Influences of Online Practice Community on Instructors’ Blended Teaching Behaviors: Analysis Based on an Extended UTAUT Model

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1. Introduction to China’s Vocational Skill Certificate Curriculum

In April 2019, the Ministry of Education of China implemented the “academic certificate + several vocational skill level certificates” (hereinafter referred to as “1+X” certificate) plan in vocational colleges. This initiative encourages colleges to have curriculums for vocational skill certificates and organizes students to participate in vocational skill certificate exams. Once they finish their academic studies, students receive a graduation certificate and several vocational skill level certificates.

The “1+X” certificate plan involves multiple action subjects, including education administrative departments at all levels, vocational skill curriculum development organization, various vocational colleges, instructors, and students. The education administrative departments are responsible for implementing the “1+X” certificate plan. The vocational skill curriculum development organization is responsible for developing curriculum resources, making assessment standards, and organizing assessment. Vocational colleges are responsible for facilitating training for instructors, setting up curriculums, and building training rooms. Instructors are responsible for specific teaching work and enabling students to participate in vocational assessment. The working contents and working process of all action subjects in the “1+X” certificate plan are shown in Figure 1.

A vocational skill curriculum includes theories and practices. The vocational skill curriculum development organization develops the online course platform and offline training platform. The online course platform is equipped with a learning resource library, tests, student management, and data statistical analysis functions. The offline training platform enables students to understand the practice...
Based on the COP theory and blended teaching behavioral theory, this study investigated the influences of a COP on the blended teaching behavior of instructors. The major research outcomes of this study include the following: (1) Based on the expanded Unified Theory of Acceptance and Use of Technology (UTAUT), a model of influences of COPs on the blended teaching behaviors of instructors was constructed. (2) The influences of various factors like performance expectancy, effort expectancy, organization supports, interaction, blended teaching intentions, and blended teaching ability on the blended teaching behaviors of instructors were discussed quantitatively. (3) Various methods for online COPs to improve the blended teaching behaviors of instructors were summarized.

2. Literature Review

2.1. Effects of COPs on Instructors’ Professional Development. The concept of a “community of practice (COP)” aims to realize the professional development of instructors as individuals and groups based on the community framework [1]. A COP comprises two roles: old hands and newcomers. In the COP, newcomers develop their professional ability through social practices and context learning with old hands who have mature practice abilities. The learning framework of a COP is comprised of four dimensions, namely, participation and materialization, emergence and design, local and global, and recognition and negotiation [2]. Online communities can help instructors to change their attitudes, behaviors, skills, and knowledge [3]. In COPs, instructors develop their professional abilities through various behaviors, such as application, appreciation, official comments, announcements, apologies, clarification, compliments, sympathy, and knowledge sharing [4]. They communicate professional knowledge, textbooks, and teaching strategies, and they share their feelings regarding their careers [5]. Instructors participate in COPs to seek cooperation opportunities, exchange ideas, and experience friendship [5]. In a word, studies have demonstrated that COPs can alleviate the heavy workloads of instructors, change their attitudes toward other instructors, and strengthen their teaching ability through cooperation, sharing, and exchange.

2.2. Blended Teaching. Blended teaching is usually defined as one teaching mode that combines online teaching and traditional face-to-face teaching. Brown [6] divided factors that influence the blended teaching of instructors according to whether they are external or internal. The external influencing factors include technology, academic workload, institutional environment, and students. The internal influencing factors include instructor attitudes and beliefs, and instructor learning. Ocak [7] summarized the problems that eight instructors encountered during blended teaching, which were the complexity of the instruction, lack of planning and organization, lack of effective communication, need for more time, lack of institutional support, changing roles, difficulty of adoption to new technologies, and lack of electronic means. How can the blended teaching ability of
instructors be improved? Some studies indicated that education institutions must strengthen blended teaching support to instructors from the perspectives of policies, resources, and curriculum planning [8]. Poon [9] pointed out that institutions should give support to instructors with consideration given to the key aspects of blended teaching, including information technology, qualifications of teachers, continuous input, high-level managers, and faculty training. Grion and Varisco [10] summarized another method that sought to build an online professional development community of teachers, thus helping teachers to improve their blended teaching ability through peer communication, sharing, and mutual assistance.

2.3. Research Design. Blended teaching outcomes are, to a large extent, determined by instructors’ attitudes and their ability to undertake preparation. The end result depends on how instructors change from their role in traditional face-to-face classrooms to the more complicated role required for blended teaching. Blended university course designs might adopt several forms, as determined by the intentions and technical ability of instructors [7]. The intention of accepting technologies has significantly positive relations with computer capacity and attitude toward computer-assisted education (CAE) [11]. This study argued that online COPs influence the blended teaching behaviors of teachers by influencing their intentions and ability.

To date, scholars have devoted significant resources to studying instructors’ teaching intentions and behaviors [12]. Based on the summary of TAM-related studies, Venkatesh, Morris et al. [13] discussed factors that influence people to use information technology and information systems from the perspective of technology acceptance and proposed the Unified Theory of Acceptance and Use of Technology (UTAUT). In UTAUT, four core dimensions that influence an individual’s intention to use information technology are performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). The blended teaching behaviors of instructors are an individual teaching behavior influenced slightly by social factors. In this study, the UTAUT model was used as a theoretical basis to influence the blended teaching intentions and behaviors of instructors. PE, EE, and FC were chosen, and their specific meanings were further adjusted to explain the blended teaching intentions and behaviors of instructors.

People generally demonstrate higher self-efficacy and clear initiative behaviors in their professional fields if they have the requisite knowledge, skills, and cognitive abilities related to their line of work [14]. Based on the professional curriculum development team, the vocational skill curriculum development organization built an online COP with instructors from many schools. This COP has four functions: (1) providing curriculum teaching videos, helping instructors to master curriculum content better, organizing instructors to finish the design of blended teaching together, and compiling teaching design documents (teaching program/teaching plan/lesson plan); (2) organizing instructors to develop and share blended teaching resources (courseware, videos, question banks, and cases); (3) inviting excellent instructors to provide online sharing of class videos, and allowing teachers in the COP to observe, discuss, and exchange ideas; and (4) answering questions that instructors encounter during teaching. We believe that instructors in COPs can improve their blended teaching ability by communicating, cooperating, and sharing with other teachers and with the curriculum development organizations, thus influencing their blended teaching behaviors.

Based on the above analysis, the research model in Figure 2 was developed.

2.4. Concepts and Hypotheses

2.4.1. Effects of PE on Blended Teaching Intentions of Instructors. On the teaching communication platform, the curriculum development organization guides instructors to cooperate and share teaching designs and resources; invites excellent instructors to record and share class videos; and encourages instructors to learn, discuss, and exchange. Instructors can enrich their teaching content, stimulate students learning autonomy, and strengthen students learning interests by using the blended teaching method. Therefore, instructors are willing to apply blended teaching during vocational skill courses. A hypothesis is therefore proposed:

H1a: COPs help instructors to understand blended teaching outcomes, which has positive influences on the blended teaching intentions of instructors

2.4.2. Effects of EE on Blended Teaching Intentions of Instructors. The complexity of blended teaching behaviors is the main deterrent for teachers considering a blended mode of delivery [7]. Instructors have to devote more time to design in order to provide effective blended courses. However, support from the curriculum development organization and other instructors decreases the workloads of instructors in preparing teaching resources and planning teaching activities. The provided teaching reference videos render blended teaching less complicated. Hence, another hypothesis is proposed:

H1b: support from COPs makes instructors believe that blended teaching is not so complicated and difficult, which has positive influences on the blended teaching intentions of teachers

2.4.3. Effects of FC on Blended Teaching Intentions of Instructors. FC refers to the degree of support that users receive from their organization regarding the use of technology. If schools give instructors support for blended teaching behaviors in institutions, income distribution policy, and guarantee of teaching equipment, this will stimulate instructors to adopt blended teaching behaviors. Hence, a further hypothesis is proposed:

H1c: FC provided by schools has a positive influence on the blended teaching intentions of instructors
Technology acceptance
Blended teaching intention
Interaction among teachers
Interaction with organization
Blended teaching ability

Figure 2: Influencing model of COP on blended teaching behaviors of instructors.

2.4.4. Effects of Interaction on Blended Teaching Ability of Instructors. A COP is a group of people who have common concerns, common problems, or common passions. They deepen their knowledge and professional skills in their field through continuous interaction [2]. We believe that in a COP, the blended teaching ability of instructors can be improved by interacting with other teachers and through communication, cooperation, and sharing between instructors and the curriculum development organization. Some hypotheses are proposed accordingly:

H2a: interaction between the instructors and curriculum development organization in a COP has positive influences on the blended teaching ability of instructors
H2b: interaction between instructors in a COP has positive influences on the blended teaching ability of instructors

2.4.5. Effects of Blended Teaching Intentions of Instructors on Their Blended Teaching Ability. It is widely accepted in the academic world that the relatively strong intentions of individuals are conducive to behavior improvement. When an instructor has relatively strong blended teaching intentions, he/she will make teaching objective, design an appropriate teaching process, prepare multimedia courseware, and overcome difficulties in the teaching process in advance to control the outcome. These teaching activities of instructors can strengthen their blended teaching ability. According to the principle of “learning by doing,” the blended teaching intentions of instructors may facilitate blended teaching behaviors, thus improving their blended teaching ability during practice. The following hypothesis is therefore proposed:

H3: the blended teaching intentions of instructors have a positive influence on the blended teaching ability of instructors

2.4.6. Effects of Blended Teaching Ability on Blended Teaching Behaviors. Knowledge and ability influence initiative behaviors. High-level knowledge, skills, and ability are often connected with the high-level initiative behaviors of individuals [15]. To show initiative behaviors, workers have to understand their work well and equip themselves with the relevant knowledge, skills, and cognitive abilities [15]. Knowledge, skill, and ability can provide individuals with competent experiences, thus helping them to develop higher-level self-efficacy and greater control and appreciation of their work. As a result, individuals find it easier to process potential changes, mistakes, and pressure [16]. Thus, the following hypothesis is proposed:

H4: blended teaching ability has a positive influence on the blended teaching behavior of instructors

2.4.7. Relationship between Blended Teaching Intentions and Blended Teaching Behaviors. The discipline of psychology was the earliest to define intention as the subjective intention of individuals to demonstrate a specific behavior. Individual behavioral intentions determine an individual’s behaviors [17]. Throughout the process of teaching a vocational skill level certificate course, instructors are willing to adopt blended teaching so that they can encounter the problem when using course resources and answer students’ learning questions patiently; a blended model offers the opportunity to make learning and teaching experiences interactive. A COP allows teachers to answer questions from other instructors on the communication platform, as well as offer positive feedback and suggestions for improvement to the curriculum development organizations. Hence, a final hypothesis is proposed:

H5: blended teaching intentions have a positive influence on the blended teaching behavior of instructors

3. Methodology

3.1. Sample Selection and Data Source. In this study, instructors of vocational skill courses in the online COP were chosen as respondents. Data were acquired through the survey questionnaire from May to July 2021. The questionnaire content included general information (e.g., gender and age) pertaining to respondents and a research scale containing 24 items of eight variables. The variables were measured by a five-point Likert scale according to relevant representative studies. Some corrections were made according to the characteristics of the study, and the measurement of all variables was kept consistent. The measuring scale design is shown in Table 1.

3.2. Questionnaire Design and Data Collection. In this study, data were collected through Wenjuanxing, WeChat, and field questionnaires, and a total of 204 effective questionnaires were collected from the respondents. Among the respondents, males accounted for 39% and females accounted for 61%. The respondents under the age of 30 accounted for 23%, while 42% of respondents were aged 30–40, 28% of respondents were aged 40–50, and 7% of respondents were aged 50–60.

4. Result Analysis

4.1. Validity and Reliability Test. The validity and reliability of the scale were tested by SPSS22.0 using indexes such as Cronbach’s α coefficient, KMO value, and Bartlett spherical
significance test (Tables 2 and 3). Cronbach’s $\alpha$ coefficient is higher than 0.7, and the total KMO is higher than 0.6. The sphericity test significance is 0.00. The variables in the questionnaire therefore have good validity and reliability.

### 4.2. Structural Equation Model.
Path analysis of every research construct is shown in Figure 3.

### 4.3. Model Test and Analysis.
The structural equation model was tested and analyzed by Amos 22.0. The degree of fitting is the prerequisite of the model test. If the degree of fitting is not qualified, the significance of the path coefficient becomes meaningless. According to estimation, all fitting indexes are higher than, or basically reach, the recommended values (Table 4), indicating the good fitting effect of the model.

The path analysis results are shown in Table 5. The significance analysis of the structural equation model is an important index of whether the hypotheses are true.

### 5. Discovery and Discussion

#### 5.1. Effects of PE on Blended Teaching Intentions of Instructors in COPs.
Obviously, the effects of PE on the blended teaching intentions of instructors in a COP are not significant ($P = 0.157$) and H1a is false. This might be attributed to the following reasons: instructors have different understandings of blended teaching behaviors. Some believe that
Technology acceptance

Interaction among teachers

Interaction with curriculum development enterprises

Blended teaching intentions

Interaction among instructors

Instructor has to devote more time and effort to designing and providing effective blended courses. A combination of teaching techniques makes the curriculum design of blended teaching a more challenging process, especially when undertaken by an independent instructor [19]. Garrison and Kanuka [20] pointed out that once there are strong explicit policies, the blended courses develop very quickly. The facilitation and sharing of knowledge experiences and intelligence resources is the value pursuit of COPs in teaching. COPs solve the teaching difficulties of instructors and help them to improve their teaching by organizing teaching research; facilitating the communal preparation of lessons; and enabling teachers to attend a lecture and offer comments, questions, answers, etc. As indicated by one faculty member, "in COP, instructors make and share teaching resources, which save a lot of time." One of the responses indicated that "in COP, I can make teaching designs with experts together, and watch and comment their teaching videos. I’m more confident in blended teaching.”

5.2. Effects of EE of Instructors on Blended Teaching Intentions in COPs. The EE of instructors in a COP has significant influences on blended teaching intentions; therefore, H1b is true. Many instructors are confused about how to mix several teaching modes and complain about a lack of experience in using information technology during teaching. Instructors have different understandings regarding the PE of blended teaching. Instructors with different concepts will adopt different methods during the teaching and design of a blended course [18].

5.3. Effects of Organizational Supports on Blended Teaching Intentions of Instructors. Organizational supports have significant influences on the blended teaching intentions of instructors—thus, H1c is true. Policy support, salary rewards, and software and hardware support from schools can increase instructors’ willingness to convert to a blended model. Complementary policies, open approval, the stimulation of blended teaching behaviors, assessment assistance, and promotion will increase the blended teaching intentions of instructors. Since instructors devote comparatively more time and effort to the design and development of blended teaching than they do conventional teaching modes, it is essential to provide extra economic compensation to instructors [21]. Teachers offering a blended model need support from technological infrastructure, the digital campus environment, and software and hardware in the college.

5.4. Effects of Interaction on Blended Teaching Ability of Instructors. Interaction has positive influences on the blended teaching ability of instructors. In a COP, the interaction between instructors and the curriculum development organization can improve the blended teaching ability of instructors significantly ($P = 0.001$); therefore, H2a and H2b are true. Mishra and Koehler [22] proposed the framework of "technological pedagogical content knowledge" (TPACK framework). In this framework, instructors must use pedagogical knowledge (PK), content knowledge (CK), and technology knowledge (TK) to combine technical means and the specific subject contents effectively during teaching activities. Moreover, instructors have to possess four types of composite knowledge elements formed by these three types of core knowledge: (1) pedagogical content knowledge (PCK); (2) technological pedagogical knowledge...
(TPK); (3) technological content knowledge (TCK); and (4) technological pedagogical content knowledge (TPACK).

The vocational skill certificate curriculum development and evaluation organization cooperates with instructors from many colleges to build the curriculum online teaching platform based on advice from the professional development team. This platform has four functions: (1) providing curriculum teaching videos, helping instructors to master curriculum content better, organizing instructors to finish the design of blended teaching together, and compiling teaching design documents (teaching program/teaching plan/lesson plan); (2) encouraging instructors to cooperate, develop, and share blended teaching resources (courseware, videos, question banks, and cases); (3) inviting excellent instructors to share open class videos online and allowing instructors in the COP to observe, discuss, and communicate; and (4) addressing various problems that instructors encounter in the teaching process. The ways and methods for a COP to improve the blended teaching ability of instructors through cooperation, sharing, and communication are listed in Table 6.

5.5. Effect of Blended Teaching Intentions on Blended Teaching Ability. Blended teaching intentions have significant influences on blended teaching ability ($P = 0.002$)—thus, H3 is true. The bipolarity of individual changes in professional attitudes is manifested as positive progress and negative coping. The individual who is more positive may devote more effort to work, and he or she will develop a professional ability that is more full and complete, thus garnering greater returns from the job. Such a return naturally includes further development and improvement of professional ability. On the contrary, an individual who is more negative will surely decrease their efforts with regard to their job. He or she will muddle through the work, finding themselves unable to develop their professional ability completely. As time goes on, this not only results in a waste of professional ability but even the degradation of ability.

5.6. Effects of Blended Teaching Ability on Blended Teaching Behaviors of Instructors. Blended teaching ability has a significant influence on the blended teaching behaviors of instructors ($P < 0.001$); therefore, H4 is true. If individuals are good at their job and can learn very quickly, they may develop stronger self-efficacy in the professional field and thereby develop their initiative behaviors better [15]. In addition, Frese and Fay [14] also pointed out that qualification (overall measurement of working knowledge and skills) has a positive relationship with the initiation of individuals. Knowledge, skill, and ability can give individuals competent experiences, thus helping them to develop higher-level self-efficacy and greater control and appreciation of their work. With the assistance of a COP, instructors can master curriculum content better, acquire the necessary teaching resources for blended teaching, and learn how to implement blended teaching. This helps instructors to deal with the changes, mistakes, and pressures brought by blended teaching and strengthens their self-efficacy [16].

5.7. Effects of Blended Teaching Intentions on Blended Teaching Behaviors of Instructors. Blended teaching intentions exert...
significant influence on the blended teaching behaviors of instructors, rendering H5 true. The theory of planned behavior believes that the production of behaviors is determined by behavioral intention directly. The theory of behavioral intention demonstrates that motivation for a person to execute a specific behavior reflects how much effort and time a person is willing to devote to that behavior. Instructors in COPs see convenience and efficiency in blended teaching and decrease their workloads and the complexity of blended teaching with the assistance of a COP. School supports in the form of institutions, facilities, and teaching platforms can influence initiative in the blended teaching behaviors of instructors.

6. Conclusion

Blended teaching is a complicated practice requiring careful curriculum resource development, teaching mode design, and implementation of the teaching process. Management institutions usually encourage instructors to adopt blended teaching behaviors by formulating incentive policies and institutions, perfecting the desired teaching facilities, and developing online teaching platforms. All of these incentive measures might be insufficient without the existence of a COP that instructors in or out of the college can access to solve problems through cooperation and sharing.

Organizers of COPs have to be equipped with rich blended teaching experiences and organizational skills. They should be able to guide instructors to finish their job and organize communication or demonstrations through open classes. A moderator is a steward in an online community of practice; this role establishes a human presence to coordinate the COP fellowship, lead meaningful and goal-orientated dialogues, and help members develop [23].

Schools should develop not only an online learning platform for students to learn course resources and communicate with instructors easily but also a teaching communication platform for instructors to communicate, cooperate, and share resources. The teaching communication platform for instructors has four functions: (1) providing curriculum teaching videos, helping instructors to master curriculum content better, organizing instructors to finish the design of blended teaching together, and compiling teaching design documents (teaching program/teaching plan/lesson plan); (2) organizing instructors to develop and share blended teaching resources (courseware, videos, question banks, and cases); (3) inviting excellent instructors to provide online sharing of class videos and allowing teachers in the COP to observe, discuss, and exchange ideas; and (4) answering questions that instructors encounter during teaching.
Instructors in a COP relieve teaching pressure through cooperation, sharing, and communication, which improve the effects of blended teaching. However, this study also found that the influence of PE on the blended teaching intentions of instructors is not significant and the hypothesis is false, the reasons for which are as follows: most instructors believe blended teaching only improves the efficiency and convenience of teaching and have not yet realized the importance of blended teaching to give students better learning experiences. A COP can therefore help instructors to understand that blended teaching is not a simple mixture of technologies but a method which creates a greater level of participation and enhances individual learning experiences for students. Blended means not only a combination of face-to-face teaching and online teaching but also a combination of teaching and coaching in the student-centered learning environment.

Since many instructors have little knowledge of blended teaching and are without the time or ability to prepare the necessary teaching resources, they are unwilling to adopt blended teaching. A COP can therefore help instructors to initiate and sustain blended teaching by influencing their intentions and ability.

Data Availability
The data used to support the findings of this study are included within the article.

Conflicts of Interest
The author declares that there are no conflicts of interest.

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References