

# The construction of Chinese Virtual Learning Community in ZOOM: Based on the Teacher-student Interaction

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## Abstract

**This study analyzes the teacher-student interaction in teaching Chinese as a foreign language based on ZOOM to explore whether it meets the needs of building a virtual learning community for Chinese as a foreign language. Taking the community of inquiry (COI) framework as the core element, combined with the Chinese online course in Chinese as a second language teaching in a university in Cambodia, this paper analyzes the teacher-student interaction function provided by ZOOM. The results show that it could offer necessary procedures to teacher-student interaction in TCFL online teaching and meet the construction of the Chinese online teaching virtual learning community. However, there are three deficiencies: single interaction form; Lack of group cohesion; and it cannot support the continuous transmission of teaching resources. Given these problems, the research puts forward two suggestions from teacher-student interaction and platform optimization.**

## Keywords

**Virtual Learning Community; Teacher-student interaction; Teaching Chinese as a second language.**

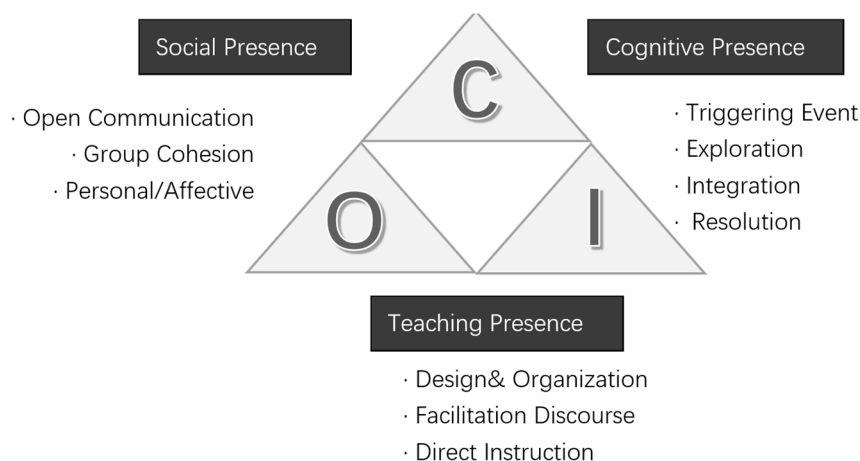
## 1. Introduction

In recent years, online teaching has gradually become the mainstream teaching method of Chinese as a second language. In online teaching, teacher-student interaction and student-student interaction can communicate and cooperate in various forms. [1] Therefore, compared with face-to-face offline classrooms, the e-learning environment has more instability and uncertainty. However, at present, the research on teacher-student interaction in TCFL online teaching generally focuses on the teaching subject, namely learners and teachers, and there is little research from the teaching media. [2] In online teaching, all interaction between teachers and students must rely on teaching media, so it is imperative to study whether the function of learning media can meet the needs of teacher-student interaction. Taking ZOOM as an example, according to the model theory of e-learning community, starting from the actual classroom of Chinese as a second language teaching, this study makes a detailed analysis of the operation function of the platform. It explores whether the functional elements of ZOOM can form an influential e-learning community to meet the needs of teacher-student interaction.

## 2. Theoretical Background

Teacher-student interaction is the central part of a virtual learning community. The virtual learning community mainly involves three levels: technology, learning content, and social communication. [3] Russel (1999) and Carabajal (2003) have studied this and built models from different dimensions, but the research in this field is not systematic in general. [4, 5] Many scholars believe that the online teaching of Chinese as a foreign language needs to improve the theoretical system better to understand the learning and teaching in the online environment. Garrison (2001) proposed the "community of inquiry" (COI) model and regarded the dynamics

of an online educational experience as a three-dimensional interactive model. There are "teaching presence," "social presence," and "cognitive presence" in the community of inquiry framework. Social presence is the ability of course participants (teachers and students) to express their true self in social and emotional aspects by using communication media; Cognitive presence refers to the degree to which learners construct and consolidate meaning through continuous reflection and continuous dialogue and communication. Teaching presence refers to the design, promotion, and guidance of teachers' cognitive processes to achieve learning results with personal significance and educational value. [6]



**Figure 1.** The Community of Inquiry (COI) framework

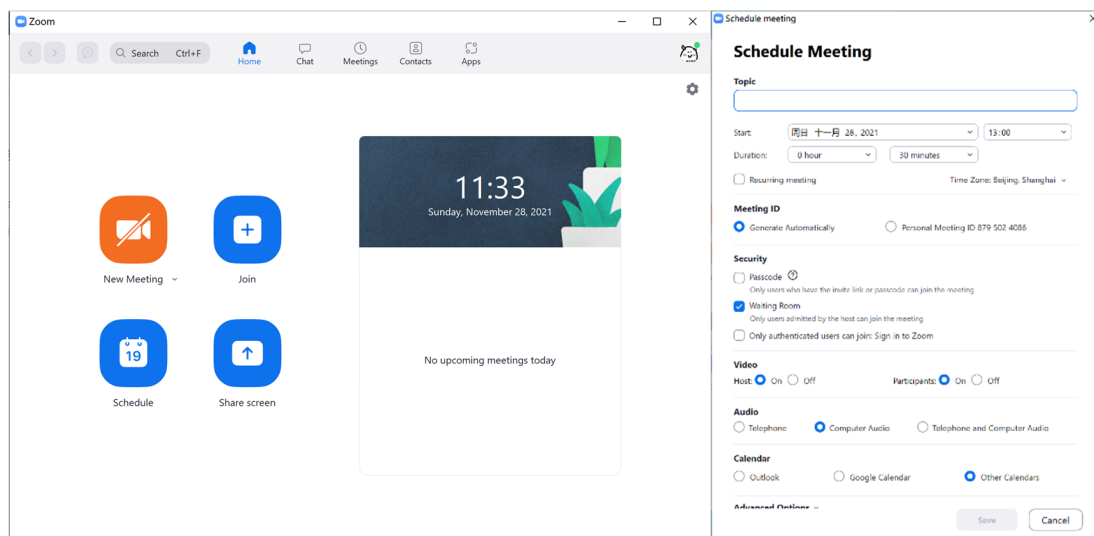
There are detailed indicators in each dimension. For example, in the social presence, the hands are refined into learning climate or risk-free expression. The teaching media plays an essential role in teacher-student interaction, enriching teaching forms, and in-depth learning as a technical tool. [7] At the same time, because Chinese teaching has its characteristics and difficulties, the virtual learning community should meet the characteristics of Chinese education. Based on this, this study makes a detailed analysis of the teacher-student interaction in ZOOM through the "COI" framework.

### 3. Analysis of ZOOM

ZOOM is a remote conference platform. Because it has adaptive network broadband technology and can quickly realize multi-person HD video calls, it has also become an online teaching platform recommended by the IB organization. AS an online teaching app, teachers in the university of Cambodia generally use ZOOM to teach Chinese. Therefore, this study will illustrate the operation of ZOOM by taking the online Chinese comprehensive course of Junior Chinese majors of Cambodia as an example.

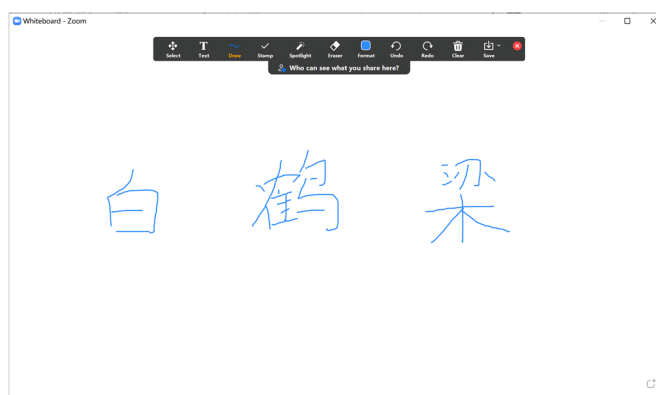
#### 3.1. Course Setup

Students have two comprehensive Chinese classes a week, and the prescribed length is one hour and thirty minutes, and the number of classes is generally between 30-40. Teachers initiate the session 10 min before class or arrange the session early (at this interface, teachers can make a series of settings for the virtual course.)



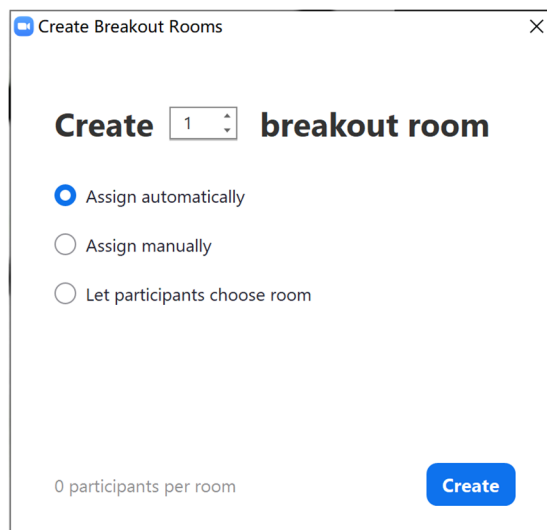
**Figure 2.** The homepage of Zoom and Schedule Meeting

Students join the meeting through a link or conference number shared by the teacher. Then the teacher began to teach Chinese new words, sentence patterns, and texts according to the teaching objectives. Suppose teachers encounter rare characters in the teaching process. In that case, they can use the whiteboard function for real-time demonstration so that students can immediately understand the correct writing method of Chinese characters. However, compared with blackboard writing, mouse drawing is difficult to ensure a beautiful font.



**Figure 3.** Blackboard writing in a Chinese class

During class, middle school students can raise their hands to speak during the teacher's teaching or write questions in the chat window. Also, they could praise the teacher in time. In addition, according to the principle of intensive speaking and more practice of Chinese as a foreign language, teachers can carry out various interactive activities according to the teaching objectives. For example, teachers can use the group discussion function to let students randomly assign or freely combine to join the discussion. Each discussion group is independent of the other, so they will not interfere during the debate. Teachers can choose the discussion group to sit in or join the discussion at will. However, this form provides a quiet discussion space for the group. Compared with offline classroom discussions, the opportunities for students' Chinese input are significantly reduced. It is worth noting that there is no typical long-tail distribution of interactive information. That is, a few students contribute most of the discussion. The peak of teachers' and students' speeches appeared in the Q & period, and there was little interaction after class. The reason may be that students lack online learning autonomy and need teachers' guidance and intervention to learn smoothly.



**Figure 4.** Interface for creating discussion groups

Due to the limit of 40 minutes for ordinary members in the ZOOM meeting, teachers have to divide it into three times for a one-and-a-half-hour comprehensive Chinese course. At the same time, students need to re-enter the classroom after the meeting. The author found that students are generally late when re-entering the classroom, or forget to be silent or even leave the meeting. For both teachers and students, an incoherent classroom brings terrible feelings.

In terms of creating a Chinese environment, Chinese teachers will share videos and arrange live broadcasting environments to make up for the lack of a Chinese environment in online teaching and enable students to intuitively experience Chinese culture in the classroom and maximize the use of visual space to create Chinese immersion experience.

### 3.2. Interface Analysis

The core function of zoom platform has five parts: "home page", "chat", "meeting", "contact" and "application". Based on the experience of teaching Chinese as a foreign language and the research perspective of Hongtao Sun, [8]this study analyzes the technical support of ZOOM for teaching interaction from five dimensions: operation availability, connection construction, information aggregation, content acquisition, communication, and cooperation.

#### 3.2.1. Operational Availability

First of all, the ZOOM login interface and home page design are intuitive and straightforward, and teachers and students can quickly join the classroom. Secondly, the conference interaction function is easy to operate, and teachers can soon master its usage without spending much time on software operation training. In class, teachers can receive and answer students' questions in time.

#### 3.2.2. Connection Construction

In the classroom, teachers and students generally use actual name membership. Through the path construction function of real name membership, we can ensure the quality of the relationship path between classroom participants, which is conducive to the group interaction of the natural name system between teachers and students. The collective emotion between teachers and students makes the online interaction have natural strength advantages.

#### 3.2.3. Information Aggregation

On the one hand, although in online teaching, learners can obtain the same knowledge content as offline, the quality of the network seriously affects learners' classroom experience. For example, it is challenging for students to receive complete classroom information and participate in group discussions smoothly if they have a poor network speed, which affects the

final learning effect. On the other hand, students usually hope to save the slides and other teaching resources displayed by teachers after class, but transmitting files brought by ZOOM is cumbersome. Generally, teachers must communicate with the help of other software. In general, ZOOM has outstanding deficiencies in sorting, classifying, labeling, and sharing teaching content.

### 3.2.4. Content Acquisition

During the teaching process, students can send text or pictures to interact with teachers in the chat window and modify the avatar at the time of membership to highlight their personality and state. Teachers can freely switch the sharing screen according to the needs of the course, and both teachers and students can annotate the slides shared by teachers to form. It can also deepen learners' understanding by sharing video materials related to knowledge points.

### 3.2.5. Communication and Cooperation

Zoom ensures the real-time interaction between teacher-student and teaching resources, but the learning results in the classroom are challenging to save. For example, in group discussion, because ZOOM does not have an automatic recording function, if teachers want to record the discussion results or the questions raised by students, teachers must timely record them in class in combination with other software. The teacher-student interaction in the meeting is also difficult to continue after class.

## 3.3. Summary

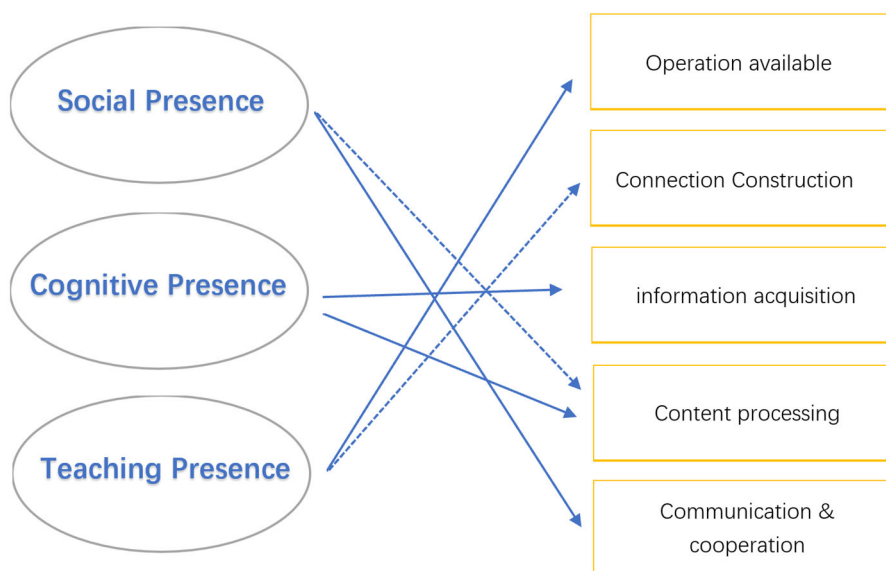
To sum up, The teacher-student interaction mode in the Chinese course intends to ensure teacher-student communication and interaction fluency in the most simplified operation in ZOOM meetings. Quickness, cooperation, and brevity are its most prominent characteristics.

**Table 1.** Three Scheme comparing

Dimension	Index	Description of ZOOM
operation availability	Interface	Intuitive interface design
	regulate	Convenient operation and control
	feedback	Prompt feedback is timely and effective
connection construction	Breadth	Support teacher-student centered real name group interaction
	strength	Facilitate classroom interaction
	routing	Ensure emotional interaction
information aggregation	Acquire	Get acknowledged through classing
	share	Support share between teachers and students
	manage	※ unable to sort out and summarize the contents
content acquisition	present	Support multimedia multi-angle presentation
	express	Support multimedia multiform self-expression and reflection
	refine	※ meeting time limit teaching content
communication & cooperation	Real-time	Support real-time interaction of video conference
	continuous	※ Little interaction after class
	clue	※ Depends on teaching themes
	control	Teachers have the authority to intervene and manage the interaction process

## 4. Conclusion

In distance learning, the formation of a learning community has an important impact on learning, personal satisfaction, and participation sustainability (Gabelnick, MacGregor, Matthews, & Smith, 1990). We can compare the interface structure of ZOOM with the COI framework. We can find that the three dimensions of the COI model exist in zoom. On the whole functions, the indicators of the three dimensions of "teaching present," "social present," and "cognitive present" in ZOOM. For example, the teacher is the chief designer of the Chinese classroom, determines every link in the classroom, and conforms to the indicators in the teaching present in the COI model; Another example is that teachers answer students' questions in class, which fits the index of cognitive presence in COI framework. Zoom's framework shows the characteristics of various connection forms and different degrees, and each dimension is not fixed but dynamic. It can be predicted that the zoom conference can meet the construction of the Chinese virtual teaching community. However, in terms of its function, there are still three deficiencies: single communication form, lack of group cohesion Continuous delivery of teaching resources is not supported.



**Figure 5.** The connection between COI framework and ZOOM meeting

Furthermore, online teacher-student interaction is the primary model, and interaction time after class is very few——this is because ZOOM is not the usual interactive software, and the design of its functions is more biased towards real-time meetings. Therefore, students can only ask questions and exchange feelings in class, and there is no platform for teachers and students to communicate after class. It is difficult for students to publish problems other than learning in class, and it is also difficult to evaluate and discuss the course and the teacher's performance. In this case, students are likely to feel lonely.

Secondly, in the form of meetings, teachers and students will get together briefly only at a fixed time, which is not conducive to the formation of group cohesion. If learners turn off the camera due to network speed or other reasons and refuse actively interact with teachers, it is difficult for teachers to grasp the state of students. Also, without the actual supervision of teachers, students are inevitably distracted and wandering, and teachers cannot find it in time.

Finally, students need continuous practice to improve their verbal ability in the second language classes. However, teachers cannot take more interactive forms, such as role-playing,



group competition, reading with teachers. Also, ZOOM will not automatically save the meeting content, which means that if the teachers and students do not record the classroom video in time, all the content about the class will be cleared at the end of the meeting. Therefore, teachers can only choose between using other software to synchronously record the discussion content of this class or losing the discussion information. These problems make it unable to achieve continuous transmission of resources.

Based on the above conclusions, this study puts forward two suggestions: to improve teachers' interactive ability and to optimize the platform's function.

Furthermore, there are many teaching resources in online teaching, so teachers can use the substantial teaching resources, overcome the shortcomings of teaching media, guide students to give full play to their initiative, and actively adapt to the new online teaching model.

In the teaching mode, we can choose a more diversified interactive method and increase the design of nonverbal communication and extracurricular activities to improve the training and transmission of the classroom; Teachers' process feedback on students' learning is an integral part of teacher-student interaction, which promotes the improvement of students' knowledge and skills. Therefore, with the help of other software, teachers can give positive feedback to learners' learning situation, make learning feedback run through teaching, and establish a long-term good teacher-student relationship through benign interaction with students, to improve learners' willingness and interest in learning and work together to overcome difficulties.

The teaching media needs to be further improved and optimized, solve the more critical defects such as delay and Caton, add more complex functions that meet the needs of teachers' interaction, and move closer to building an efficient virtual learning community.

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