

Design and Practice of Blended Learning in Basic Entrepreneurship Education Courses in Universities

Ni Zheng^a, Yuanyuan Wan^{b*}, Zhenmei Wu^c, Yang Gao^d

^a377561070@qq.com; ^b654279038@qq.com; ^c905855415@qq.com; ^d27310082@qq.com

An Hui Xin Hua University Hefei, Anhui, China

Abstract. Blended learning has undergone development and is becoming the new normal of future education. In the era of digital intelligence, blended learning has endowed learning with new connotations and put forward new requirements for the teaching competence of teachers. As a new paradigm of education and teaching, teaching has shifted from being centered on teaching to being centered on learning, learning has shifted from the acquisition of common standardized knowledge to the autonomous construction of personalized knowledge and the generation of creative knowledge. This study is based on the exploration of community model theory and blended learning dynamic scaffolding model, analyzing the possible difficulties in curriculum construction during the implementation of entrepreneurship basic education courses. Using the blended learning dynamic scaffolding model as the theoretical framework, teachers, learning activities, and learning resources are the key elements of the scaffolding, creating different levels of social, teaching, and cognitive presence in the early, middle, and later stages of the curriculum. To provide strategic support and methodological approaches for designing teaching activities for teachers in blended learning, in order to meet the learning needs of students at different stages and promote effective learning.

Keywords: Blended learning; Entrepreneurship foundation; instructional design

1 Introduction

In recent years, blended learning has gained significant attention in the field of higher education. Pennsylvania State University believes that it is an undeniable trend in today's higher education sector. Against the backdrop of the gradual deepening of higher education informatization, how to utilize information technology and related resources, relying on the informatization of education, to improve our teaching environment and learning outcomes, is an innovative educational model in the context of the new generation of information technology. After nearly thirty years of development of blended teaching at home and abroad, no matter researchers, teaching practitioners, or government and educational institutions, they have basically reached a consensus: blended teaching is becoming the "new normal" of education in the future. Especially under the background of "Internet + Education", blended teaching has shown a spurt of development, the cultivation of innovative talents and the reform of education and teaching are all calling for blended teaching again, and all walks of life are focusing on blended teaching again^[1]. However, on the one hand, almost every case of blended teaching practice from the literature will put forward a blended teaching design model; on the other hand, in practice, facing all kinds of blended teaching design models, researchers and

practitioners are puzzled and confused: what is the difference between the design of blended teaching in the era of "Internet +" and the design of blended teaching twenty years ago? What is the difference between blended instructional design in the "Internet Plus" era and that of twenty years ago? How to design a successful blended learning? The difficulties faced by teachers of basic entrepreneurship courses in blended learning are closely related to these misconceptions. The most common difficulty teachers face in conducting blended teaching is "how to blend" or "how to blend effectively". However, to solve this problem, we first need to clarify what blended teaching is, how to blend, and in what way to effectively design the curriculum so as to achieve the training objectives^[2].

This paper analyzes the dilemmas that exist in the implementation process of entrepreneurship basic education courses based on the exploration of community model theory and blended learning dynamic scaffolding model. Based on the blended learning dynamic scaffolding model, teachers, learning activities, and learning resources are taken as key elements of the scaffolding, creating different levels of social, teaching, and cognitive presence in the early, middle, and later stages of the curriculum, which provides teachers with strategic support for designing pedagogical activities in blended learning to meet the learning needs of students at different stages.

2 Overview of blended learning

2.1 The concept of blended learning

Josh Bersin, an advocate for blended learning, wrote in his book "The Blended Learning Book: Best Practices, Proven Methodologies, and Lessons Learned" that blended learning is not a completely new concept, but rather the application of new technological tools to current teaching practices. It is a learning approach that has been developed after a deep analysis of the existing problems in the field of education^[3].

Blended learning combines elements of traditional face-to-face teaching and online learning, integrating the two to provide a more flexible, personalized, and interactive learning experience. In blended learning, students can engage in direct interaction and real-time feedback with teachers and classmates through face-to-face classroom instruction, helping them understand and apply knowledge. Online learning, on the other hand, offers a wealth of learning resources and tools such as instructional videos, online course materials, discussion forums, etc., enabling students to engage in self-paced learning and participate in online discussions according to their own pace and needs.

2.2 Literature review and theoretical basis

In recent years, blended teaching has become a hot topic in research and practice. Taking CNKI as an example, there have been 2,293 papers on "blended teaching" since 2005, of which 1,919 were on blended teaching mode, reaching a peak in 2018 (1,618)^[4]. Almost every paper will put forward a blended teaching and learning model based on the practical application of a certain course or discipline, but few really pay attention to blended teaching design. Among 2,293 blended teaching papers since 2005, only 111 took "instructional design" as the theme^[5].

Through the analysis of domestic literature, it is found that there are three main points in the domestic research results of blended teaching design and blended teaching mode in recent years. Focus 1: Activity-centered, most of these studies build a blended teaching model based on activity theory and emphasize activity design in blended teaching. Focus 2: From the perspective of technical environment, most of these studies discuss the construction of blended teaching mode from the perspective of the technical environment supporting blended teaching. Focus 3: Three-stage model. The blended teaching model constructed by such research institutes ultimately falls into the three-stage model of pre-class, mid-class and after-class. Existing investigations and studies have found that although domestic college teachers have been carrying out blended teaching to varying degrees, most online learning still only assists, supplements and promotes face-to-face classroom teaching, and traditional teaching modes and methods have not changed substantially.

Compared with the whole process of teaching design in China, the study of blended teaching design in foreign countries pays more attention to the design of specific links of mixed teaching. For example, the design of blended teaching interaction, instructional strategy design, instructional environment design, evaluation and reflection design, tool and resource design, less focus on the design of the whole process of blended teaching.

Another difference between domestic and foreign studies is that domestic studies mostly emphasize blended teaching and how to use it to support teachers' education process, while foreign studies mostly emphasize blended learning and pay more attention to how to use it to support students' learning process.

In 2001, Garrison et al., a Canadian scholar, proposed the Community of Inquiry model of online learning. After being verified by thousands of empirical studies around the world, It has been developed as an important theoretical framework for guiding blended teaching^[6]. This theory puts forward three key elements that affect learners' learning effectiveness, namely, social presence, teaching presence and cognitive presence, and points out that effective learning can only occur when the three elements of presence reach a high level. Inquiry community theory has become one of the most important theoretical frameworks guiding blended instructional design and evaluation. The theory of inquiry community model defines the design framework and goal for blended learning activity design, and every learning activity design should have a clear framework and goal direction, that is, to support the creation of social presence, teaching presence or cognitive presence and its secondary dimensions.

3 Construction of a blended learning model for entrepreneurship basic education courses

3.1 Theoretical framework: The dynamic scaffolding model of blended instruction

Feng Xiaoying et al. proposed the blended learning dynamic scaffolding model based on the exploration of community theory (CoI), which is an extension of the exploration of community theory. Exploring community theory focuses on answering the questions of "what scaffolds are needed to support", "what scaffolds are needed to support", and "how scaffolds are supported" in blended learning, proposing teaching presence scaffolds, social presence scaffolds, and cognitive presence scaffolds. The hybrid teaching dynamic scaffolding model focuses on the

issues of "when to provide" and "when to remove" three types of scaffolding, and proposes that the strength of teaching scaffolding for teaching presence, social presence, and cognitive presence should be different and variable in the process of hybrid teaching^[7].

This theory suggests that in the process of blended learning, the learning needs of learners at different learning stages show a dynamic trend of change. The provision and withdrawal of scaffolding are not fixed at a specific point in time, and the strength of scaffolding is not maintained at a fixed level. Instead, it adapts to the dynamic changes in learning needs, presenting a dynamic intensity, and the time for providing and withdrawing scaffolding also changes accordingly.

Due to the diversity and differences in learner characteristics, the provision, withdrawal, and dynamic intensity of scaffolding in the blended curriculum of entrepreneurial basic education are key to curriculum design. From a macro perspective, online learning resources are the main source for learners to acquire new knowledge, becoming a high-strength support for the overall teaching process, and running through the entire learning process. From a meso perspective, learning activities connect the online and offline learning processes, serving as the connecting point of the overall framework of blended learning. From a micro perspective, timely feedback, evaluation, humanistic care from teachers, as well as interaction and collaboration between learners and peers, provide learners with the smallest unit of scaffolding support^[8].

The dynamic framework of entrepreneurship basic education curriculum is composed of three elements: resources, learning activities, and teachers, which are intertwined and complementary to each other, creating a sense of presence for learners.

3.2 Design path: Dynamic bracket framework

In the context of digitalization, the value orientation of blended learning design should not only meet the value orientation of student-centered and student-centered abilities, but also shift from "subject knowledge centered" teaching to "student-centered learning." With the development of student interests and ability cultivation as the core goal orientation, creating a highly participatory and personalized learning experience is the means and method to achieve the goal. Our school's entrepreneurship basic education blended curriculum is dominated by online learning, and a comprehensive online course design is the guarantee for building a lifelong education support service system. The diversity of digital resources, the completeness of online courses, and the full process of online learning records all provide strong support for student learning.

However, the accompanying problem is how to design online learning activities to minimize the learning load on learners, maintain learning stickiness, guide learners to continuously produce high engagement learning behaviors, and avoid a cliff like decline in learning behavior. When should teaching behavior occur for the mixed part? How to design offline teaching to avoid repetitive teaching? In the actual situation where online learning is the main focus, has face-to-face teaching become a "chicken rib"? These issues fundamentally point to the provision and withdrawal of dynamic scaffolds for blended learning, and require operational interpretation for the practicality, applicability, and acceptance of entrepreneurship basic education courses^[9].

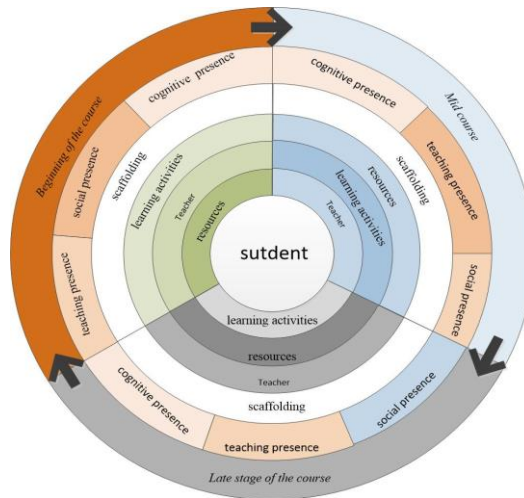


Figure 1. A Dynamic Scaffolding Model for Entrepreneurship Basic Education Curriculum

As shown in Figure 1, under the theoretical guidance of the blended learning dynamic scaffolding model, in the early, middle, and late stages of the curriculum, the strength of the three elements of social presence, teaching presence, and cognitive presence is different. The main providers of scaffolding each have their own focuses, supporting the creation of presence from the dimensions of teachers, learning activities, and curriculum resources, forming the scaffolding model of entrepreneurial basic education.

The path map presents an onion shaped model, and the area of the circle represents the intensity of the content. The outermost layer is the cyclical timeline of the early, middle, and late stages of the course. The second layer is the dynamic changes in cognitive, social, and teaching presence at different stages of the curriculum. Hierarchical advancement refers to the different levels of support provided by learning activities, teachers, and resources at different stages. The core is the learner, who, with the support of dynamic scaffolding, obtains the necessary sense of presence for this stage of the course, engages in effective learning, and completes the learning cycle^[10].

1) *At the beginning of the course:* The performance of dynamic scaffolding is as follows:

Social presence+teaching presence>cognitive presence,

Learning activities+teachers>resources.

The sense of social presence and teaching presence is stronger than cognitive presence, and the role of learning activities and teachers is stronger than that of resources.

The teaching process starts with students' familiarity and cognition of the course and online learning environment. Students first need to understand and familiarize themselves with learning resources and classroom environment, master learning methods, and the concept of online "classes". Students need to establish a sense of social and teaching presence through learning activities under the appropriate guidance of teachers^[11]. Teachers and students should work together to create a hybrid learning environment with mutual trust and a sense of security,

which includes and guarantees personalized learning for learners. This ensures that online learning paths are accessible, establishes identity and a sense of belonging, and gradually forms a learning community that is physically and spatially dispersed but closely connected on the network end.

Learning activities are designed by teachers to understand the learning situation and provide effective and targeted teaching activities, such as practical training and interpersonal ice breaking activities, to support the establishment of a sense of presence in the early stages of the course^[12]. Learning activities and teachers become the scaffolding that triggers effective learning and engagement among students. Specifically, in terms of course content, teachers guide students to establish an overall concept of the course through certain learning activities, such as a study checklist, course introduction videos, and special activities for the first lesson, clarifying learning objectives, understanding learning content, and clarifying evaluation methods. In terms of technical operations, through learning activities, students can understand their own information literacy and complete technical operations on online platforms as soon as possible, such as course resource usage methods, including course page layout, task training methods, etc., such as proficiently using device terminals for speech recognition, human-machine interaction, role-playing, course case writing, identifying and screening high-quality network resources, etc., in preparation for practical training of innovative abilities. In terms of interpersonal relationships, learning activities set up small-scale virtual scenes, highlight communicative functions, establish interpersonal connections through information exchange, such as "self introduction", "peer evaluation", "innovation relay", etc., promote peer ice breaking and strengthen collaboration.

2) *Mid course*: The performance of dynamic scaffolding is as follows:

Teaching presence+cognitive presence>social presence

Resources+learning activities>teachers

Teaching and cognitive presence are stronger than social presence, and resources and learning activities play a greater role.

The mid-term of the course is the main learning stage. The entrepreneurship basic education course mainly focuses on self-learning through online courses, and is based on the social and teaching sense created in the early stages of the course. Students can independently carry out learning operations on the course side. The course itself has an appropriate level of acceptance of resources, not based on academic or high difficulty standards. Resources are reflected in practical and applied learning activities, providing learners with continuous motivation and achieving the construction of a sense of teaching and cognitive presence. However, as learning deepens and the difficulty of learning increases, the advantages and disadvantages also gradually manifest. The advantage is the rich and complete asynchronous resources, which can be learned anytime and anywhere, with flexible and convenient conditions, without being constrained by time and space. The disadvantage is that students are prone to cognitive difficulties, such as doubts about knowledge points and bottlenecks in ability improvement; Due to interference and impact from other courses, campus activities, personal habits, and other factors, once learning stagnates or emotions fluctuate, teachers find it difficult to detect. Therefore, real-time evaluation is essential to ensure the smooth progress of the course. One is to fully utilize information technology as a learning support tool, carry out real-time evaluation

of artificial intelligence, play the role of virtual mentors, supervise and promote the process of knowledge construction and course learning, carry out phased assignments and ratings such as course Q&A, online assignments, and learning reflection, provide feedback and evaluation of course rewards such as electronic badges, and continuously motivate students to engage in effective learning behaviors to maintain their interest in learning. The second is for teachers to appropriately supervise and encourage learning groups to conduct evaluations, promote learning engagement, increase interactivity, and achieve seamless integration of online and offline learning.

3) *Late stage of the course*: The dynamic scaffolding manifests as:

Cognitive presence+teaching presence>social presence Teacher+resources>learning activities

Cognitive and teaching presence are stronger than social presence, and teachers and resources play a greater role together.

The course is coming to an end, and students are facing pressure from learning evaluation to determine whether they have achieved the expected learning outcomes^[13]. In the later stages of the course, teachers will conduct appropriate face-to-face courses to further enhance cognitive and teaching presence. Teachers can enhance learning outcomes and consolidate the learning community by giving students sufficient recognition. At this stage, teacher participation can promote the cultivation and establishment of innovative awareness, and high-quality interaction with students. Compared to online learning, teachers can use group teaching in face-to-face classes, allowing students to analyze the required knowledge points and personal needs, form entrepreneurial groups, brainstorm and explore innovative points, and find entrepreneurial projects and opportunities. Teachers provide students with opportunities for face-to-face group sharing and presentation, showcasing learning outcomes such as innovation points, entrepreneurial projects, team building ideas, etc. Students use course resources to accelerate output through peer cooperation in set contexts, reflect on themselves during presentations, and achieve peer learning and self-control feedback.

In summary, in the design of entrepreneurship basic education curriculum, teachers provide students with clear instructions on when, where, and how to carry out learning activities. Learning activities achieve situational transformation and connection in synchronous and asynchronous, online and offline environments. Course resources create conditions for students to learn at all times and everywhere. The cross interaction of teachers, learning activities, and course resources creates a sense of social presence, teaching presence, and cognitive presence for learners in the blended learning process, ensuring effective learning.

4 Summarize

The development stages, positioning, and talent training goals of different universities vary, therefore the teaching arrangement of entrepreneurship basic education courses also varies from school to school. The arrangement of entrepreneurship basic teaching should focus on cultivating basic knowledge of entrepreneurship, supplemented by practical reinforcement and thematic content, to cultivate students' basic literacy and abilities in entrepreneurship, enabling them to have entrepreneurial thinking and innovative spirit, be familiar with the entrepreneurial process and environment, master basic knowledge and skills in entrepreneurial management,

possess abilities in entrepreneurial project planning, market analysis, financial management, team collaboration, etc., be able to effectively plan, organize, implement and evaluate entrepreneurial projects, cultivate students' entrepreneurial awareness and spirit, improve their entrepreneurial success rate, and provide necessary support and guidance for their entrepreneurial journey.

Acknowledgment. The paper was supported by Education and Teaching Reform Quality Engineering Project of Anhui Province 2020xsxxkc219.

References

- [1] Yamakoshi, S., & Tsuchiya, H. . (2016). Mediating role of anger rumination in the association between mindfulness, anger-in, and trait anger.
- [2] Jin Shi, Wang Lulu, Wan Min. Reflection and Strategy Optimization of Online and Offline Blended Teaching [J]. Chinese University Teaching, 2022387 (11): 72-77
- [3] Veletsianos, G., & Shepherdson, P. . (2016). A systematic analysis and synthesis of the empirical mooc literature published in 2013-2015. International Review of Research in Open & Distance Learning, 17(2).
- [4] Chen Yan. 2018. Exploring the Design of Mixed Learning Activities for College English Interpretation in the Context of "Internet +" [J] China Education Informatization, 431 (20): 66-69
- [5] Feng, X., Xie, J., & Liu, Y. . (2017). Using the community of inquiry framework to scaffold online tutoring. The International Review of Research in Open and Distributed Learning, 18(2).
- [6] Yang Zongkai. Exploring the Path of Digital Transformation in Higher Education [J]. China Higher Education Research, 2023355 (03): 1-4
- [7] Feng Xiaoying, Wang Ruixue. 2019b. The core goal oriented hybrid learning design model in the "Internet +" era [J] Distance Education in China (7): 19-26, 92-93
- [8] Muhtia, A., Suparno, S., & Sumardi, S. . (2018). Blended Learning in a Paragraph Writing Course: A Case Study. International Journal of Language Teaching and Education. 2. 216-226
- [9] Salmon, G. (2003). E-moderating: The key to teaching and learning on-line (2nd ed.). London and New York: Routledge Falmer.
- [10] Promoting supply side reform of talent cultivation through "double innovation"[EB/OL](2023-03-06)[2022-05-23] http://www.jyb.cn/rmtzgjyb/202205/t20220523_694070.HTML
- [11] Nellie Mae Education Foundation. (2019, March 15). Learning Experience. Retrieved March 15, from <http://edglossary.org/learning-experience/>
- [12] Chen Chuan, Zhao Chengling, Wu Xinquan, Ye Yangmei. 2015. Research on the Design Model and Application of Flipped Classroom Learning Activities from the Perspective of Learning Ecology [J] Research on Electrified Education, 36 (11): 95-101
- [13] Chu Hongqi. 2018. Transformation of China's Education Development Mode: Path Selection and Endogenous Development [J]. Journal of East China Normal University (Education Science Edition), 36 (1): 1-1