the target language. Since input finely tuned through formal instruction is necessary for EFL learners, the EFL SPOC in this study contains six mini-lecture videos, developed and produced by the USTB college English teaching team, for each passage within each topic. Input presented in these videos is explicitly geared towards the 'i + 1 level' of EFL learners in the blended course, in the forms of grammar teaching, sentence analysis, error correction, or other forms of emphasis on structures. Figure 1 illustrates the content and instruction delivered in the EFL SPOC mini-lecture videos. The mini-lecture videos transmit explicit textual, syntactical, lexical and cross-cultural knowledge and skills, as well as communication strategies.

Fourthly, input should be closely connected with output. Unlike ESL learners who enjoy easy access to the target language in everyday life and are highly motivated to use English for survival in the target culture, EFL learners in general do not have adequate opportunities to use

English and are much less motivated to use English outside the classroom. Campbell (2004) points out that EFL learners normally return to the real world using their mother tongue as soon as they leave the classroom. To address this problem, it is important to design lively and interactive tasks and activities that drive learners to produce output when they are outside the classroom. In her proposed 'Output-driven/Input-enabled' model, Wen (2013) states that the need for output drives learners to pursue input, and input enables learners to produce output. In this study, an online community of learning and using English was constructed through the discussion forum and peer review session of the EFL SPOC. The purpose was to drive learners to produce output enabled by the contextualized input delivered through online learning resources and formal instructions. In this online learning community, students interacted with teachers, teaching assistants (TAs) and peer students, discussing, commenting on and sharing ideas about each topic.

### *Flipped classroom learning*

In our study, the conventional teacher-centered classroom instruction was restructured and replaced by flipped learner-centered classroom learning. In conventional EFL classroom instruction in Chinese universities, teachers deliver course content in a stand-and-deliver model to classes of 60 or more students in the physical classroom. After class, students are supposed to finish their homework and practice what they have been taught in the classroom lectures. In the flipped classroom learning model in the present study, knowledge delivery was flipped over onto the EFL SPOC. Before the flipped classroom learning, students prepared themselves by watching the SPOC mini-lectures, pausing, replaying, rewinding as needed until they gained the input knowledge transmitted. While doing online learning in the EFL SPOC, they were able to do quizzes to help consolidate what they had learned; they could post questions anytime in the online learning process; they could ask for help from teachers, TAs, or peer students; and they could discuss and share their ideas and feelings on any given topic on the SPOC forum. Students' online learning was evaluated by tests and assessments of various types, such as reading comprehension questions, vocabulary quizzes, writing tasks, short answer questions, and note-taking and speaking activities designed by the teaching team. Students' learning behavior and learning data were recorded automatically by the iCourse platform, including the time they spent watching the SPOC mini-lectures, the number of mini-lectures each student watched, the frequency with which each student participated in the online learning community on the

SPOC forum, the marks they received for each test and quiz, etc. Students became masters of their own learning. Before going into the classroom, they could learn at their own pace, anywhere and anytime. They could get fully prepared for face-to-face communicative tasks and activities in the flipped classroom by repeated exposure to the input knowledge online.

Therefore, EFL SPOC learning on the iCourse platform liberates students from classroom instruction which conventionally occupies the majority of class time, and enables learners instead to participate in more dynamic, interactive, communicative, and engaging activities in the classroom. Teachers are no longer the sole speakers who deliver knowledge intensively in class time; instead, they have become cooperators, guides, task-designers, coordinators, facilitators, commentators, feedback providers, and evaluators who support students' learning. The flipped classroom learning gives class time back to students' learning and using English in the way that language should be learned and used, fostering students' mastery of the targeted knowledge and skills covered in the course design and hence enhancing students' linguistic competence and performance. Tasks and activities in the flipped classroom may include: (1) checking EFL SPOC learning outcomes through various activities with a view to safeguarding EFL SPOC learning quality, (2) consolidating EFL SPOC learning effects through interactive activities, (3) highlighting key points of knowledge and skills, (4) addressing common problems in EFL SPOC learning, (5) increasing meaningful interaction between instructors and students, and students and students, (6) creating participatory opportunities for students to utilize what has been learned in the EFL SPOC through various activities, and (7) providing a stage for students to showcase their learning products.

### *Out-of-class language use*

Flipped classroom learning is closely connected to EFL SPOC learning in terms of a mutually promoting input–output relationship. It is also the engine that drives students' out-of-class project-based learning which simulates real-life language use scenarios. In-class showcase tasks in flipped classroom learning engage students in collaborative out-of-class English using activities enabled by input which strengthen their linguistic and pragmatic knowledge, foster active learning for authentic communication purposes, and enhance higher order critical thinking skills (such as analyzing, evaluating, synthesizing, and creating), and integrated communicative skills (such as solving problems, and completing a project in English). For example, for the first topic, *College Life*, a project called

'Mock Opening Ceremony' was conducted, where the class (the size of the flipped class was much smaller than that of a conventional class, and each class consisted of about 30 students) was divided into five groups and each group took one of the following roles: president of the university, freshman, parent, alumnus, and senior student. The output speech was enabled by the input speeches or articles on this topic in the EFL SPOC. Students in each group collaborated to produce a speech and delivered it in the 'Mock Opening Ceremony' held in the flipped classroom learning. Another example is from the eighth topic *Business and Brands*. A project called 'Best Job Application' was employed, where the class was divided into five groups and each group designed a job vacancy to compete for the 'Best Job in the World'. The winning group then acted as the boss group to which other groups applied for the vacancy.

### Mobile learning via WeChat

In addition to EFL SPOC learning, flipped classroom learning, and out-of-class English use, the blended course design also introduced mobile learning via WeChat into the blended learning environment in order to expand the time and space for EFL learning. WeChat is available to anyone who uses a smart phone or other mobile communication device and it also has a desktop version. It has become an indispensable part of people's lives in this 'Internet Plus' era and is popular among people of different ages in China. Drawing on the social networking functions of WeChat, such as instant sharing of multimodal information, and instant distribution of multimodal information to every single user, the teaching team offered learning resources targeting difficult points in students' learning of the EFL SPOC, shared students' learning products (written or spoken, audios or videos) to help students gain a sense of achievement and promote their motivation for learning and using English, and shared learning strategies and tips contributed by students.

Working together, the four parts produce an interconnected whole – a blended learning environment. Each part is equally important in forming a supportive, constructive, participatory and similarly immersive environment for EFL learners, as is illustrated in Figure 2.

### Data collection: Post-instruction questionnaire

To examine the participants' overall perceptions of their 1-year learning experience in the EFL blended learning environment, we designed and conducted a questionnaire survey. The questionnaire was developed with reference to the related literature (Campbell, 2010; Chenoweth,

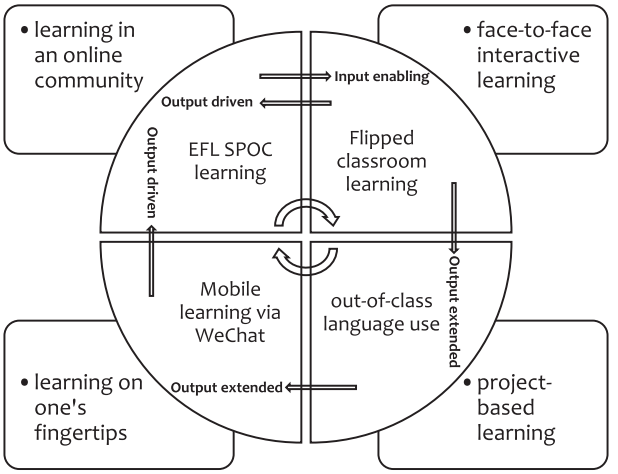


**Figure 2.** Quadripartite model of a blended EFL learning environment.

Ushida, & Murday, 2006; Aysel, 2014) and was pilot-tested as reliable and valid with students of the same grade from the same university. The questionnaire included 31 items, covering learners' perceptions of their motivation, learning autonomy and engagement, the effectiveness of their blended learning and their overall satisfaction level. Table 3 shows the categories and items covered by the questionnaire.

In the questionnaire, 16 items needed to be answered on the five-point Likert scale, ranging from 1 (the least satisfying, strongly disagree) to 5 (the most satisfying, strongly agree), 11 items in multiple-choice form, three items by filling in the blanks on a form, and one as an open question.

The questionnaire was delivered electronically to the students in the last class of the second semester through a professional questionnaire platform (https://www.wjx.cn) where data can be collected and processed instantly after students finish the survey. Students were familiar with the terms and the meaning of the concepts in the questionnaire since they had experienced all the activities embodying those concepts in their blended learning. To ensure students' full understanding of the survey questions, everything was in Chinese. The survey instructed students to provide honest feedback about their blended learning experiences. And it was stated clearly at the beginning of the questionnaire and also by the teachers before the students answered the questionnaire that there was no right or wrong answer, that students only needed to select what best reflected their perceptions, and that the answers would in no way have any impact on their course grades. The retrieval rate was 100%, and all 1603 answered questionnaires were deemed valid.

The data was analyzed by utilizing descriptive analysis (frequency, percentages, and mean scores). To facilitate a clear interpretation of

**Table 3.** Categories and items covered by the questionnaire.

| Categories | Items | Types |
|---|---|---|
| Demographic information | 1 Name | Blank filling |
| | 2 Student ID | Blank filling |
| Motivation | 12 The online learning activities are diversified and interesting. | Likert scale |
| | 14 The flipped classroom learning activities are relevant and interesting. | Likert scale |
| | 15 My favorite activities in my EFL blended learning experiences include _____. | Multiple choice |
| | 16 Other activities in the blended learning I prefer. | Blank filling |
| | 18 I think the EFL SPOC learning is closely related to the flipped classroom learning. | Likert scale |
| | 21 My willingness to express my ideas has increased. | Likert scale |
| | 28 In the EFL SPOC learning, the part that I like most is _____. | Multiple choice |
| | 29 The most stimulating part of EFL SPOC learning is _____. | Multiple choice |
| Effectiveness | 3 My EFL blended learning experience is _____. | Multiple choice |
| | 9 Compared with conventional classroom learning, EFL blended learning is more effective. | Likert scale |
| | 10 I believe my English ability has improved after a one-year experience in a blended learning environment. | Likert scale |
| | 17 The variety of activities in blended learning is useful in developing my English language competence. | Likert scale |
| | 19 Collaboration with group members is helpful to my English learning. | Likert scale |
| | 22 Through the EFL blended learning experience, the areas in which I have made the most progress are _____. | Multiple choice |
| | 23 During the EFL blended learning experience, the areas in which I have made the least progress are _____. | Multiple choice |
| Engagement | 4 In the EFL blended learning, the roles I have taken on in the flipped classroom learning are _____. | Multiple choice |
| | 5 Teachers' roles in EFL blended learning are _____. | Multiple choice |
| | 7 The time I spent learning online on average is _____. | Multiple choice |
| | 11 The EFL SPOC learning increased my level of involvement in previewing course content. | Likert scale |
| | 13 I am pleased with the effort I have put into this course. | Likert scale |
| | 20 In the EFL blended learning experience, the roles I have taken on in group work are _____. | Multiple choice |
| | 24 I can learn at my own pace in the EFL SPOC learning. | Likert scale |
| | 27 While watching the mini-lecture videos, I _____. | Multiple choice |
| Learning autonomy | 25 A high degree of learning autonomy is needed in the EFL blended learning environment. | Likert scale |
| | 26 I believe I can communicate effectively with the instructor in the blended learning environment. | Likert scale |
| Overall satisfaction | 6 After a year of EFL blended learning experience, I am _____. | Likert scale |
| | 8 After a year of EFL blended learning experience, my overall feeling towards face-to-face interaction in flipped classroom learning is _____. | Likert scale |
| | 30 I would like to recommend the EFL blended learning to others. | Likert scale |
| Students' comments & suggestions | 31 My comments on the EFL blended learning and suggestions for improvement. | Open question |

the results, in the findings the response scales 'strongly agree' and 'agree' were merged into the broader scale of 'agree', and the scales 'strongly disagree' and 'disagree' were collapsed into the broader scale of 'disagree'.

## Results and discussion

The data collected by the questionnaire revealed a positive student perception of the EFL blended learning environment. However, particularly in their answers to the open question, the students also expressed concerns about the challenges they had encountered. The major findings are presented in the following sections, organized in accordance with the categories laid out in the questionnaire.

### *Motivation*

Eight items regarding students' interest in the course content and activities and the degree to which they perceived online learning as relevant were included in order to elicit students' perceptions of their motivation. The results displayed in Table 4 show that the participants' responses to the four Likert Scale items fell into the upper intermediate scale with mean scores of 3.88, 4.25, 3.85, and 3.95 for Items 12, 14, 18, and 21, respectively. These results reveal that the EFL blended learning environment was effective in motivating the participants to learn and use English.

Specifically, 67.69% of the participants agreed, in answering Item 12 ($M = 3.88$), that online EFL activities are more diversified and interesting, with 50.96% strongly agreeing with this view. With regard to Item 14 ($M = 4.25$), 82.91% expressed strong agreement with the statement that the activities in the flipped classroom learning were rich and diversified. Also, in Table 5, the results of Item 15 surveying the participants' favorite activities in flipped classroom learning show that interactive group work was favored, with *Group Showcase* ranking first, *Group Performance* second, *Group Discussion* third, and *Group Contest* fourth. This aligns with the results of Item 21 ($M = 3.95$), which indicates that students felt a strong willingness to express themselves in group work. Other activities that students preferred include, as elicited by Item 16,

**Table 4.** Students' perceptions of their motivation.

| Category | Items | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Motivation | 12 | 3.88 | 1.06 | 1 | 5 |
| | 14 | 4.25 | 0.85 | 1 | 5 |
| | 18 | 3.85 | 1.00 | 1 | 5 |
| | 21 | 3.95 | 0.88 | 1 | 5 |

**Table 5.** Students' favorite activities in the flipped classroom.

| Favorite activities | Frequency | Percentage |
|---|---|---|
| Group discussion | 996 | 62.13 |
| Group showcase | 1190 | 74.24 |
| Group performance | 1012 | 63.13 |
| Group contest | 719 | 44.85 |
| Other activities | 141 | 8.8 |

*individual presentation*, *giving a speech*, *debating*, and *word dictation*. Notably, in Item 16, a high percentage also revealed a preference for *group work*, although they had already had the opportunity to express this in Item 15.

The results of Item 18 ($M = 3.85$) reveal that students had an overall positive perception of the relevance of the content of the EFL SPOC learning and the flipped classroom learning. 66.62% of the participants agreed that there was a high degree of relevance, 2.31% strongly disagreed and the rest were somewhere in between.

As for the most stimulating part of the EFL SPOC learning investigated in Item 29, Table 6 reveals that students were still comparatively highly motivated by quizzes and tests. *Mini-lectures* ranks second in both frequency and percentage, followed by *Discussion Topic*, *Peer Encouragement in the Forum*, and *Accessible Forum Data*.

It is noteworthy, however, that students' favorite part of the EFL SPOC was the mini-lecture (70.62%), while quizzes and tests had a low frequency, as shown in Table 7. The discrepancy between the favorite part and the most stimulating part aligns with their at least 12-year EFL learning experiences in conventional classroom instruction.

### *Effectiveness*

This category was devised to elicit students' perceptions of the effect that different component elements of the blended course had on their learning. In Item 3, 97.57% of the participants thought that they had an EFL blended learning experience involving online learning and flipped classroom learning. This indicates that students received the blended course well and that the blended course was conducted successfully. Table 8 shows how effective students found the EFL blended learning environment as constructed by the blended course design. Their responses to the four items here fell into the upper intermediate scale with mean scores of 3.71, 3.72, 3.97, and 3.99 for Items 9, 10, 17, and 19, respectively. These results reveal that the designed blended learning environment was perceived by the students to be effective after they had participated in it for 1 year.

**Table 6.** Most stimulating parts of the EFL SPOC.

| The most stimulating parts of the EFL SPOC | Frequency | Percentage |
|---|---|---|
| Mini-lectures | 806 | 50.28 |
| Quizzes & tests | 963 | 60.07 |
| Discussion topic | 578 | 36.06 |
| Accessible forum data | 341 | 21.27 |
| Peer encouragement in the forum | 459 | 28.63 |

**Table 7.** Favorite parts of the EFL SPOC.

| The favorite parts of the EFL SPOC | Frequency | Percentage |
|---|---|---|
| Mini-lectures | 1132 | 70.62 |
| Online discussion | 687 | 42.86 |
| Online feedback | 455 | 28.38 |
| Peer help | 395 | 24.64 |
| Quizzes and tests | 474 | 29.57 |
| Peer evaluation | 493 | 30.75 |

Specifically, in Item 9, 60.45% of the participants agreed that learning in the blended environment was more effective in comparison with learning by conventional classroom instruction. 3.74% of them disagreed and the rest were somewhere in the middle.

With regard to Item 10, 61.58% of the participants thought that the 1-year blended learning experience was highly rewarding. 3.62% of them disagreed and the rest were somewhere in the middle.

With regard to Item 17, 72.24% of the participants agreed that the various activities in the flipped classroom learning were very helpful in promoting their English language competence and performance. Only 1.62% of them disagreed and the rest were somewhere in the middle.

With regard to Item 19, 73.12% of the participants agreed that group collaboration was very helpful for their English learning. Only 1.87% of them disagreed and the rest were somewhere in the middle.

### *Engagement*

Data about students' engagement with the EFL blended learning environment was elicited by eight items, including three Likert Scale and five multiple-choice items regarding students' perceptions about their interaction, interest, participation, time, and effort. The results shown in Table 9 reveal that students participated more in learning in the EFL SPOC than in conventional classroom instruction, with a high mean score ($M = 3.99$) for students' perception that they could learn at their own pace in the EFL SPOC. Control of their own learning increases students' engagement since it changes the power structure of the classroom (Snodin, 2013). This enhanced student engagement in blended learning is also reported in earlier research (Chen Hsieh et al., 2017). However, it is notable that, although most of the students agreed that they were

**Table 8.** Student-perceived effectiveness.

| Category | Items | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Effectiveness | 9 | 3.71 | 1.10 | 1 | 5 |
| | 10 | 3.72 | 1.02 | 1 | 5 |
| | 17 | 3.97 | 0.93 | 1 | 5 |
| | 19 | 3.99 | 0.94 | 1 | 5 |

**Table 9.** Student engagement.

| Category | Items | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Engagement | 11 | 3.48 | 1.20 | 1 | 5 |
| | 13 | 3.51 | 1.11 | 1 | 5 |
| | 24 | 3.99 | 0.96 | 1 | 5 |

more engaged in the EFL SPOC learning than in traditional learning, Item 11, 'The EFL SPOC learning increased my level of involvement in previewing course content', had the lowest mean score ($M = 3.48$). This might be related to the innate defects of online learning where students learn at their own pace and lack face-to-face interaction, and to the fact that some learners are more face-to-face dependent. Item 13, which investigated students' satisfaction with their own learning engagement and effort, had a mean score of 3.51, revealing that 18.28% of the participants thought they could have engaged more and put in more effort and done better.

These statistics align with the data presented in the results of Item 7, investigating the average time spent learning online. 62.69% of the participants spent 1–3 hours per week, 22.52% 4–6 hours, 3.56% 7–9 hours, 3.24% 10–12 hours, and 7.99% less than 1 hour.

According to the results of Item 27, while watching the videos online in the EFL SPOC, 81.1% of them watched the mini-lectures and took notes, but 18.1% reported that they just played the lectures while occupying themselves with unrelated matters.

Table 10 shows the roles taken by students in the flipped classroom in their blended learning experience. It is notable that 87.21% of the participants thought they participated in the learning process in the flipped classroom, while 77.6% of them thought that they acted as listeners, 57.58% as collaborators, 34.5% as contributors, and 33.44% as evaluators. The results reveal that in the flipped classroom learning, most students participated in the activities. However, the role of the evaluator had the lowest frequency, which indicates that more effort should be made in the course design to provide students with opportunities to participate at a higher cognitive level.

To elicit more information, Item 20 investigated how students perceived their roles in group work. Table 11 shows the results, revealing that a majority participated in group work and collaborated with others. Moreover, 27.7% of the students took leading roles in group work.

**Table 10.** Roles students perceived themselves as taking – Item 4.

| Students' perceived roles | Frequency | Percentage |
|---|---|---|
| Listener | 1244 | 77.6 |
| Participant | 1398 | 87.21 |
| Collaborator | 923 | 57.58 |
| Contributor | 553 | 34.5 |
| Evaluator | 536 | 33.44 |

**Table 11.** Roles students perceived themselves as taking – Item 20.

| Students' perceived roles | Frequency | Percentage |
|---|---|---|
| Leader | 444 | 27.7 |
| Participant | 1499 | 93.51 |
| Stand-by | 313 | 19.53 |
| Listener | 948 | 59.14 |
| Collaborator | 1197 | 74.67 |

Table 12 shows the data elicited by Item 5, revealing that students perceived teachers as playing multiple roles in the blended learning environment, as guide (92.89%), organizer (77.23%), assistant (74.86%), evaluator (58.7%), and supporter (57.64%). This indicates that blended learning requires teachers to advance from dispensing information to guiding students throughout the learning process, fostering more active and deep learning during class time. This need for the multiplication of teacher roles is also supported by previous research (Chen Hsieh et al., 2017).

### *Learning autonomy*

This category consists of two items regarding student perception of learning autonomy and the facilitation of autonomous learning by the blended environment. Table 13 shows the statistics for perceived learning autonomy. Blended learning demands a high level of learning autonomy and this is also indicated by the results of Item 25 ($M = 4.4$). 88.02% of the participants agreed that higher learning autonomy was very important for them to learn effectively in the blended learning environment, while only 2.19% disagreed. This result provides more evidence for the claim that blended learning provides learners with natural context and more opportunities to develop autonomous learning (Murray, Hourigan, Jeanneau, & Chappell, 2005; Snodin, 2013). Meanwhile, Item 26, 'I believe I can communicate effectively with the instructor in the blended learning environment', had a high mean score ($M = 3.84$), revealing that students felt at ease with the blended learning environment as it supports learner-centered interaction and collaboration, which will in turn facilitate autonomous learning (Snodin, 2013).

**Table 12.** Student perceptions of roles taken by teachers – Item 5.

| Students' perceptions of teachers' roles | Frequency | Percentage |
|---|---|---|
| Organizer | 1238 | 77.23 |
| Guide | 1489 | 92.89 |
| Assistant | 1200 | 74.86 |
| Supporter | 924 | 57.64 |
| Evaluator | 941 | 58.7 |

**Table 13.** Perceived learning autonomy.

| Category | Items | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Learning autonomy | 25 | 4.4 | 0.79 | 1 | 5 |
| | 26 | 3.84 | 0.99 | 1 | 5 |

### *Overall satisfaction*

Students were asked to reflect back on their blended learning experiences and to rate their level of satisfaction with them. Table 14 displays the results. Students' responses to the three items all fall into the upper intermediate scale, with mean scores of 3.81, 4.16, and 3.87 for Items 6, 8, and 30, demonstrating a positive level of course satisfaction. Item 6, 'After a year of EFL blended learning experience, my overall feeling towards face-to-face interaction in flipped classroom learning is _____', had the highest mean score ($M = 4.16$), and 79.67% of the participants responded with satisfaction, while only 5.81% were dissatisfied. This high level of satisfaction aligns with the responses to Items 9, 10, 12, 17, and especially 14.

When asked how satisfied they were with the EFL SPOC in Item 6 ($M = 3.81$), only 10.23% replied they were dissatisfied, while most stated that they were satisfied. According to Martin-Blas and Serrano-Fernandez (2009), course materials delivered in a format which is easy to access and conducive to learning can enhance student satisfaction and learning effectiveness. That is also demonstrated in Aysel's study (2014). Students' positive responses to Item 26 ($M = 3.84$) also align with this result.

When asked whether they would recommend the *College English* blended course to other students, 88.15% of participants stated their willingness. This high percentage also indicates a high level of course satisfaction.

### *Students' comments & suggestions*

The qualitative data elicited by the open-ended question, that is, Item 31 in the questionnaire, were collected and analyzed by utilizing the keyword cluster analysis approach embedded in the questionnaire platform. All the participants answered this question, most in Chinese but some in

**Table 14.** Students' overall course satisfaction.

| Category | Items | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Overall satisfaction | 6 | 3.81 | 1.04 | 1 | 5 |
| | 8 | 4.16 | 0.80 | 1 | 5 |
| | 30 | 3.87 | 1.12 | 1 | 5 |

English. The word count of students' comments and suggestions was up to 100,000 in all. Thirty keywords were retrieved from this corpus of textual data. Since the comments and suggestions may cover more than one aspect, a student's comments and suggestions may be grouped into several keyword clusters. Figure 3 displays the frequency of the three most frequently used words.

### *Learning*

Learning was the word that occurred most frequently. Most students thought that the blended course design in this study was a good and effective one and that it had stimulated their learning, involved them in learning and using English, and helped them develop their English competence in a brand-new way compared with conventional classroom teaching.

However, they also contributed some valuable suggestions based on their own experiences of the blended learning environment. These focused primarily on the following aspects. (1) The connection between the EFL SPOC and the flipped classroom learning should be strengthened. This indicates that, although content relevance was a very important aspect of the blended course design, much remains to be done to connect the two parts seamlessly. That demands greater elaboration of the course design in integrating creatively online learning and offline face-to-face learning, which is obviously the critical part of a blended learning design. (2) More needs to be done to help students develop learning autonomy. This suggestion aligns with students' responses to the importance of learning autonomy in blended learning environments. The teachers also reported students' lack of learning autonomy based on their observations and interviews with some students. Since developing learning autonomy is one of the instructional goals of this course, in the next round of blended EFL instruction, more measures (such as developing more engaging resources to motivate students, setting up stricter assessment and checking systems, and providing more assistance) will be taken to help develop learning autonomy.

### *Classroom*

This category focused on flipped classroom learning. A majority of students expressed their preference for flipped classroom learning which,

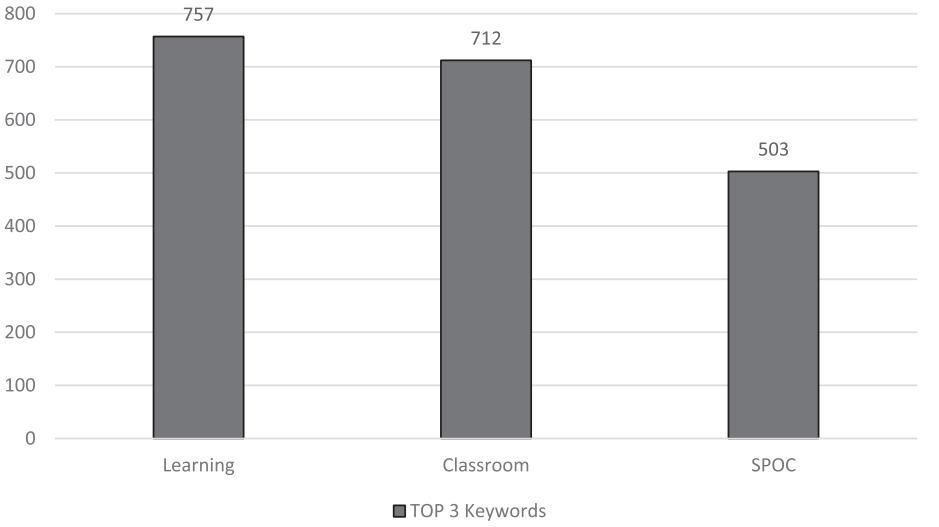


**Figure 3.** Students' comments and suggestions: most frequently used words.

as they saw it, gave them more opportunities to interact with others in English and more opportunities to use English, and in which they had engaged more than they ever had before in conventional classroom instruction.

The main suggestion for flipped classroom learning was to design more activities that involve individual presentation. This might be the result of not-very-effective group work in which not every group member contributed because some were dominant while others were more dependent. Therefore, more evaluation of group work and changes to its working mechanism should be undertaken to ensure that every member has the opportunity and duty of participation, contribution and presentation.

### *SPOC*

The SPOC category focused on the EFL SPOC in this study. In most cases, students made unequivocally positive comments on the EFL SPOC. Their main reasons were: (1) they could learn online at their own pace, pausing and replaying where they had difficulty; (2) they could interact with others freely and obtain instant feedback online in the learning process; (3) they could have easy access to various learning resources; (4) they became masters of their own learning.

However, for this category, students put forward more insightful suggestions for improvement than they did for the other categories. This indicated that the EFL SPOC needs further elaboration to provide better online learning experiences for EFL learners. The suggestions covered

the following aspects: (1) The workload in each unit should be decreased by an appropriate amount. Some students thought that the amount of work for each unit was beyond what they could manage because they had several other courses other than English at the same time. This is also a point teachers are concerned about. One solution to this problem is to label the learning resources in two categories: must-learn for all students, and supplementary for students who need more resources and have the time and energy to use them; (2) More interactive activities like those in the flipped classroom learning should be designed. This indicates that students have very high expectations of online learning and this demands deep integration of ICT with learning; (3) The supervision mechanism of the SPOC should be improved. This suggestion was an acknowledgement of the phenomenon that some students did not actually learn while playing the mini-lecture videos, but just let the video run while they occupied themselves with other matters. Although students knew that teachers could check their learning data online, there were still students lacking adequate learning autonomy while learning online. It was suggested that online learning should be more strictly monitored.

## Conclusions

In the existing literature of EFL blended learning, only a limited number of studies investigate learner perceptions of a blended learning environment created by the incorporation of a SPOC into a flipped EFL classroom, and few if any long-term large scale investigations have been conducted. In this context, the present study offers insights into learner perceptions of a blended learning environment constructed by a blended EFL course design in a Chinese EFL learning context. It examines students' engagement with English learning, their motivation and learning autonomy, their perceptions of the course's effectiveness, and their overall course satisfaction.

### *Findings*

The positive results of this study reveal that the blended design of online synchronous–asynchronous learning and offline face-to-face modes of language instruction has the potential to create a supportive English learning environment. The blended course design can combine the advantages of both SPOC learning and face-to-face learning in order to optimize a learning environment that (1) motivates students to learn in an output-driven approach at their own pace, with rich and easily accessible input resources delivered by the EFL SPOC, synchronous–asynchronous online

communication, and trackable learning progress, (2) engages students with a variety of face-to-face interactive activities enabled by the input resources, making them more active in using the target language effectively, (3) enhances students' awareness of the importance of learning autonomy, encouraging them to redouble their efforts to develop learning autonomy, and (4) expands the limited classroom learning time, making students learn in an immersive, supportive, constructive and participatory environment.

### Pedagogical implications

Based on the results of the study and associated discussion, the following implications for future pedagogical practice are offered.

1. Blended EFL course design integrating a SPOC and flipped classroom learning is an appropriate approach to integrating online learning with face-to-face classroom learning. SPOCs and mobile learning have excellent potential for adding value to classroom teaching in revolutionary ways.
2. When constructing a blended learning environment for students, it is important to connect online learning which delivers input resources with offline face-to-face output activities which engage students in active learning seamlessly.
3. When using a SPOC in blended learning, it is desirable not to overload students with too many resources.
4. When using a SPOC in blended learning, it is important to create an online learning community and sustain its operation with teachers' guidance, involvement and feedback so that students do not feel isolated while learning online.
5. When using blended learning, it is important to design a fair and formative evaluation system and a monitoring mechanism that checks both classroom engagement and online interaction in order to ensure that students do not fall short of the blended learning targets outside the classroom.

### Limitations and future research

This study only examines students' perceptions of the blended EFL learning environment utilizing the questionnaire method. Further research will be conducted to investigate whether students' positive perceptions of this blended English course are matched by the enhancement of their learning as measured by instruments other than questionnaires. Further study should also focus on variables such as the participants' English

level, motivation level, autonomy level, learning style, and gender while measuring students' perceptions of the blended course.

Given the fact that the present study focuses on students' perceptions of an EFL blended learning environment, which is only one aspect of the topic, further research that explores blended instruction in a broader context integrating teachers' attitudes and competence as practitioners in higher education is necessary. Taken together, studies investigating different aspects of blended learning such as student perceptions, learning outcomes, teacher competence and different instructional technologies, can provide a framework for improving the quality of EFL in higher education.

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