

# First-Time Chinese Online Students' Expectations of Their Instructors in Fully Online Learning Environments

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## **Abstract**

The global COVID-19 lockdowns caused universities to shift from face-to-face instruction to online. Since online teaching was used as a supplement to the traditional in-person instruction before the pandemic in China, Chinese college students were forced to learn in fully online learning (FOL) environments with very little preparation. These first-time online students faced challenges that significantly impacted their confidence and ability to succeed as online learners. Fortunately, the instructor can play a crucial role in conducting early interventions to reduce students' online learning anxiety but understanding these students' expectations of their online instructor is necessary for using appropriate teaching strategies. As a result, this study investigates 439 first-time Chinese online students' expectations of their instructor in FOL environments during the emergent transition. Results indicate that several characteristics are highly expected by new online Chinese learners, such as being familiar with technology, being knowledgeable about the subject, and respecting other students. This study is expected to point Chinese universities and others toward best practices in preparing their faculty members for online course instruction, thus further enhancing first-time online students' learning experiences.

*Keywords:* Online learning, first-time Chinese online students, students' expectations of instructors, higher education, COVID-19

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The coronavirus pandemic forced universities to move in-person courses to online courses worldwide. In response to COVID-19, all universities in China shut down and moved to online courses in early 2020. Before the pandemic, online teaching was simply used as a supplement to the traditional face-to-face instruction in Chinese higher education. Therefore, this emergent transition was the first time that universities offered fully online courses across the nation, and it was also the first time that Chinese college students formerly attended online classes in higher education institutions. Due to the insufficient preparation for fully online learning (FOL), these first-time digital students faced various challenges during this transition. Previous studies showed that students new to online courses are often concerned about their ability to handle the technical, organizational, and social challenges, which could result in a high level of learning anxiety (Whipp & Chiarelli, 2004). Specifically, first-time online students usually experience a high level of anxiety at the beginning of online courses, which may negatively impact their learning process, harm their learning confidence, demotivate their learning passion, and result in their dropping out (Abdous, 2019; Tyler-Smith, 2006). In order to facilitate the learning of students who are new to online courses, the instructor plays a significant role in reducing their anxiety. Yet, before applying appropriate strategies, it is important to first understand these students' expectations of the online instructor, which may be different than the expectations they might have in a traditional in-person course setting.

The multiple challenges students face in online courses lead to their expectations of receiving support from their instructor. These expectations are associated with communication and feedback, technique facilitation, course and activity design, and resource sharing (Baber, 2020; Cole et al., 2017). An early study noted that instructors play essential roles in students' sense of belonging and content mastery by clearly identifying course assignments and effectively designing the course structure (Winkelmes, 2013). Means and Neisler (2021) similarly stated that students' satisfaction levels toward an online course are linked with their instructors' choices regarding how to structure and conduct their courses. They also added that instructors' messages to students checking on learning progress strongly impact student online course satisfaction. While researching from another angle, Vallade and Kaufmann (2018) looked at students' perceptions of instructors' negative behaviors in the online classroom. Six negative behaviors were unique to online courses: refusal to help or answer questions, failure to offer a timely response, failure to access course materials, unclear or confusing assignments, ineffective communication, and last-minute modification. Their study provided insight into students' expectations of their instructors' appropriate behaviors in the online classroom.

Most previous studies investigating students' perceptions of instructors focused on face-to-face class environments (e.g., Ford, 2020; Heo et al., 2020; Johnson & LaBelle, 2017; Millares, 2019; Perera et al., 2020) or involved students without looking at whether they were first-time online learners (e.g., Kara & Can, 2019; Trammell et al., 2016; Welch et al., 2015). There is a general dearth of knowledge regarding first-time online students' expectations of their online instructor. Furthermore, FOL instruction was not a mainstream format in China before the pandemic. It remains unknown what first-time online students expect of their online instructors' behaviors specifically in the context of Chinese universities. As a result, this study specifically investigates first-time Chinese online students' expectations of their instructors in FOL environments. In doing so, we aim to provide best practices for Chinese higher education institutions and beyond in preparing their faculty members for fully online instruction in order to further enhance first-time online students' learning experiences.

## Literature Review

### Characteristics of a Good Instructor

Generally, scholars identify various significant characteristics of a good instructor, such as being approachable (Ford, 2020; Millares, 2019; Johnson & LaBelle, 2017), confident (Ford, 2020;), authoritative (Raufelder et al., 2016), creative, and interesting (Badrolhisam et al., 2019; Heo et al., 2020; Perera et al., 2020). Other characteristics include encouraging and caring for students (Ford, 2020; Johnson & LaBelle, 2017), being an effective communicator (Said, 2018), appearing to be enthusiastic about teaching (Trammell et al., 2016), remaining flexible and open-minded (Perera et al., 2020), and acting as a good listener (Perera et al., 2020). In terms of being an excellent online instructor, one major characteristic is the ability to provide multiple ways for students to learn (Keetch, 2014; Tonsing-Meyer, 2012), including using technology tools (e.g., videos) and engaging students with different learning styles in much the same way as would occur in a face-to-face classroom (Keetch, 2014; Tonsing-Meyer, 2012). Another important characteristic of online instructors is whether they can provide opportunities for students to engage in higher-order thinking (Kentnor, 2015). Specifically, online instructors should motivate students' "critical, reflective, metacognitive, creative, and logical thinking" (King et al., 1998, p. 1). They should provide timely feedback to encourage the development of a sense of online classroom community (Borel, 2013). Lastly, online instructors should offer sufficient support, including technical, resource, and administrative (Borel, 2013; Kentnor, 2015), which are essential for online learning.

### Students' Expectations of the Instructor

Students' expectations of instructors often influence their reactions and course communication, and their expectations can impact how they interpret the message delivered by the instructor and their subsequent behaviors (Frymier & Weser, 2001). Students' instructor expectations can also affect their evaluations of the course and the instructor. If their expectations of the instructor are met or exceeded, they are more likely to rate a higher level of satisfaction with the course and are more willing to take additional courses with this instructor (Gigliotti, 1987). In return, if the instructors can understand their students' expectations, they can adjust their teaching according to students' needs and thus enhance student learning (Trammell et al., 2016).

Students often expect their instructor to own characteristics associated with their personality and profession. For instance, Heo et al. (2020) investigated 332 college students' expectations of their instructor and found that humor, enthusiasm, and entertainment were major characteristics. Some expected their instructor to prepare more course content and interact more often with students. Analyzing feedback from 297 college students, Johnson and LaBelle (2017) confirmed five authentic qualities regarding student expectations of the instructor: approachable, enthusiastic, focused, capable, and knowledgeable. Additionally, students' course evaluations were significantly impacted if they found that their instructor made efforts to engage with them, care for them, and be friendly.

Scholars used the Teaching Behaviors Checklist (Buskist et al., 2002) to specifically investigate the expected instructors' behaviors. Ford (2020) examined the excellent teaching qualities that 204 first-year student pharmacists expected their instructor to have. Among the 28 qualities listed in the checklist, the top 10 excellent teaching qualities are 1) approachable/personable, 2) knowledgeable about subject matter, 3) effective communicator, 4) set realistic expectations, 5) respectful, accessible, 6) enthusiastic about teaching/topic, 7)

understanding, 8) encourages/cares for students, 9) confident, and 10) prepared. Similarly, Perera et al. (2020) requested 270 medical students to rank good qualities they expected for their instructor. The top 10 good qualities from the highest rank to lowest rank were: 1) knowledge towards a subject, 2) enthusiasm regarding teaching and subject, 3) exhibits good communication skills, 4) approachability, 5) good sense of humor, 6) past publication/research, 7) caring nature/empathy, 8) pleasant personality, 9) inspirational/motivational, and 10) conveys constructive criticism.

In addition to collecting survey feedback from students, Millares (2019) interviewed 17 undergraduate students to further look at their expectations of their instructor. Several characteristics were highlighted as key instructor traits. Approachability was identified as an essential, influential characteristic, and included connecting with students, being friendly, being humble, and showing a sense of humor. Students felt encouraged if they had connections with their instructors, such as being called by names. They also preferred a friendly instructor, yet they expected the instructor to push them to excel. Additionally, students considered office hours an effective time in which to approach the instructor. Clear communication was another significant characteristic and included explaining the topic, being easy to understand, using interesting examples, and changing tonation rather than delivering instruction in a monotone. Moreover, being the subject expert was also a major characteristic, indicating that students expected their instructor to provide essential information to facilitate their academic development. Millares (2019) additionally noted that students were eager to receive support from their instructor. In other words, they expected their instructor to care for them, encourage them, and understand them. Lastly, students expected their instructor to be passionate about the subject and motivate their learning. As concluded from previous studies, students often expect their instructors to provide both professional and emotional support.

### **Students' Expectations of Online Instructors**

As to students' expectations of an online instructor, exploring 1480 college students' feedback, Welch et al. (2015) found that pedagogy was considered the essential characteristic while expertise was ranked as the lowest characteristic. Kara and Can (2019) also examined college students' expectations, and they discovered that students expected their online instructor to clearly explain concepts, be available, provide support, and exhibit friendliness and knowledge. Trammell and colleagues (2016) investigated 132 undergraduate students' perspectives of their instructor in online, hybrid, and face-to-face courses. Several characteristics were highlighted, such as being approachable, knowledgeable, enthusiastic, and friendly. Students also expected their instructor to provide feedback on time and to show good teaching skills. Summarized from the previous studies, students had high expectations of their instructor's interpersonal qualities, focusing more on an online instructor's practical course delivery skills. They also expect their instructor to be available for communication and be supportive in an online learning environment.

### **First-Time Online Students**

Online classes are intimidating for students new to online courses, as St Clair (2015) described:

The pain of anxiety is bad enough, but even worse, many students waste a lot of time worrying; they wait in dread of the online assignment or exam that they cannot open, or the course materials that they will not be able to download from the class site. They wrestle with a gnawing fear that their class has no anchor in the physical world and that there will be no one there to address their fears and concerns. We send emails of welcome to students replete with assurances that all will be well, but the apprehension persists (p. 129).

First-time online students often face multiple challenges and learning curves that significantly influence their confidence and ability to succeed online (Tyler-Smith, 2006). These challenges include “technical access, asynchronicity, text-based discussions, multiple conversations, information overload and isolation” (Whipp & Chiarelli, 2004, p. 6). One study (Eshet-Alkalai, 2004) concludes that in addition to being equipped with the ability to use software or operate a technical device, online learners need to have “a variety of complex cognitive, motor, sociological and emotional skills” to “function effectively in digital environments” (p. 93). However, it seems that first-time online students are often concerned about their ability to handle the technical, organizational, and social challenges (Whipp & Chiarelli, 2004). Additionally, these students often struggle with interacting with others (Tseng et al., 2020), and they usually lack the independence and time-management skills to persist in the online course (Tseng et al., 2019).

Accordingly, Tyler-Smith (2006) offers five dimensions first-time online students must deal with in an online learning environment: 1) negotiating the technology, 2) negotiating the learner management system interface, 3) negotiating the learning content, 4) becoming an e-learner, and 5) negotiating computer-mediated communication interaction. Those learning tasks can significantly contribute to online students' cognitive load at the start of an online course. In other words, students new to online learning have to go through cognitive overload in the early stages of an online course (Bawa, 2016). During this period, the multiple learning tasks would lead to “rapid rises in anxiety for the learner” (Tyler-Smith, 2006, p. 80). In short, students' overwhelmed feelings with online learning would negatively influence their learning process, lead to a high level of anxiety at the beginning of the online courses, and further result in a decision of dropping out from the course (Abdous, 2019; Tyler-Smith, 2006).

Online learning anxiety is a common concern according to previous literature, especially for first-time online learners. These students are anxious and afraid of taking their first online course, and they show intense anxiety towards using online technology. Online learning anxiety may further exacerbate all forms of student anxiety, leading to online student retention problems (St Clair, 2015; Tyler-Smith, 2006). Therefore, early intervention is necessary to reduce student online learning anxiety. Scholars have highlighted the importance of the instructor's role in online courses, particularly the skills of designing the sequence of instruction, the course content, and assignments and activities (Miller, 2014; Morrison et al., 2010; Simunich et al., 2015). Meanwhile, the instructor should have clear and consistent course objectives and expectations, as well as assignment criteria (Duncan et al., 2013). In short, it is crucial for the online instructor to provide relevant strategies to engage online students, especially those new to online learning.

## The Current Study

Unlike Western cultures characterized by individualism and a small power distance between instructors and students, traditional Chinese culture is dominated by collectivism with considerable distance. Therefore, indirect communication between people is preferred to keep the harmony of a group in Chinese society (Holmes, 2005; Ting-Toomey, 2005). These cultural traits further impact the interpretation and evaluation of classroom management and communication, teaching and learning styles, and teacher-student relationships (Ho, 2001; Holmes, 2005).

Chinese instructors are usually perceived as the authority and transmitter of knowledge (Cortazzi & Jin, 1997), and the traditional Chinese classroom is usually teacher-centered with less interaction and student participation. Instructors' authority and strictness in Chinese culture are considered appropriate, representing a way of caring and nurturing their students (Biggs & Watkins, 2001). Moreover, Chinese instructors and students have little interaction, and students' reticence is considered an expression of showing their respect to their instructor (Ho, 2001; Holmes, 2005). Chinese students prefer to use attentive listening, assiduous note-taking, and mechanical memorization (Biggs & Watkins, 1996; Watkins & Biggs, 2001).

The importance of student-centeredness has been recognized in China, and policymakers have carried out related teaching reforms. For example, College English teaching reform has been taking place in China since 2003, aiming to shift teacher-centered classrooms to student-centered classrooms. Some instructors have put effort into changing their teaching concepts and methods by integrating active learning activities (e.g., group learning, debate) to engage students in the classroom and develop their learning abilities (Min, 2016). Yet, classroom silence in college classrooms remains a common phenomenon, leading to inefficient communication between the instructor and students (Chen, 2020; Yi, 2021). Students are usually reluctant to express their ideas and perform passively in class, and they rely heavily on the instructor's explanations. The long tradition of "showing great respect to the teacher and the teacher's teaching" (Min, 2016, p. 456) and the notion that "the teacher is often the dominator of the whole class, and it is the teacher who designs the class, controls and supervises all the students" (p. 456) in a traditional Chinese classroom are deeply ingrained among Chinese instructors and their students. In short, Chinese pedagogy prefers an authoritarian, antisocial, and dialectic approach, which is often test-oriented, information-packed, and holism-based, stressing verbatim memorization, and conformity (Ho, 2001; Holmes, 2005).

Due to the pandemic lockdowns and the sudden shift in instruction, it is unknown whether the expectations toward instructors of Chinese college students new to FOL would change compared to those students might have in a traditional face-to-face learning context. While previous studies focused on the influence of students' characteristics and skills (e.g., mindsets, self-efficacy) during their online learning, a few studies examined factors influencing first-time online students' experiences in FOL environments (Tseng et al., 2020). Looking at first-time online students' expectations of their online instructor specifically in the context of Chinese universities, limited research explores practical strategies instructors should provide. To fill this gap, the present study aims to explore the perspectives of Chinese students' expectations of their online instructor. The research questions that guide this study were:

1. What characteristics of the instructor do first-time online Chinese students expect to be important in fully online courses?
2. What characteristics of the instructor do first-time online Chinese students not expect to be important in fully online courses?

Results from empirical research are needed to close the gap in understanding first-time online students' expectations toward the instructors' qualities and behaviors in a FOL environment; such results may provide insights regarding the best practical strategies instructors may implement to facilitate online learners' success.

## Methods

A convenience sampling procedure was used to recruit participants. College students enrolled in one university in northeast China were invited. An invitation email with a link to the survey was distributed and available for two weeks. A total of 439 students participated in the survey. After using the listwise deletion methods, 314 responses were used (usable rate equals 71.5%). Among the students who completed the survey, 140 (44.6%) were male, and 174 (55.4%) were female. Most of the participants were aged 19 to 21 (89.1%). All participants were first-time online students attending fully online courses during the spring semester of 2020.

### Instruments

The instrument used to examine first-time Chinese online students' expectations of the instructor was adopted from Buskist and colleagues' (2002) Teacher Behaviors Checklist (TBC) (see Table 1). This inventory consists of 28 items that define personality qualities in terms of instructors' behaviors. The TBC was initially used to rate the top 10 behaviors of an ideal instructor from the 28 items, and it can be used in a Likert-type scale setting based on the study goals (Keeley et al., 2006). Thus, a 5-point Likert-type scale ranging from 1 (not at all important) to 5 (very important), with a midpoint of 3 (neutral), replaced the survey. A higher score indicates that students consider a specific behavior more significant in the fully online course setting. Additionally, as this study aims to explore students' expectations for the online instructor, some behaviors described in the original inventory were revised to better match the online learning environment.

Two factors were identified from the 28 items: 1) caring and supportive (consisting of 13 items) and 2) professional competency and communication skills (consisting of 11 items), leaving four items uncategorized (Keeley et al., 2006). In this study, the Cronbach's alpha for the overall survey with the 28 items was 0.903, with 0.855 for caring and supportive and 0.706 for 11-item professional competency and communication skills, respectively.

**Table 1**

*Sample Items of the Teacher Behaviors Checklist (Buskist et al., 2002)*

TBC	Sample items
Caring and supportive	Understanding (Accepts legitimate excuses for missing class or coursework, is available before/after online class to answer questions, doesn't lose temper at students, and takes extra time to discuss difficult concepts);

	Encourages and Cares for Students (Provides praise for good student work, helps students who need it, offers bonus points and extra credit, and knows student names)
Professional competency and communication skills	Technologically Competent (Knows how to use a computer, knows how to use e-mail or social media with students, knows how to use relevant media for learning, know how to use learning management systems, know how to use social media, and encourages students to use technology for learning); Knowledgeable About Subject Matter (Easily answers students' questions, does not read straight from the book or notes, and uses clear and understandable examples)
Uncategorized	Creative and Interesting (Experiments with teaching methods; uses technological devices to support and enhance lectures; uses interesting, relevant, and personal examples); Establishes Daily and Academic Term Goals (Prepares/follows the syllabus and has goals for each class)

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## Procedure

Students clicked the survey link provided in the invitation email, read the informed consent, and decided whether they were willing to participate in the study. The questionnaire was anonymous and took approximately 8-10 minutes to complete. Students were able to withdraw from the study at any time via closing the website. The original items were in English and needed to be translated into Chinese. The author used a standard translation and back-translation procedure to guarantee the validity of the Chinese version of the measure (Hambleton & Patsula, 1998).

## Data Analysis

The listwise deletion method was used in this study, and data were analyzed via Minitab and SPSS. Likert scale is identified as ordinal data (Likert, 1932) that has clear rank order but does not have an even distribution, and arithmetic operations cannot be conducted (Wu & Leung, 2017). Therefore, a one-sample nonparametric hypothesis test was applied to investigate the characteristics that students consider essential or not. Because the data was not symmetric, the sign test was conducted to determine if a statistically significant difference exists between the median of a non-normally distributed continuous data set and a standard. The alpha level was set at .05.

## Results

### **RQ1: What characteristics of the instructor do first-time online Chinese students expect to be important in fully online courses?**

Among the 28 characteristics, a median of 19 characteristics is equal to 4 (important), and the median of two characteristics is equal to 5 (very important), respectively (see Table 2).

**Table 2**  
*The Median of Instructor's Characteristics*

<b>Instructor's Characteristics</b>	<b>Median</b>
Accessible	3
Approachable/Personable	3
Authoritative	3
Confident	3
Creative and Interesting	3
Effective Communicator	3
Encourages and Cares for Students	3
Enthusiastic About Teaching and About Topic	4
Establishes Daily and Academic Term Goals	4
Flexible/Open-Minded	4
Good Listener	4
Happy/Positive Attitude/Humorous	4
Humble	4
Knowledgeable About Subject Matter	5
Prepared	4
Presents Current Information	4
Professional	4
Promotes Class Discussion	4
Promotes Critical Thinking/Intellectually Stimulating	4
Provides Constructive Feedback	4
Punctuality/Manages Class Time	4
Rapport	4
Realistic Expectations of Students/Fair Testing and Grading	4
Respectful	5
Sensitive and Persistent	4
Strives to Be a Better Teacher	4
Technologically Competent	4
Understanding	4

The one-sample nonparametric hypothesis sign test was conducted to examine whether the 19 characteristics with a median of 4 were equal to the hypothesized value of 4 (important).

***H1: The Median of the 19 Characteristics is Equal to 4, Respectively.*** The null hypothesis was rejected as results show that the 19 characteristics with a median equal to 4 were significantly different than the hypothesized value of 4 ( $p < .001$ ). Although some students considered these instructor's qualities and behaviors somewhat unimportant, most of them expected their instructor to have those characteristics. Taking *good listener* as an example, 27

(8.7%) students rated this characteristic neutral to important, 138 (44.2%) rated it important, and 147 (47.1%) rated this quality important to very important. In short, statistics results indicate that all of the 19 characteristics were statistically significantly greater than the hypothesized value 4 ( $p < .001$ ), indicating that students consider these qualities and behaviors important (see Table 3). Then, the 19 items were tested to examine if they were equal to the hypothesized value of 5 (very important),

***H2: The Median of the 19 Characteristics is Equal to 5, Respectively.***

The null hypothesis was rejected as results demonstrate that the 19 characteristics with a median equal to 4 were significantly smaller than the hypothesized value of 5 ( $p < .001$ ). Data confirmed that students rated these 19 instructor's qualities between important to very important (see Table 3).

**Table 3**

*Results of One-sample Nonparametric Hypothesis Sign Test with a Median Value of 4*

Characteristics	Number <4	Number =4	Number >4	p-value	Number <5	Number =5	Number >5	p-value
Enthusiastic about teaching and about topic	25	137	150	<.001	162	150	0	<.001
Establishes daily and academic term goals	49	130	133	<.001	179	133	0	<.001
Flexible/Open-minded	35	137	141	<.001	172	141	0	<.001
Good listener	27	138	147	<.001	165	147	0	<.001
Happy/positive attitude/humorous	26	138	147	<.001	164	147	0	<.001
Humble	41	137	133	<.001	178	133	0	<.001
Prepared	40	141	129	<.001	181	129	0	<.001
Presents current information	30	146	137	<.001	176	137	0	<.001
Professional	68	130	114	<.001	198	114	0	<.001
Promotes class discussion	51	137	124	<.001	188	124	0	<.001
Promotes critical thinking/intellectually stimulating	51	131	130	<.001	182	130	0	<.001
Provides constructive feedback	37	138	137	<.001	175	137	0	<.001
Punctuality/manages class time	47	128	136	<.001	175	136	0	<.001
Rapport	28	135	148	<.001	163	148	0	<.001
Realistic expectations of students/fair testing and grading	39	129	144	<.001	168	144	0	<.001
Sensitive and persistent	41	144	128	<.001	185	128	0	<.001

Strives to be a better teacher	40	131	140	<.001	171	140	0	<.001
Technologically competent	64	122	126	<.001	186	126	0	<.001
Understanding	25	135	153	<.001	160	153	0	<.001

Next, data were analyzed to investigate if the two items whose median equal to 5 are significantly different than the hypothesized value of 5 (very important).

**H3: The Median of the Two Characteristics is Equal to 5, Respectively**

The null hypothesis was rejected. Results show that the two characteristics were significantly different than the hypothesized value of 5 ( $p < .001$ ). Analysis was then conducted to examine whether these two items were equal to the hypothesized value of 4 (important).

**H4: The Median of the Two Characteristics is Equal to 4, Respectively**

Again, the null hypothesis was rejected, concluding that students rated these two qualities between important to very important (see Table 4).

**Table 4**

*Results of One-sample Nonparametric Hypothesis Sign Test with a Median Value of 5*

Characteristics	Number <4	Number= 4	Number> 4	p-value	Number< 5	Number= 5	Number> 5	p-value
Knowledgeable about subject matter	28	123	162	<.001	151	162	0	<.001
Respectful	34	114	164	<.001	148	164	0	<.001

As statistics results show, students rated both the 19 characteristics with a median equal to 4 and the two attributes with a median equal to 5 between important to very important. The Kruskal-Wallis test, a nonparametric alternative for a one-way ANOVA, was conducted to investigate if students' preferences (between important to very important) of these 21 characteristics differed.

The Kruskal-Wallis test results indicate that students' ratings toward the 21 characteristics were statistically significantly different,  $H_{(20)} = 66.40, p < .001$ . Table 5 shows the pairwise comparisons using the Dunn-Bonferroni tests on each pair of groups, indicating no difference between the two characteristics (i.e., knowledgeable about subject matter, respectful) with a median equal to 5 (Adj.  $p = 1$ ). However, characteristics with a median equal to 4 (i.e., specifically professional, technologically competent) are significantly different than both the characteristics of knowledgeable about subject matter and respectful. Specifically, the post hoc data shows that the median of professional is significantly lower than knowledgeable about subject matter (Test statistics = -666.65, Adj.  $p_{\text{professional-knowledgeable}} < .001$ ). Interestingly, although professional is significantly higher than respectful (Test statistics = 679.28, Adj.  $p_{\text{professional-respectful}} < .001$ ), even the latter has a median equal to 5. Similarly, technologically competent is significantly higher than both knowledgeable about the subject matter (Test statistics = 531.52, Adj.  $p_{\text{technologically competent-knowledgeable}} = .017$ ) and respectful (Test statistics = 544.14, Adj.  $p_{\text{technologically competent-respectful}} = .025$ ).

These results reveal students expected that being familiar with using technology tools as one of the most important instructor characteristics in fully online courses. Additionally, among the characteristics whose median equal to 4, while *professional* is significantly lower than *understanding* (Test statistics = -610.96, Adj. *p* = .002), *enthusiastic about teaching and topic* (Test statistics = -586.44, Adj. *p* = .005), *rapport* (Test statistics = -555.98, Adj. *p* = .012), it is significantly higher than *happy/positive attitude/humorous* (Test statistics = 557.18, Adj. *p* = .012) and *good listener* (Test statistics = 548.77, Adj. *p* = .015).

**Table 5**  
*Pairwise Comparisons of the Median Values of 4 and 5*

Characteristics comparisons	Test Stat	Std. Error	Std. Test Stat	Sig.	Adj. Sig.*
Professional vs. Respectful	-666.652	138.079	-4.828	<.001	<.001
Professional vs. Knowledgeable about subject matter	679.277	137.969	4.923	<.001	<.001
Professional vs. Understanding	-610.963	137.969	-4.428	<.001	0.002
Professional vs. Enthusiastic about teaching and about topic	-586.441	138.079	-4.247	<.001	0.005
Professional vs. Rapport	-555.975	138.19	-4.023	<.001	0.012
Professional vs. Happy/positive attitude/humorous	557.182	138.19	4.032	<.001	0.012
Professional vs. Good listener	548.774	138.079	3.974	<.001	0.015
Technologically competent vs. Knowledgeable about subject matter	544.141	137.969	3.944	<.001	0.017
Technologically competent vs. Respectful	531.516	138.079	3.849	<.001	0.025

\* Significance values have been adjusted by the Bonferroni correction for multiple tests

**RQ2: What characteristics of the instructor do first-time online Chinese students not expect to be important in fully online courses?**

Among the 28 characteristics, the median of seven characteristics is equal to 3, respectively (see Table 2). The one-sample nonparametric hypothesis sign test was conducted to examine whether the media of these characteristics is significantly different than the hypothesized value of 3 (neutral).

***H5: The Median of the Seven Characteristics is Equal to 3, Respectively.***

The null hypothesis was rejected, showing that all the seven characteristics with a median value equal to 3 were significantly different than the hypothesized value 3 (*p* < .001). Although some students considered these instructors' qualities and behaviors somewhat important, most of the students did not have a high expectation regarding whether their instructor has such characteristics or not. Taking *accessible* as an example, 49 (15.8%) students rated important to very important, 136 (43.7%) rated neutral, and 126 (40.5%) considered this quality low important to not at all important. Statistics results indicate that all the seven characteristics were statistically significantly lower than 3 (*p* < .001), indicating that students consider those instructor qualities and behaviors not important (see table 6). Lastly, data were analyzed to investigate whether the median of these seven characteristics is different than the hypothesized value of 2 (low important).

**H6: The Median of the Seven Characteristics is Equal to 2, Respectively.**

The null hypothesis was rejected and data reveals that all the seven characteristics were greater than 2, indicating students considered these qualities between neutral to low important (see Table 6). Additionally, the Kruskal-Wallis test results show that students' ratings toward the seven characteristics were not statistically significantly different,  $H_{(6)} = 7.10, p = .31$ .

**Table 6**

*Results of One-sample Nonparametric Hypothesis Sign Test with the Median Value of 3*

Characteristics	Numbe r<3	Numbe r=3	Numbe r>3	p- value	Numbe r<2	Numbe r=2	Numbe r>2	p- value
Accessible	126	136	49	<.001	2	124	185	<.001
Approachable/pers onable	124	154	32	<.001	1	123	186	<.001
Authoritative	126	138	41	<.001	2	124	179	<.001
Confident	141	144	25	<.001	1	140	169	<.001
Creative and interesting	119	164	26	<.001	1	118	190	<.001
Effective communicator	132	154	24	<.001	1	131	178	<.001
Encourages and cares for students	139	143	30	<.001	3	136	173	<.001

## Discussion

Results of the study indicate various characteristics that first-time Chinese online students believe the instructor should have in fully online courses, such as being knowledgeable about the subject, being professional, respecting and understanding students, being a good listener, being enthusiastic about teaching, being humble, and being humorous, being prepared for classes, and having realistic expectations for students. Echoing previous studies (Ford, 2020; Johnson & LaBelle, 2017; Perera et al., 2020), these findings show that first-time Chinese online learners share several common expectations for their instructor, including being an expert on the subject, setting realistic expectations, being respectful, being enthusiastic about teaching/topic, understanding, and being prepared. Promoting critical thinking and online discussion as well as providing constructive feedback are also highlighted by Chinese students new to online learning.

Although scholars (Ford, 2020; Millares, 2019; Perera et al., 2020) note that approachable, accessible, and effective communicator are rated as top characteristics, this study argues that first-time Chinese online students consider these three qualities only somewhat necessary. Furthermore, Chinese students new to online learning do not have much expectation for their instructor to deliver creative and interesting online classes. Likewise, these students do not have a great expectation of receiving encouragement or care from their instructor. These findings somewhat reflect the unique Chinese pedagogy—an authoritarian, antisocial, and dialectic approach, which is often test-oriented, information-packed, and holism-based, stressing verbatim memorization, and conformity (Ho, 2001).

China's unique collectivism, large power distance, and high-context cultures (Hofstede, 1980, 1991) often extend into the classroom, influencing classroom management and communication, teaching, and learning styles, as well as teacher-student relationships (Ho,

2001). Chinese instructors therefore tend to distance themselves from their students. Students accept this interaction style and believe it a way to show their respect to instructors. Interestingly, although Chinese instructors are “expected to exert authority and enforce strictness” (Zhang, 2005, p. 111), the present study argues that first-time online Chinese students do not believe being authoritative is an essential instructor characteristic. Combined with instructor behavior (e.g., rapport, understanding, respectful), results indicate that today’s Chinese college students may have a different attitude towards whether the instructor should still be considered as the authority in the classroom. In other words, they may expect their instructors to listen to them, understand them, and build good classroom rapport. Even so, these students still prefer keeping some distance from their instructor as they do not strongly expect receiving care and encouragement. These students’ ambivalent feelings may be impacted by the pandemic lockdowns which stimulate their interests to seek a close relationship with their instructor. More research is needed to explore this argument.

Of the 28 instructor’s characteristics, 21 of them were considered important by first-time Chinese online students. Among these characteristics, 11 (52.4%) of them are categorized as caring and supportive factors (e.g., understanding, provides constructive feedback) while 7 (22%) of them are grouped into professional competency and communication skills (e.g., knowledgeable about the subject matter, technologically competent). Meanwhile, among the characteristics rated as neutral to low importance, two (28.6%) of them belong to the caring and supportive sector (i.e., accessible, encourages and cares for students), and four (57.1%) are identified as belonging to the professional competency and communication skills group. Mirroring Millares’ (2019) conclusions that students are usually eager to receive support and encouragement from their instructor, the present study shows that first-time Chinese online students consider instructor’s characteristics related to caring and support as more significant than those associated with professional competency and communication skills in FOL environments.

Finally, knowledge about the subject is often rated as the top characteristic for effective instructors (Ford, 2020; Perera et al., 2020). This study, however, argues that first-time, online students in China considered technological competence to be a more important instructor characteristic than being the expert of the subject. These students may encounter various challenges when learning online for the first time (Tyler-Smith, 2006), such as how to effectively use the online educational tools to interact with the learning content, instructor, and peers (Tseng et al., 2020). Therefore, as indicated in the present study, it is assumed that these students expect their instructor to be experienced with technology and someone learners could trust and rely on when they need help in FOL environments.

### **Implications**

There are several strategies that instructors could use to help Chinese students new to online learning smoothly adapt to their first online course. First, the instructors should be familiar with using technology tools when teaching online courses, so they can lend a hand to students when necessary. They may implement practices such as collecting information related to technology access and share it with students to solve possible issues; they could also provide alternative ways of engagement when designing course activities and group projects (Means & Neisler, 2021). Additionally, universities should provide workshops or training to improve instructors’ technical competence. Second, online instructors should know the content and prepare the online course by providing necessary materials. Online instructors should also hold

realistic expectations of their students, not overloading them with readings and assignments. Additionally, online instructors should provide constructive feedback, which is considered an important indicator of instructor presence in online learning environments (Sheridan & Kelly, 2010). Furthermore, online instructors should be sensitive and persistent. That is, they should evaluate whether first-time online students understand the course materials before moving to new learning content. The instructors should repeat information and check students' understanding of the course materials when necessary. Moreover, online instructors should promote online discussions and encourage students' critical thinking, such as raising challenging questions. Although first-time Chinese online students may not expect to receive much encouragement and care from their instructors, nor do they expect their instructors to be always accessible or approachable in FOL environments, learners prefer a good online classroom rapport. They believe their instructor should respect and understand them. Thus, relevant strategies should include calling students' names when replying to their emails or discussion posts, using jokes and stories to lighten up the online class atmosphere, and being polite to them and not embarrassing them while they share viewpoints on discussion boards.

As first-time Chinese online students focus more on instructor's characteristics linked to caring and support than those related to professional competency and communication skills, online instructors should pay more attention to providing these students' emotional support. For instance, the instructors could create a pleasant and relaxing learning environment, provide online office hours for questions, and remain patient when students make mistakes or ask repeated questions. As noted by scholars (Tseng et al., 2019; 2020), students taking fully online courses for the first time often struggle with using technology tools, interacting with the course content, the instructor, and their peers. First-time Chinese online students may also lack the independence and time-management skills to persist in the online course, resulting in their decision to drop out of the course (Abdous, 2019; Tyler-Smith, 2006). Therefore, early intervention is important to reduce their online learning anxiety. The instructor could collect mid-semester feedback from students to modify the online course assignments and activities, talk with students to help them adjust their study plans, and provide resources to solve students' problems in the online learning context. In addition to applying strategies such as a well-developed sequence of instruction, the course content, assignments, and activities (Miller, 2014; Morrison et al., 2010; Simunich et al., 2015), our findings agree that the online instructors should have clear and consistent objectives and expectations as well as assignment criteria (Duncan et al., 2013). The above behaviors would emotionally support those who are new to online learning.

Lastly, instead of considering the instructors as the authority in the classroom, today's Chinese college students expect to build a good relationship with their instructors, facilitating good listening on both sides. At the same time, in lieu of being stereotyped as Chinese students who are attentive, diligent with note-taking, and fierce with mechanical memorization (Hu & Grove, 1999; Watkins & Biggs, 2001), today's Chinese college students prefer having more class discussions and other interactions with their instructor and peers. Thus, it is essential for Chinese higher education professionals to rethink their roles and responsibilities in a course, especially in the online classroom setting. Students are the participants, listeners, helpers in group learning, and center of the classroom activities. Therefore, the instructors should shift their roles from the dominant authority and controller to the organizer, instructor, monitor, helper, and evaluator (Hu, 2017; Min, 2016).

## Limitations

Some limitations exist in the study. First, participants were recruited in one university in China and cannot represent all first-time Chinese online students. Future studies should involve college students from different Chinese universities. Second, this study investigates first-time Chinese online students' expectations of their instructor without dividing online course formats (i.e., synchronous, asynchronous, and blended). These students may have different expectations of their instructor for online courses in different modalities. As a result, future studies should further look into various course formats. It is also possible that some students shared their expectations of the instructor based on their experiences of the course itself, and this limitation may somehow impact the validity of the results. Therefore, qualitative or a mixed research method should be used for follow-up studies. In addition, comparisons across years of schooling could provide more precise information to check on any variation in students' expectations across the course terms. Thus, it is suggested that future studies use both pre- and post-course surveys or conduct a longitudinal study. Also, the pandemic is one significant factor that may impact students' attitudes toward online learning and their online instructor. Therefore, it is necessary to compare students' expectations of the instructor before, during, and after the pandemic. Finally, students' majors may influence their expectations of the online instructor. It is assumed that the expectations of students in STEM (e.g., math, physics) may vary more than those in non-STEM (e.g., English, business). Thus, future studies should take the subject matter into consideration. Still, the study's limitations did not negate recognizing first-time Chinese online students' expectations of their instructor in FOL environments.

## Conclusions

This study explores first-time online students' expectations of their instructor in FOL environments specifically within the context of Chinese universities. Several behaviors are identified as crucial such as being knowledgeable about the subject, being professional, and having realistic expectations for students. Students new to online learning specifically highlight the importance of technological competence—a characteristic that is rarely mentioned in previous research. In other words, Chinese students new to online learning expect their instructors to use technology tools professionally in FOL environments.

Additionally, other than considering the instructor as the authority in the classroom, today's Chinese students believe receiving emotional support from their instructors—including the expectation that their instructor will respect and understand them and be a good listener—are significant. Future studies are suggested to further explore the shift of students' attitudes through comparisons across course terms as well as before, during, and after the pandemic. More factors should be considered as well including students' majors and online course delivery formats.

In short, as online learning has grown steadily worldwide and will become mainstream by 2025 (Palvia et al., 2018), this study offers insights for higher education professionals, in China and beyond, working toward a better understanding of first-time online students' expectations of their instructor. Additionally, we hope this study will contribute to scholarship on best practices in preparing their university faculty members for online course instruction, thus enhancing learning experiences of students new to online learning.

**Declarations**

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The author assert that approval was obtained from an ethics review board (IRB) at East Carolina University, USA.

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## References

- Abdous, M. (2019). Influence of satisfaction and preparedness on online students' feelings of anxiety. *Internet & Higher Education*, 41, 34–44. <https://doi.org/10.1016/j.ihedu.c.2019.01.001>
- Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and E-Learning Research*, 7(3), 285-292. <http://doi.org/10.20448/journal.509.2020.73.285.292>
- Badrollhisam, N. I., Rashid, N. M., Ma'amor, H., Mansor, M. N. M., & Bashirun, S. N. (2019). Students' perception, expectation and satisfaction toward the characteristics of female lecturers in higher education. *Universal Journal of Educational Research*, 7(10A), 1–6. <https://doi.org/10.13189/ujer.2019.071701>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *Sage Open*, 6(1), 2158244015621777.
- Biggs, J., & Watkins, D. (1996). The Chinese learner in retrospect. In D. A. Watkins & J. B. Biggs (Eds.), *The Chinese learner: Cultural, psychological and contextual influences* (pp. 269–286). Comparative Education Research Center.
- Borel, D.A. (2013). *The influence of web conferencing on graduate students' sense of community in an online classroom* (Publication number 3562263) [Doctoral dissertation, Lamar University—Beaumont]. ProQuest Dissertations & Theses Global.
- Buskist, W., Sikorski, J., Buckley, T., & Saville, B. K. (2002). Elements of master teaching. In S. F. Davis & W. Buskist (Eds), *The teaching of psychology: Essays in honor of Wilbert J. McKeachie and Charles L. Brewer* (pp. 27–39). Psychology Press.
- Chen, S. (2020). Classroom Silence in College English Class in China. *Us-China Foreign Language*. <http://doi.org/10.17265/1539-8080/2020.05.001>
- Cole, A., Anderson, C., Bunton, T., Cherney, M., Fisher, V. C., Featherston, M., ... & Allen, M. (2017). Student predisposition to instructor feedback and perceptions of teaching presence predict motivation toward online courses. *Online Learning Journal*, 21(4).
- Cortazzi, M., & Jin, L. (1997). Communication for learning across cultures. In D. McNamara & R. Harris (Eds.), *Overseas students in higher education* (pp. 76–90). Routledge.
- Duncan, H. E., Range, B., & Hvidston, D. (2013). Exploring student perceptions of rigor online: Toward a definition of rigorous learning. *Journal on Excellence in College Teaching*, 24(4), 5–28.
- Eshet, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of educational multimedia and hypermedia*, 13(1), 93-106.

- Ford, C. R. (2020). Exploring first-year student pharmacists' expectations in the classroom. *Pharmacy Teaching and Learning*, 12(6), 694–700.  
<https://doi.org/10.1016/j.cptl.2020.01.033>
- Frymier, A. B., & Weser, B. (2001). The role of student predispositions on student expectations for instructor communication behavior. *Communication Education*, 50(4), 314–326.  
<https://doi.org/10.1080/03634520109379258>
- Gigliotti, R. J. (1987). Are they getting what they expect? *Teaching, Sociology*, 15(4), 365–375.  
<https://doi.org/10.2307/1317992>
- Hambleton, R. K., & Patsula, L. (1998). Adapting tests for use in multiple languages and cultures. *Social indicators research*, 45(1-3), 153–171.  
<https://doi.org/10.1023/A:1006941729637>
- Heo, W., Park, N., & Park, K. (2020). Classifying students using an expectation-perception survey about a hospitality laboratory class: Empirical research with the finite mixture model. *Anatolia*, 31(1), 50–61. <https://doi.org/10.1080/13032917.2019.1697890>
- Ho, I. T. (2001). Are Chinese teachers authoritarian? In D. A. Watkins & J. B. Biggs (Eds.), *Teaching the Chinese learner: Psychological and pedagogical perspectives* (pp. 99–114). Comparative Education Research Center.
- Holmes, P. (2005). Ethnic Chinese students' communication with cultural others in a New Zealand university. *Communication education*, 54(4), 289–311.  
<https://doi.org/10.1080/03634520500442160>
- Hu, W., & Grove, C. L. (1999). *Encountering the Chinese: A guide for Americans*. Intercultural Press.
- Johnson, Z., & LaBelle, S. (2017). An examination of teacher authenticity in the college classroom. *Communication Education*, 66(4), 423–439.  
<https://doi.org/10.1080/03634523.2017.1324167>
- Kara, M. & Can, G. (2019). Master's students' perceptions and expectations of good tutors and advisors in distance education. *International Review of Research in Open and Distributed Learning*, 20(2). <https://www.erudit.org/en/journals/irrodl/1900-v1-n1-irrodl04703/1061336ar.pdf>
- Keeley, J., Smith, D., & Buskist, W. (2006). The Teacher Behaviors Checklist: Factor analysis of its utility for evaluating teaching. *Teaching of Psychology*, 33(2), 84–91.  
[https://doi.org/10.1207/s15328023top3302\\_1](https://doi.org/10.1207/s15328023top3302_1)
- Keetch, J. W. (2014). *An analysis of progressive elements in top-tiered online graduate programs of higher education* (Publication number 3627409) [Doctoral dissertation, Saint Louis University]. ProQuest Dissertations & Theses Global.

- Kentnor, H. E. (2015). *Investigating and understanding student learning outcomes in an online and face-to-face graduate level legal administration course: An embedded mixed methods design* (Publication number 3715376) [Doctoral dissertation, University of Denver]. ProQuest Dissertations & Theses Global.
- King, F., Goodson, L., & Rohani, F. (1998). *Higher order thinking skills: Definition, teaching strategies, assessment*. Center for Advancement of Learning and Assessment.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology*, 22(5), 5-55.
- Means, B., & Neisler, J. (2021). Teaching and learning in the time of COVID: The student perspective. *Online Learning*, 25(1), 8-27.
- Millares, C. A. A. (2019). The effects of instructor characteristics and student gender on student expectations of instructor effectiveness: *A mixed methods study* [Doctoral dissertation, Texas Tech University]. TTU DSpace. <https://ttu-ir.tdl.org/handle/2346/85040>
- Miller, M. D. (2014). *Minds online: Teaching effectively with technology*. Cambridge, MA: Harvard University Press.
- Min, H. (2016). A study on silence phenomenon in college English classroom. *International Journal of Education and Research*, 4(6), 451-458.
- Morrison, G. R., Ross, S. M., Kemp, J. E., & Kalman, H. (2010). *Designing effective instruction*. Hoboken. Wiley.
- Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, 21(4), 233-241. <https://doi.org/10.1080/1097198X.2018.1542262>
- Perera, S., Fong, T. Y., Balasubramaniam, J., & Kavita, K. (2020). What qualities do medical students expect in an effective teacher: A cross sectional study. *Medicine Journal*, 7(1), 1-11.
- Raufelder, D., Nitsche, L., Breitmeyer, S., Keßler, S., Herrmann, E., & Regner, N. (2016). Students' perception of "good" and "bad" teachers—Results of a qualitative thematic analysis with German adolescents. *International Journal of Educational Research*, 75(2016), 31-44. <https://doi.org/10.1016/j.ijer.2015.11.004>
- Said, A. (2018). Vocational teaching-learning through the eyes of undergraduate vocational students in Malta: A qualitative exploratory study. *International Journal for Research in Vocational Education and Training*, 5(1), 42-63. <https://doi.org/10.13152/IJR/VET.5.1.3>
- Sheridan, K., & Kelly, M. A. (2010). The indicators of instructor presence that are important to students in online courses. *Journal of Online Learning and Teaching*, 6(4), 767-779.

- Simunich, B., Robins, D. B., & Kelly, V. (2015). The impact of findability on student motivation, self-efficacy, and perceptions of online course quality. *American Journal of Distance Education*, 29(3), 174–185. <https://doi.org/10.1080/08923647.2015.1058604>
- St Clair, D. (2015). A simple suggestion for reducing first-time online student anxiety. *Journal of Online Learning and Teaching*, 11(1), 129.
- Ting-Toomey, S. (2005). The matrix of face: An updated face-negotiation theory. In W. B. Gudykunst (Ed.), *Theorizing About Intercultural Communication* (pp. 71–92). Sage.
- Tonsing-Meyer, J. A. (2012). *An examination of online instructional practices based on the learning styles of graduate education students* (Publication number 3516155) [Doctoral dissertation, Northcentral University]. ProQuest Dissertations & Theses Global.
- Trammell, Beth, & Aldrich, Rosalie. (2016). Undergraduate students' perspectives of essential instructor qualities. *The Journal of Scholarship of Teaching and Learning*, 16(1), 15–30. <https://doi.org/10.14434/josotl.v16i1.19178>
- Tseng, H., Kuo, Y. C., & Walsh, E. J. (2020). Exploring first-time online undergraduate and graduate students' growth mindsets and flexible thinking and their relations to online learning engagement. *Educational Technology Research and Development*, 68(5), 2285–2303. <https://doi.org/10.1007/s11423-020-09774-5>
- Tseng, H., Yeh, H.-T., & Tang, Y. (2019). A close look at trust among team members in online learning communities. *International Journal of Distance Education Technologies*, 17(1), 52–65.
- Tyler-Smith, K. (2006). Early attrition among first time eLearners: A review of factors that contribute to drop-out, withdrawal and non-completion rates of adult learners undertaking eLearning programmes. *Journal of Online learning and Teaching*, 2(2), 73–85.
- U.S. Department of Education. (2020). *Digest of Education Statistics 2020*. National Center for Education Statistics. <https://nces.ed.gov/fastfacts/display.asp?id=80>
- Vallade, J. I., & Kaufmann, R. (2018). Investigating instructor misbehaviors in the online classroom. *Communication Education*, 67(3), 363–381. <https://doi.org/10.1080/03634523.2018.1467027>
- Watkins, D. A., & Biggs, J. B. (2001). *Teaching the Chinese learner: Psychological and pedagogical perspectives*. Comparative Education Research Center.
- Welch, A. G., Orso, D., Doolittle, J., & Arepattamannil, S. (2015). Matching student expectations with instructors' dispositions: Insight into quality of online teaching. *Journal of Effective Teaching*, 15(2), 5–19.
- Whipp, J. L., & Chiarelli, S. (2004). Self-regulation in a web-based course: A case study. *Educational technology research and development*, 52(4), 5–21.

- Winkelmes, M-A. (2013). Transparency in teaching: Faculty share data and improve students' learning. *Liberal Education*, 99(2): 48–55.
- Wu, H., & Leung, S. O. (2017). Can Likert scales be treated as interval scales?—A Simulation study. *Journal of Social Service Research*, 43(4), 527-532.  
<https://doi.org/10.1080/01488376.2017.1329775>
- Yi, S., Yun, R., Duan, X., & Lu, Y. (2021). Similar or different? a comparison of traditional classroom and smart classroom's teaching behavior in China. *Journal of Educational Technology Systems*, 49(4), 461-486. <https://doi.org/10.1177/0047239521988999>
- Zhang, Q. (2005). Immediacy, humor, power distance, and classroom communication apprehension in Chinese college classrooms. *Communication Quarterly*, 53, 109–124.  
<https://doi.org/10.1080/01463370500056150>