CULTIVATING ASIAN STUDENTS’ WILLINGNESS TO COMMUNICATE IN AMERICAN CLASSROOMS USING AN ONLINE VIDEO-BASED PRE-ARRIVAL COURSE

by

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“To everything there is a season, and a time to every purpose.”

Ecclesiastes 3:1
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ABSTRACT

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The purpose of this mixed methods study was: 1) to document the design and implementation process of an online video-based pre-arrival course that was intended to cultivate Asian students’ willingness to communicate in American Classrooms; 2) to assess the effectiveness of the course by measuring students’ oral proficiency and willingness to communicate; and 3) to investigate their first-year classroom participation as well as their experiences with the pre-arrival course. This research inquiry was guided by two research questions: 1) How does completing an online pre-arrival course influence Asian students’ speaking abilities, willingness to communicate, and verbal participation in their first-year engineering classrooms? 2) What are the course takers’ experiences in the online American Classroom Readiness (ACR) course?

Using a convergent parallel design, this study collected quantitative and qualitative data to address the research questions. The quantitative data, including scores on a willingness to communicate survey and oral proficiency analysis, measured the effectiveness of the ACR course. The qualitative interview data captured students’ experiences with the online course as well as their first-year engineering classes. Nine students completed the online pre-arrival course, and five of them participated in the
follow-up interview and survey. A control group of students who did not take the online course was deployed to provide a data source for comparative analysis.

The analysis of the video recordings from Week 2 and Week 6 indicated that students’ oral proficiency in English had slightly increased. However, their willingness to communicate (WTC) survey scores, compared to those of non-course takers, did not show a significant difference. When it comes to the students’ verbal participation in their first-year engineering classrooms, students who took the ACR course used strategies covered the course to communicate. The qualitative data illustrated students’ experiences with the online pre-arrival course. Using a video-based platform, students were able to connect with one another via a highly-perceived social presence. The students’ perceptions of the course format were mixed. Some students were more comfortable with the video recording, while others were nervous about being in front of the camera. Participants who reported being comfortable with the video recording scored higher on the WTC survey that was based on the face-to-face classroom, compared to the rest of the course taker group. For those participants who reported being nervous about the video recording, the effects of the ACR course were not unclear.

Although not all the data indicated that this innovative undertaking was a completely successful, this study provided merits in its relevant theories and applications, including promoters of willingness to communicate and the refinement of video-based online courses. Based on the analysis, related implications and recommendations for future study were also included.
CHAPTER 1. INTRODUCTION

The enrollment of international students in the United States has shown a steady growth in the past decade. According to the annual census data released by the Institute of International Education (IIE, 2016), the number of international students enrolled in U.S. higher education increased by 7.1% in 2016. This increase also marked the first time the enrollment number has surpassed one million. Compared to the statistics reported a decade ago, there are 85% more international students enrolled in U.S. colleges and universities. Broken down by the field of study, nearly half of the population (46.1%) pursue the STEM disciplines: science, technology, engineering, and mathematics. As a renowned academic institution of engineering, Purdue University has seen a continued growth in its international student population and the impacts of this increased diversity in classrooms throughout across campus.

Previous studies have documented that international students encountered varying levels of difficulty with numerous aspects of their daily lives, including finding housing, communicating in a second language, and adjusting to different teaching styles and classroom cultures (Andrade, 2011; Leong, 2015). Therefore, support from the host institution such as orientations and events promoting cultural exchange has been provided to help international students with the transition. However, postsecondary institutions in the United States that have increasingly relied on international students to maintain their financial well-being face a greater worldwide competition to attract international students (Asteris, 2006; Hegarty, 2014; Kim, 2012). The presence and importance of international students have been acknowledged in terms of their economic and intellectual contributions (Hegarty, 2014). Based on a report from the U.S. Department of Commerce
(2017), the financial contribution of international students to the U.S. economy was more than $35.7 billion in 2015. Apart from being a vital source of revenue for their host institutions, communities, and countries, international students bring diversity that changes the dynamics of the environment in which they live and learn. Diversity of thoughts and perspectives, in particular, can be a driving force of U.S innovation (Hegarty, 2014). According to the statistical model tested by Chellaraj, Maskus, and Aaditya (2008), the documented increase in international graduate students has a positive association with the number of U.S. patent applications. However, international students need to overcome language, adaptation, and culture barriers (Ma & Lin, 2013; Sherry, Thomas, & Chui, 2010; Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2013) before making such a contribution. Many institutions encounter the challenges of recruiting and retaining international students as well as providing them with the support necessary to succeed.

1.1 Research Background

According to data released by the U.S. Immigration and Customs Enforcement (2015), Purdue University ranked second of the top five student-visa-approved schools. Broken down by the college, the number of international students enrolled in engineering accounted for more than one third of the entire international student population at Purdue in 2015. Recognizing the need to serve its vast body of international students, the College of Engineering has been seeking ways to assist them to cope with the various challenges related to learning and living in a new environment. For instance, a study by Jimenez-Useche, Ohland, and Hoffmann (2015) from the School of Engineering Education investigated how the presence of international students affected team dynamics in the
first-year engineering classroom. The findings indicated that the dynamics of multicultural teams greatly differ from that of homogeneous teams. The effects of cultural awareness and language proficiency on team dynamics were evident in the study. This result prompted the School of Engineering Education to develop strategies to enhance the professional skills of international students regarding teamwork, group discussion, and class presentation by developing their cross-cultural awareness and communication skills.

The first year of college is a critical period during which students face adjustment issues, and it often influences students’ future success in higher education (Johnson 2012; Rentz, 1988). When international students arrive at campus, they often face additional adjustment issues compared to their domestic classmates (Yan & Sendall, 2016). It is a common practice for institutions to offer a comprehensive orientation program for international students, ranging from one day to a week in length. However, such a program is not always adequate and sufficient to address these students’ numerous needs. Andrade (2011) concluded that orientation programs seldom addressed English language support or understanding of academic expectations. Furthermore, students rarely had the opportunity to engage in actual coursework that prepared them for "a successful linguistic, academic, and cultural transition” (p. 2).

Online learning, widely known for its convenience and flexibility (Palloff & Pratt, 2009), is another significantly growing trend in the field of education. While international students face tremendous challenges upon arriving at campuses, online courses can provide resources for international students prior to their arrival (Murphy, Hawkes, & Law, 2002). One of the online course pioneers, a company called Excellence in English
Education (English 3), offers a video-based platform to deliver an orientation program. The company has developed pre-departure courses for international student populations at several universities. The platform allows each school to tailor the content to the needs of its programs and students. The goal of the online pre-arrival course is to increase international students’ classroom readiness via participation in an online learning community. Intrigued by the idea of using an asynchronous video learning model to expand its international student orientation, Purdue’s College of Engineering invited 33 new students to take an online pre-arrival program titled American Classroom Readiness (ACR) course in summer 2016. The researcher of the present study was initially tasked to collaborate with the committee from the College of Engineering to develop the ACR course content. The researcher decided to take on this project as a research opportunity to apply her knowledge of online language learning and skills in online learning development. An evaluation was conducted to determine how the online course influenced students’ willingness to communicate (WTC) in their first-year engineering classrooms with a focus on its innovative video-based platform.

1.2 Statement of the Problem

The majority of international students in the U.S. are coming from Asia, and China has been the top country of origin for several consecutive years (IIE, 2016). As the number of Asian students on U.S. college campuses has significantly increased, their noticeable reticence has drawn research attention (Cheng, 2000; Xia, 2009). While previous studies have found linguistic, cultural, affective, and situational factors for East Asian students’ tendency of passive verbal participation in American classrooms (Charlesworth, 2008; Cheng, 2000; Jones, 1999; Liu, 2001), there are limited programs
for Asian students beyond ESL courses to address the issue that is a combination of various factors. After all, international students need to overcome language and culture barriers (Ma & Lin, 2013; Sherry, Thomas, & Chui, 2010; Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2013) in order to succeed during their first year of studying abroad. In the engineering classrooms of Purdue, where active verbal participation is an expected contribution to problem-solving, Asian students might need more preparation. Overall, the exchange of ideas relies heavily on effective communication which requires a good command of the language being used and the willingness to speak. From the language acquisition perspective, a willingness to communicate in the target language offers opportunities for one to learn and progress. Therefore, the current study aimed to explore ways to cultivate Asian students’ willingness to communicate through an online video-based pre-arrival course, and evaluated whether the course design achieved these goals.

1.3 Purpose of the Study

The purpose of this study was to first document the efforts to design and implement a pre-arrival online course to enhance Asian students’ readiness for American classrooms with an emphasis on increasing their willingness to communicate. After students completed the online course, the researcher evaluated the effectiveness of the program by measuring participants’ oral proficiencies, surveying students using a willingness to communicate scale, and interviewing them about their first-semester classroom experiences. The evaluation results were expected to provide insights on the course design and implementation of similar orientation programs, which was the second
major purpose of this study. Specifically, the study addressed the following research questions:

1. How does completing an online pre-arrival course influence Asian students’ oral proficiencies, WTC, and verbal participation in their first-year-engineering classroom?

Hypothesis 1: There are differences in the scores of the recordings between the Week 2 and Week 6, in terms of speaking performance and major linguistic features.

Hypothesis 2: Students who took the online pre-arrival course have a higher degree of willingness to communicate compared to students who did not take the course.

2. What are the course takers’ experiences in the online American Classroom Readiness (ACR) course?

2.1. How do course takers perceive the use of the video-based platform as a way to engage in authentic communication in English?

2.2. In what ways does the video-based communication increase or decrease learners’ perceived language competence and speaking anxiety?

2.3. Are the effects carried over when students enroll in the face-to-face classroom?

2.4. Under what conditions do students choose to not complete the ACR course?
1.4 Significance of the Study

This study sought to provide both theoretical and practical applications in the relevant fields involving the instructional design of innovative technology to assist language learning and acculturation. In its 2012 report, The American Council on Education pointed out that, “While efforts to recruit international students are on the rise, the data do not show a commensurate increase in support services for these students” (p. 24). From a pragmatic perspective, the American Classroom Readiness (ACR) course was the first of a few attempts made by other institutions to extend the support provided to international students before their campus arrival. The design process and effectiveness evaluation used in this study could be a valuable lesson for schools with a large number of international students seeking to develop similar programs. From a theoretical perspective, Willingness to Communicate theory has not been widely examined in English as a Second/Foreign Language (ESL/EFL) applications. Moreover, a gap in the literature regarding Asian students’ verbal participation has been identified in the previous study. Kim (2013) pointed out that “there seems to be limited research on how these students transition into the classrooms and how they verbally interact in class discussion” (p. 82). Therefore, the results of this study will contribute to the literature related to the willingness to communicate of international students in the U.S. classroom by measuring their willingness to communicate and allowing them to describe their participation in classroom discussions.

1.5 Research Design Overview

This study utilized a mixed methods research design of both quantitative and qualitative methods to address the multifaceted phenomena regarding international
students’ willingness to communicate and their verbal participation in their first-year engineering classroom. A mixed method convergent parallel design was employed, including the collection and analysis of both quantitative and qualitative data. The results from both categories were compared to see if “the findings confirm or disconfirm each other” (Creswell, 2014, p. 219). The value of this approach is that each data type provides different types of information, and the triangulation of the data strengthens the validity of the study (Creswell, 2014). In this study, the quantitative data—scores on the willingness to communicate survey and speaking performance—measured the effectiveness of the online course, while the qualitative interview data captured students’ experiences with the online course and their first-year engineering classes. A control group, students who did not take the online course, was employed to provide a data source for comparative analysis. Both the control and treatment groups completed the Willingness to Communicate Survey (see Appendix A) and participated in semi-structured, one-on-one interviews conducted by the researcher. An interview protocol (see Appendix B) was developed and utilized to enhance the validity of the study.

1.6 Dissertation Overview

This dissertation includes six chapters, a reference list, and appendices. Chapter 1 introduces the research background, rationale, and questions with hypotheses, accompanied by an outline of the research design and significance of the study. Chapter 2 summarizes an in-depth review of the relevant literature on Willingness to Communicate (WTC), Asynchronous Video Learning Model (AVLM), Asian students’ verbal participation in U.S. classroom, and international student orientation programs. Chapter 3 describes the course design process and presents the design principles derived from the
willingness to communicate theory and the asynchronous video learning model. The development process and course features are highlighted as well. Chapter 4 describes the research methods in detail, including the research design, participants, instruments, data collection, and data analysis. In Chapter 5, both quantitative and qualitative data analyses are presented to provide validated answers to the research questions. Chapter 6 discusses the results, limitations, and implication of this study. Suggestions for future studies and reflections on the research process are also presented at the conclusion of the final chapter.
CHAPTER 2. REVIEW OF LITERATURE

To the researcher’s knowledge, the present study is the first to employ an innovative way to cultivate the willingness to communicate (WTC) in English and connect WTC theory to video-based online learning. Therefore, the literature review examined studies related to the use of video-based communication in online learning environments and the conceptualization and applications of WTC. Since the online pre-arrival course was considered as part of an extended orientation program, the current study also reviewed how international student orientations are facilitated in U.S. colleges and universities to determine if the course design of the current project addressed the issues identified by the previous studies.

2.1 Willingness to Communicate

Proposed by Burgoon (1976), Willingness to Communicate is a construct indicating an individual’s tendency to avoid or participate in oral communication. In its original framework involving native speakers of English (L1 context), personality traits such as introversion, self-esteem, and communication apprehension played major roles. As more researchers devoted time and effort to expand the conceptual framework, situational factors (e.g. social setting) were brought into consideration. MacIntyre, Clément, Dörnyei, & Noels (1998) shifted the focus of WTC into a second language (L2) context. According to their definition, L2 WTC is "a readiness to enter into a discourse at a particular time with a specific person, using a L2" (p. 547). They developed a pyramid model in which variables affecting WTC compose the layers (see Figure 1). When its application was extended to an L2 context, the WTC dynamics become much more
complex. Overall, MacIntyre et al. (1998) pointed out that willingness to communicate is a result of students’ "prior language learning that has led to development of self-confidence, which is based on a lack of anxiety combined with a sufficient level of communicative competence, arising from a series of reasonably pleasant L2 experiences" (p. 548).

2.1.1 The Roots of WTC


2.1.1.2 Vygotsky’s Sociocultural Theory of Human Learning

With its profound influence in education, Vygotsky’s sociocultural perspective underlines the importance of social interactions in the cognitive development during learners’ sense-making processes in responding to their sociocultural environments. Since learning is viewed as a social activity, language becomes a tool for meaning-making during a collaborative activity (Mitchell, Myles, & Marsden, 2013). Focusing on the cognitive aspect of learners during an interaction, Vygotsky identified the Zone of Proximal Development (ZPD), which represents an area in which learners’ knowledge and skills can progress with the help from a more capable adult or peer. Simply put, learning is unlikely to occur if knowledge presented is outside of a learner’s ZPD. Therefore, it is necessary to facilitate learning processes by bridging the gaps within and between various ZPDs, which constitutes the concept of scaffolding. Task-oriented and
team-based projects are often utilized as an example of applying the Sociocultural Theory in the classroom environment.

2.1.1.3 Long’s Interaction Hypothesis

Similar to the concepts in the Sociocultural Theory, Long’s (1996) Interaction Hypothesis proposes that language acquisition occurs more naturally when learners actively negotiate meaning in a conversation with native speakers or higher-level non-native speakers of the target language. Moreover, he emphasizes the significance of communication breakdowns, which interlocutors must overcome by employing additional strategies, such as slowing down their speeches, paraphrasing with simple words, and using body language. Interactions that occur in an authentic environment enhance language acquisition. Therefore, providing opportunities for authentic interactions within language classrooms is an ideal approach based on the Interaction Hypothesis.

2.1.1.4 Krashen’s Comprehension Hypothesis

At the core of the Comprehension Hypothesis is the idea that “language acquisition only happens when we understand messages.” (Krashen, 2004, p2). Language proficiency advances when students exert their cognitive ability to comprehend messages that are slightly above their current proficiency level with the aid of contextual clues. For instance, putting a new word into a sentence or context familiar to students could increase their probability of understanding the message. Krashen emphasizes that the Comprehension Hypothesis is based on subconscious acquisition, not conscious learning. In other words, learning and practicing grammar rules alone do not yield language acquisition. Grammar teaching can be viewed as a supporting character, while the language learners progress by making efforts to understand partially-comprehensible
input. The instructional approach influenced by this hypothesis aims to produce autonomous language acquirers who deploy strategies to make such inputs more comprehensible.

2.1.1.5 Swain’s Comprehensible Output Hypothesis

Swain's (1985) Comprehensible Output Hypothesis highlights the metacognitive effort language learners make when producing a language output. During a conversation, learners might notice that certain output was not understood by the interlocutors, so they modify the output. After they overcome the communication barrier, they reflect upon the modifications they made to increase their knowledge about the language. This hypothesis emphasizes that learners’ constant practice, either of speaking or writing, leads to more accurate language production.

The aforementioned theories and hypotheses require learners to play an active role in the communication process; accordingly, these frameworks contribute to the foundation for the Willingness to Communicate theory.

2.1.2 The Pyramid Model of WTC

The Pyramid Model of WTC, developed by MacIntyre et al. (1998), is depicted in Figure 1.1. The structure of the pyramid symbolizes how the top layers are built upon the layers underneath. The summit of the pyramid represents the communication behavior using the target language (layer I). When examining the pyramid layer by layer, the antecedents of communication behavior are characterized into five categories based on their hypothesized interrelations.
Located in Layer II, Willingness to Communicate indicates the behavioral intention an individual possesses to engage in the communication. For instance, a common scene in class is when students attempt to answer questions by raising hands but are not selected by the instructor. Although students do not have the opportunity to speak, such a behavior indicates their willingness to communicate. In other words, they decide to speak. Layer III is occupied by two situated antecedents: "Desire to Communicate with a Specific Person" and "State Communicative Self-Confidence". As shown in the model, Desire to Communicate with a Specific Person is influenced by Interpersonal Motivation and Intergroup Motivation in the layer below (Layer IV), while State Communicative Self-Confidence is built upon Intergroup Motivation and Self-Confidence. Layer IV is thus dedicated to the Motivational Propensities with three aforementioned variables.
Layer V, the next pyramid layer, refers to an Affective-Cognitive Context. Intergroup Attitudes, Social Situation, and Communicative Competence are the building blocks of this layer. The foundational layer is Social and Individual Context, which consists of Intergroup Climate and Personality. Although variables from the six layers are numbered from 1 to 12, there is no implication that L2 communication is engendered by any given order of these variables. MacIntyre et al. (1998) pointed out that the effect of the variables in the top three layers are transitory, while bottom three layers’ variables are more enduring. The presentation of the pyramid model demonstrates the complications when the factors intertwine to influence actual communication behaviors. However, it was not the goal of the present study to determine which factor weighed in more during the process. Instead, the course design in this study aimed to establish design principles based on the known fact that enhancing these variables altogether will cultivate the Willingness to Communicate in L2. In the following chapter, each variable below level II is examined, followed by its applications to the course design.

2.2 Asynchronous Video Learning Model (AVLM)

Asynchronous Video Learning Model (AVLM) is an emerging online course structure within which instructors and learners communicate mostly through pre-recorded video clips. Replacing the text-based discussion forum, AVLM typically utilizes a platform that allows users to record a video by clicking a button in the forum. When learners click to reply to a message, the cameras in learners’ devices are activated for another recording. The video messages are displayed in threads similar to a text-based discussion board. However, the present study did not limit its reviews to the courses set up with an ideal AVLM platform as described above, because such a feature has not yet
been widely adopted. Instead, the review focused on communication via exchanging video clips in online courses. Several disciplines have integrated video-based communication into their online course in higher education, including teacher preparation (Borup, West, & Gramham, 2012; Clark, Strudler, & Grove, 2015), foreign language (Hirotani & Lyddon, 2013; Huang & Hung, 2013), and counselling (Mickleborough, 2009). These studies confirm the benefits of using the Computer-Mediated Communication (CMC) tools, including video recording, in the online learning environment.

2.2.1 Impacts of CMC Tools on Three Type of Presences in Community of Inquiry

Derived from Dewey’s (1959) constructivist approach, Garrison, Anderson, and Archer (2000) identified three properties of an asynchronous learning network: social presence, cognitive presence, and teaching presence. Based on the Community of Inquiry (CoI) framework, these three elements intertwine to constitute the educational experience for participants in an online learning environment. Social presence refers to “the ability of participants in the community of inquiry to project their personal characteristics into the community, thereby presenting themselves to others as ‘real people’” (p. 89). Cognitive presence is the degree to which participants construct meaning through collaboration and reflection in a community of inquiry (Garrison, 2007). Garrison et al. (2000) considered cognitive presence to be “most basic to success in higher education” (p. 89) because it is a crucial component of critical thinking, which is an essential skill in the 21st century. Teaching presence can be achieved through two methods. First, the design of the educational experience which pertains to the selection, organization, and presentation of instructional content, learning activities, and assessment. Second, the responsibility of
facilitating learning that is shared among instructors and participants. Teaching presence can also serve as the backdrop of promoting social and cognitive presence. Due to its relevance to an online learning environment in the higher education context, this review section used CoI as the framework, with concerns from the technical and pedagogical perspectives, to compare online courses across various CMC formats: text-based, audio-based, video-based, and synchronous video conference. Studies on online courses using AVLM have reported numerous advantages, including increased teaching and social presence in general. More specifically, authentic communication is stimulated by AVLM in the disciplines that value interpersonal skills.

2.2.1.1 Increased Teaching and Social Presence

Borup et al. (2012) interviewed pre-service teachers after they completed a video-based online course and concluded that social presence was greatly enhanced based on participants’ responses. Comments such as “Feeling it was almost like the instructor is interacting with you, almost just like you would in the classroom” (p. 199) and “This is a person. They have feelings. They have a life outside of school” (p. 200) indicated that connectedness was perceived within the community through the use of videos. Similar results have been documented in other courses that utilized video-based communication. In their comparative study, Clark et al. (2015) arranged student groups to engage in video-based (asynchronous and synchronous) and text-based discussion alternatively and had them rate the survey items related to social and teaching presence. The results showed that students perceived higher teaching and social presence when video was the discussion tool compared to text. Griffiths and Graham (2010) elaborated in their study on how students and instructors benefited from AVLM as a result of enhanced teaching
and social presence. Data collected from 3 different sessions of an online technology integration course for pre-service teachers consisted of the student course evaluations and the instructors’ journals and notes. They concluded that asynchronous video communication established instructor immediacy and produced closeness between the instructors and students. According to Rovai (2000), instructor immediacy can be perceived by students through verbal and non-verbal communications including personalized feedback, humorous comments, smiles, head nods, and eye contact. Closeness, based on Cutler’s (1995) description, can be achieved through a mutual process in which instructors and students “build trust, seek support, and find satisfaction the more they know about each other” (p.17). Griffiths et al. (2010) pointed out that the presence of instructor immediacy and closeness were critical factors to help online learners stay motivated via personalized feedback, clearer task instructions, and reduced a feeling of isolation. Therefore, video-based communication might be the solution for the limitations of online courses cited by previous studies, such as the lack of social interaction (Muilenburg & Berge, 2005; Rovai, 2003), the lack of engaging activities, prompt feedback, and tailoring to individual student’s needs (Larreamendy-Joems & Leinhart, 2006).

After comparing students’ experience with both text-based and audio-based discussion boards, Hew and Cheung (2012) listed six affordances of audio-based discussion. Usefulness for auditory learners, improvement of oral skills, and spontaneity that ensures originality of ideas were among the six affordances. However, most participants in their study still preferred text-based over the audio-based discussion when given a choice. Student accounts pinpointed that the traditional text-based methods still
held a competitive edge in terms of cognitive presence. Students perceived that “the typed words facilitate better learning and understanding” (Hew & Cheung, 2012, p. 8). Moreover, they also felt text-based discussion provided them “more time to structure and organize their responses” (p.8). Some students also reported that it was more difficult to extract a relevant part to respond to from voicemails while it was easier to cite a segment of the typed message. In conclusion, the two major benefits identified by previous studies of text-based asynchronous communication were directly related to cognitive presence, which led to deeper thought processes and the facilitation of collaborative learning (McIntosh, Braul, and Chao, 2003).

While text-based asynchronous discussion has been widely used in online education, McIntosh et al. (2003) pointed out that courses that required oral communication competency might not benefit from information exchange that only use written words. After surveying language learners’ use of online social networks for foreign-language learning, Stevenson and Liu (2010) reported that nearly half of the participants considered the discussion board activity on their course sites as unhelpful in meeting their language learning goals. While one of the concerns regarding distance language courses was the insufficient opportunity to practice speaking, other courses which focused on teaching interpersonal skills (e.g., counseling) also faced a similar challenge (Cicco, 2011). The communicative nature of both disciplines required students to not only speak but also to identify tonal and visual clues during the process. Therefore, voice- and video-based communication, both synchronous or asynchronous, have been utilized in these online courses.
2.2.1.2 Stimulating Authentic Oral Communication

In addition to increased social and teaching presence, using videos can also increase the authenticity of the tasks for domains that require greater context exposure and interaction among learners. Language exchange is a common practice in foreign language classrooms, and it can be done through various CMC formats. Studies have documented the benefit of having students exchange language via video. Hirotani and Lyddon (2013) reported that students in a Japanese course showed improvement in terms of the syntactic complicity of their earlier and later self-introduction videos. The intervention between the two recordings was to have students watch three self-introduction videos made by native Japanese speakers of their age, while filling out a worksheet on the use of language in the videos. The comparison between pre- and post-intervention indicated that students elaborated their responses in the second recording, and it was evident that students moved from a sentence-level to an emergent paragraph-level discourse. Utilizing a closed group of Facebook, Huang and Hung (2013) asked students in their English class to post video presentations of designated topics to the group page and then provide written comments to other students. Although students did not reply using videos, their responses to the video-based discussion forum were similar to the findings of other studies. Students reported that this video format practice helped them to improve their English skills, public speaking skills, and peer bonding. However, it is noteworthy that students also reported frustration and anxiety when repetitive attempts were made to produce the video recording. In a distance learning course on the interviewing skills of pharmacists that included international learners, Mickleborough (2009) described how videos were used to achieve the training goals. Students were
required to watch video clips demonstrating the interview process and then complete comprehension checklists. Next, students worked in groups and participated in role-play activities via web conference. After watching the recorded web conference, instructors provided feedback to the students.

Among the CMC formats discussed, synchronous online courses via video conference appeared to best resemble the face-to-face classroom environment. Baker (2010) reported that students perceived higher instructor immediacy in synchronous online courses than students did in the asynchronous course format. As technology has increasingly alleviated bandwidth and cost concerns, adding real-time sessions to increase student engagement has become an ideal option (Olson & McCracken, 2015). By comparing student learning outcomes, satisfaction, and perceived connectedness in the learning community, Olson et al. did not discover significant differences between an asynchronous course and the same course with added synchronous sessions. In another study that aimed to maximize the advantages of combined CMC modes, Giesber, Rienties, Tempelaar, and Gijselaers (2013) examined whether participation in synchronous sessions affected students’ contributions to asynchronous group discussions. The results indicated that learners who participated in synchronous sessions posted more task-related messages, regardless of their motivational profiles (intrinsic or external). However, requiring everyone to meet at the same time removed the flexibility, a broadly-perceived affordance of online courses. Furthermore, despite advancements in internet infrastructure, synchronous meetings often encountered issues involving individual users, such as lack of familiarity with a video conference platform or incompatibility between devices. Melkun (2012) pointed out that there was an element of unpredictability when
incorporating synchronous sessions. In addition to potential hardware and end-user issues, there were some other disadvantages of synchronous online courses. Based on participants’ responses, Fallon (2011) concluded that a synchronous environment did not provide sufficient time for learners to reflect deeply on the content, or prepare a response to the comments made by their peers.

The literature painted a picture of how the flexibility of online courses caused disconnection among learners and instructors, while the immediacy provided by advanced technology compromised the flexibility and time allowed for deep reflection. As Henrie, Halverson, and Graham (2015) pointed out, one of the critical tasks for researchers today is to "determine how to best use people and technology to engage learners in meaningful and effective learning experiences" (p. 37). Efforts have been made to combine the strengths of asynchronous and synchronous communication modes to amplify the optimal outcomes for student learning. Based on this review of the relevant literature, the current study proposed that AVLM had the potential to strike a balance among the three types of CoI presences to enhance the online learning experience.

2.3 Asian Students’ Verbal Participation in U.S. Classrooms

In an American classroom where Asian students are present, the following scene may occur. They sit near and talk among co-nationals, diligently take notes while attentively listening to the instructors, look down to avoid direct eye contact, and speak softly when called on. Although not all Asian students behave as such, in general they appear to be a group of quiet learners compared to their outspoken American classmates. Research on Asian students’ oral participation in Western classrooms offers insights into the discrepancies in the communicative behaviors of Asian and domestic students.
General factors include a lack of language competency (Olaniran, 1993; Cheng, 2000; Kim, 2006), cultural differences (Kumaravadivelu, 2003; Jackson, 2002; Jones, 1999; Lee, 2007; Morita, 2000; 2004; Tapper, 1996; Tsui, 1996), or the combination of both (Lee, 2007; Liu, 2001; Xia, 2009). Some of the studies mentioned above are explored in the following section because of their immediate relevance to the current study.

Using a survey approach, Lee (2007) analyzed the linguistic and cultural factors at work in the oral participation of East Asian students in American college classrooms. The linguistic factors included perceived language competence, speaking anxiety, and fear of negative evaluation, while the cultural factors included horizontal versus vertical, and individualism versus collectivism. The horizontal dimension represents an equal relationship while the vertical dimension signifies a hierarchy structure within a culture. Individualism and collectivism refer to the degree to which individuals prioritize themselves in relation to others in their group. In addition to answering survey questions pertaining to the above measures, participants also rated their level of oral course participation in different types of communication scenarios. The statistical analysis did not provide evidence of the impact of cultural factors on East Asian students’ oral participation; thus, Lee concluded that the linguistic factors were more influential. However, when being examined carefully, the fear of negative evaluation bears a cultural connotation despite its categorization as a linguistic factor in Lee’s study. In an earlier study (Liu, 2001), similar factors were examined using a qualitative method, and the results depicted a different story.

In his pursuit to answer the questions about Asian students’ classroom communication patterns, Liu (2001) interviewed 20 Asian students and observed their
oral participation in their content courses. Despite the complexity of this multifaceted phenomenon, Liu categorized the factors affecting students’ oral participation into 5 categories: Cognitive, Pedagogical, Affective, Sociocultural, and Linguistic. Cognitive factors considered how students process information and knowledge using cognitive learning styles, and how these strategies might change their participation (e.g., advance preparation for class). Pedagogical factors were related to course facilitation and instructional environments (e.g., class size). The Affective category included factors concerning the role of personality traits and attitudinal aspects of students in their communicative behaviors (e.g., motivation). Factors within the Sociocultural category referred to participants’ cultural background and educational experiences in their home countries that shaped their beliefs and perceptions towards classroom participation (e.g., use of silence). The factors within the Linguistic category considered how the levels of students’ linguistic abilities and communicative competence were associated with their participation (e.g., listening and speaking skills). Each category was further divided into promoting, demoting, or neutral factors of students’ oral classroom participation. After coding the interviews according to the categorical scheme, Liu provided a clear picture that accounted for students’ active or inactive oral participation. He concluded that the affective factors were among the leading factors promoting Asian students’ oral classroom participation, while socio-cultural factors accounted for most of the demoting factors. Interestingly, linguistics factors did not appear to be salient in either promoting or demoting categories. The results of his inquiry highlighted the socio-cultural aspects that held Asian students back in their oral communications, which prompt a closer look at those factors to recognize their underlying influences.
2.3.1 The Influences of Confucianism in Classroom Participation

Shared by several countries in East Asia, Confucianism is deeply rooted in Asians’ ethical and philosophical systems. At the core of Confucianism lies the concept of “benevolence” or “humaneness,” which should be practiced in daily life by demonstrating characteristics such as gentleness, kindness, courtesy, thriftiness, and consideration. Influenced by these moral codes, people in Asian countries live in a collectivist society in which harmony is highly valued to maintain a positively interdependent and respectfully hierarchical relationship among its members. To sustain a high-functioning society, the values of conformity, modesty, self-suppression, and self-contentment are instilled throughout schooling (Abbott, 1970; Ting-Toomey, 1999; Vernon, 1982). International students from Asia, therefore, carry these fundamental beliefs into their American classrooms. Silence, the most noticeable feature of Asian students, stems from cultural norms (Liu, 2001), including respect for authoritative figures (listening to teachers without questioning; Wong-Scollon & Scollon, 1990; Yee, 1995), consideration of others (letting others talk first; not wasting others’ time to ask questions during class), demonstration of modesty (not presenting ideas because they might not be good), value of harmony (withholding opposite opinions to avoid hard feelings or conflicts), and the concept of face-saving (avoid any chance of embarrassment by not talking; Wen & Clément, 2003). However, these classroom participation patterns of Asian students might be perceived negatively by classmates and instructors who are unaware of the cultural differences (Huntley, 1993; Wang, Scollon, 1985; Sun, & Liu, 2010).
2.3.2 Negative Perception of Inactive Oral Participation

In the American classroom, Asian students tend to be mistaken as “passive listeners” or “inactive learners” (Cheng, 2000; Chu, 2013; Flowerdew, 1998; Liu, 2002; Valiente, 2008; Wilkinson & Olliver-Gray, 2006), because they seldom respond to or ask questions (Beaver & Tuck, 1998; Scollon & Wong-Scollon, 1994; Wan, 2001; Zhou, Knoke, & Skamoto, 2005). Under the influence of a Socratic pedagogy, Western educators value dialogue among individuals as a way of learning. Questions asked by students can be viewed as positive signs of knowledge exploration (Morgenstern, 1992), effective learning (Biggs & Moore, 1993), and critical thinking (Kim, 2002; Liu, 2002; Valiente, 2008). Therefore, the reticence of Asian students might adversely be associated with not having opinions, not thinking, and overly relying on instructors and textbooks. (Ballard & Clanchy, 1991; Cortazzi & Jin, 1996; Flowerdew, 1998; Tsui, 1996; Wilkinson & Olliver-Gray, 2006). However, Asian students’ accounts of their oral participation in classrooms provided evidence that their silence does not always indicate disengagement. “Active in mind” is a cognitive element that cannot be observed by their teachers when Asian students go through an internal reflection to digest the information (Cortazzi & Jin, 1996). Chu and Walters (2013) also pointed out that the negative perception of Asian students is a result of “not demonstrating their active behaviors in the American way” (p. 21).

Findings from previous research indicated that in an American classroom where active verbal participation is expected for group projects, Asian students need to adjust their communicative behaviors and learning patterns. Therefore, a pre-arrival orientation
program that informs them about the different classroom norms can be beneficial in preparing them for active participation.

2.4 Orientation Programs for International Students

While the adjustment needs of domestic students during their first years of college have been widely recognized by American institutions (Barefoot, 2000; Logan, Salisbury-Glennon, & Spence, 2000; Terenzini, Pascarella, & Blimling, 1996), international students who tend to have additional, unique adjustment issues (Hechanova-Alampay, Beehr, Christiansen, & Van Horn, 2002; Rajapaksa & Dundes, 2003) have received less attention in terms of first-year programming (Andrade, 2006). Meyer (2001) proposed a comprehensive framework for developing and facilitating orientation programs. Within the framework, seven unique needs for international student were identified: coping with cross-cultural adjustment, acclimating to the American education system, enhancing one’s English skills, building interpersonal relationships and social support networks, maintaining physical and psychological health, managing finances, and understanding immigration regulations. Despite the fact that the additional adjustment needs of international students are derived from linguistic, social, and cultural differences, limited studies have examined how they are addressed during orientation programs in the U.S., especially by institutions with large international student populations. This section reviews studies that documented international student orientation programs, including pre-departure courses offered to them.
2.4.1 Issues and Concerns

One of a few studies related to international student orientations was conducted by Tas (2013), in which the orientation program in one university was examined. The study reported that international students were not satisfied with the orientation program because they felt they “had not been given enough information during the orientation” (p.31). On the other hand, school administrators also needed to avoid the possibility that “too much information that was provided in a short time will leave students confused” (Andrade, 2006, p.90). In order to alleviate such a concern, Andrade (2006, 2008, 2011) documented continuous efforts from her and her schools on deploying programs such as “first-year seminars for international students” and “pre-arrival on-site orientations.” She concluded that these first-year seminars eased the transition to an American classroom (2006) for international students, and those impacts even lasted beyond their first year of college (2008). Another outreach program developed by Andrade (2011) took place in Tahiti, where an ESL course was offered by her university prior to applicants’ admission. The effectiveness of the outreach program was established in terms of improved English proficiency and familiarity with American classroom expectations. However, dwindling attendance throughout this onsite course informed the researcher that some students prioritized commitments to work or family when scheduling conflicts occurred. Therefore, online learning opportunities were added to provide outreach program flexibility. Such an addition indicated that online learning has the potential to reach international students beyond possible time and space constraints.
2.4.2 The Potential of Online Pre-Arrival Courses

The increased number of international students has brought a greater diversity of cultures and languages to U.S. campuses. Murphy, Hawkes, and Law (2002) argued that creating an orientation program that “responds effectively to this level of diversity is difficult” (p. 37), yet most higher education institutes do not fully utilize all the Web has to offer to address these issues. In particular, they proposed that online pre-arrival training can be a “proactive measure that increases the students’ awareness of the school and community culture they will be joining” (p. 39). They concluded that the benefits of a web-based pre-departure orientation are the relatively lower cost and versatility to respond to learners of varying cultural backgrounds and needs. Sending campus representatives to various countries to organize orientations might not be ideal for schools with limited financial resources. Also, a web-based system that hosts a wide array of information with additional links can “respond effectively, quickly, and directly to any culture” (p. 38).

The potential of an online pre-arrival course is outlined in this section. Asian students might be able to benefit from an intensive video-based pre-departure program designed based on WTC principles that provides them with both knowledge about American classroom culture and opportunities to practice English.

2.5 Summary of Literature Review

This chapter reviewed studies related to WTC, AVLM, Asian students’ verbal participation in U.S. classrooms, and orientation programs for international students. These elements are complex, interwoven, and warrant the need for the current study. Asian students’ inactive oral participation resulted from a low WTC, which was
examined through a set of linguistic, affective, and cultural factors. This was the problem identified by the literature. On the other hand, emerging computer-mediated communication involving the use of video recording was proven to have educational value in the online learning environment, including increased teaching and social presence and authentic oral communication. These benefits might help address the issues and concerns related to the low WTC and promote students’ classroom readiness, which was seldom a major topic of most international student orientation programs.
CHAPTER 3. COURSE DESIGN AND IMPLEMENTATION

In Spring 2016, the researcher was tasked to develop parts of the contents in the pre-arrival online course for international students in the First-Year-Engineering program at Purdue University. The design process was based on the ADDIE model, and a potential topic list was provided by the English 3 company. A committee from the College of Engineering and the Center of Instructional Excellence was formed to support the project facilitation. A needs assessment via interviews and an online survey were conducted to determine the topics to be covered. In this chapter, the elements associated with the ACR course design and implementation are discussed in detail.

3.1 The Pre-Arrival American Classroom Readiness (ACR) Course

Although a couple of institutions have provided an online orientation (see Valosik, 2014), at the time this course was designed none offered an extensive pre-arrival online course to increase international students' classroom readiness. During the analysis and design stages, a course design committee composed of professors and academic advisors repeatedly voiced their concern about international students being passive listeners in their classroom. As previous studies have largely ascribed East Asian students' reticence to culture and language proficiency (Xia, 2009), the major goal of this pre-arrival course was to hone students' speaking abilities by practicing English through video recordings with native English speakers. Moreover, the course provided students with cultural knowledge pertaining to American classrooms.

The online course ran for 6 weeks, and the platform allowed the users to conveniently record their video response (See Figure 3.1 for a screenshot of the
When learners click “Reply” button next to a message, the cameras in learners’ devices are activated for another recording. Some students used their laptop or tablets to complete the recording, while some others use their phones. Not only did the students interact with their online cohorts, but they also received feedback from tutors who were native English speakers. Most of the contents of this online course were aimed to increase their willingness to communicate in the fundamental course, Engineering 131 (ENGR 131), during their first semester. In ENGR 131, classroom discussion is an essential component for completing group projects.

The ACR course consisted of six modules: Culture, Classroom Discussion, Group Work, Job Search/Interviews, Presentation, and Final Review. Each module had several topics, and each topic started with introductory or instructional videos. For instance, one of the topics in the classroom discussion module was “developing on teacher’s comments.” The first video students would watch depicted how to appropriately add to the comments made by teachers. Next, students would answer a prompt related to the topic using the information from the instructional videos. In the example mentioned above, students were asked to respond to a scenario in which a professor made a statement about leadership. In most of the topics, students were asked to respond to two other students’ video recordings.

3.2 Engineering 131: A Flipped Classroom

The pre-arrival course was mainly designed to orient students to the unique course environment of ENGR 131. ENGR 131, Transforming Ideas to Innovation, is a course that has recently been redesigned into a flipped classroom. The class meets twice a week, and students complete online modules or assignments prior to the face-to-face classroom
meetings. An analysis of the syllabus and classroom observations helped the researcher understand the course in depth prior to designing the ACR course materials. The key points from the syllabus and field observation are highlighted in this section.

The ENGR 131 classroom was a large room with several long tables on ascending tiers from the front to the back. The course materials were projected on three screens at the front of the classroom. In this team-based course, students sit in designated groups throughout the semester. The instructors, teaching assistants, and peer teachers walk between the rows to provide help if needed. Since the majority of the instruction was delivered in the online modules, a large segment of the face-to-face time was devoted to group projects and homework discussions. Based on the researcher’s observation, the atmosphere can be described as relaxed and lively compared to a traditional lecture-based
class. There were ample opportunities for students to interact with one another, especially with their group members. The syllabus also reflects that ENGR 131 relied heavily on communication. Two of the course objectives in the syllabus stated that students will be able to “Communicate engineering concepts, ideas, and decisions effectively in diverse ways such as written, visual, and oral” and “Contribute effectively to team products and discussions.”

3.3 Design Principles Derived from WTC Pyramid Model

In the previous chapter, the WTC Pyramid was reviewed by layer. In this section the linguistic, cultural, and affective factors of Layers III-VI are examined, followed by their applications to the course design.

3.3.1 Personality

Layer VI, the bottom layer of the WTC Pyramid Model, is the Social and Individual Context, which consists of Personality and Intergroup Climate. Personality is defined by the Big Five traits, a taxonomy developed by Goldberg (1993) that features basic, independent personality traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experience. Each of the Big Five traits was confirmed to impact motivation for language learning and L2 WTC (MacIntyre & Charos, 1996). Agreeableness was one of the personality traits associated with Asians under a cultural norm that values harmony. Studies found that Asian students prefer to agree with others when responding to questions (Taras & Rowney, 2007; Gudykunst & Kim, 1984). Opting for silence was another characteristic that led to Japanese students being perceived as passive participants (Kim, Ates, Grigsby, Kraker, & Micek, 2016). Recognizing the target audience of this online course might possess such personality
traits, the module incorporated two instructional videos to address these issues. One instructional video covered how to express disagreement during class discussion, while the other talked about cultural differences related to communication style and turn taking.

### 3.3.2 Intergroup Climate

Intergroup Climate refers to the dynamics among multiple language groups that are involved in a broad social context (Guimond & Tougas, 1994). Various tensions and attractions may exist, and individuals may react to different situations based on their personalities. Therefore, it is difficult to predict how each individual may behave in response to different intergroup climate types. The important implication of intergroup climate in the course design is to have students engaged in a multicultural online community. At the initial course design committee meeting, some members proposed an all-Chinese online cohort, because Chinese students accounted for one-third of the College of Engineering student body. After discussion, the committee decided that having students interact with other students from different cultural groups would better prepare them for a diverse classroom.

### 3.3.3 Communicative Competence

Layer V of the Pyramid Model is the Affective-Cognitive Context, which consists of Communicative Competence, Social Situation, and Intergroup Attitudes. L2 proficiency is a factor associated with WTC, but the term does not cover the comprehensive knowledge and skills required for different communication contexts. Therefore, Hymes (1972) proposed "communicative competence" to convey the rather complex notion. Celce-Murcia, Dornyei, and Thurrell (1995) suggested that linguistic competence, discourse competence, actional competence, sociocultural competence, and
strategic competence compose all communicative language abilities. While the first three competencies seemed to be the abilities most often developed from previous English courses taken by learners, the latter two could be enhanced through the pre-arrival online course. Sociocultural competence refers to one's ability to first recognize the social and cultural context and then appropriately express messages. Topics such as expectations when working in teams and ways to avoid academic dishonesty were introduced in the module. Strategic competence refers to the ability to overcome communication breakdowns. In the pre-arrival course, instructors provided examples of how to ask clarification questions, how to express opinions without fear of making mistakes, and how to communicate via written texts or drawings.

3.3.4 Social Situation

Synthesizing the conclusions of previous studies, MacIntyre et al. (1998) pointed out five major factors of the social situation: the participants, setting, purpose, topic, and channel of communication. The design of the pre-arrival online course contributed to several of these factors and WTC promotion in the classroom. First, real classroom footage was shown in the instructional videos to demonstrate to learners that their first-year class would be primarily team-based, and group discussions would occur on a regular basis. Second, professors who appeared in the videos were those who would teach the first-year courses. Moreover, by exchanging online video clips during the 6-week course, students would have the opportunity to build the friendships with their online cohorts. That is to say, when students attended their first class of the semester, they would see several familiar faces. According to MacIntyre et al. (1998), the level of intimacy among participants influences WTC. Furthermore, the video-based platform
provided a communication channel with visual and tonal clues that helped L2 learners comprehend the messages in an efficient manner.

3.3.5 Intergroup Attitude

The three factors of intergroup attitude are integrativeness, fear of assimilation, and motivation to learn the L2. Gardner (1985) described integrativeness as having the desire to affiliate with members from the target culture without the desire to be identified as a member of the community. The approach the pre-arrival online course deployed was to encourage students to be proud of being part of the Purdue engineering program. One of the professors indicated that one of six engineering alumni was a start-up company owner. Therefore, he encouraged students to interact more with people who sit near them in class. This type of encouragement was also expected to motivate students to learn the L2 in order to exchange ideas with their team members.

3.3.6 L2 Self-Confidence

Layer IV is Motivational Propensities, consisting of L2 Self-Confidence, Intergroup Motivation, and Interpersonal Motivation. L2 Self-Confidence is defined by the L2 skill evaluated by learners and the language anxiety perceived during communication. The purposes of having students respond to the video prompts in videos was to increase their confidence through continuous practice. Throughout the course, they were estimated to produce 45-60 videos. It was expected that they might experience anxiety when recording videos, but this experience might also prepare them for later face-to-face communication. Therefore, the study explored how the use of video recording in the online language course played a role in the learner's language anxiety.
3.3.7 Interpersonal and Intergroup Motivation

These two variables are discussed together based on the purposes they were set to pursue: control and affiliation. Interpersonal motivation is derived from the social role the individual plays within a group, while intergroup motivation is derived from one's belonging to a particular group. For example, a teacher who delivers the verbal command that students complete an activity is a control-driven communication. On the other hand, affiliation-oriented communication can occur when an individual has a desire to establish a relationship with a particular person. These two motivation types, along with similar communication behaviors, can be found in the intergroup context. For example, one student may be motivated to learn English because they want to make more friends with English speakers. The design principle derived from these two motivations was to have students work on task-oriented communication through the online course. Information on how to lead a class discussion, how to socialize with others, and how to present information was supplied by the modules.

3.3.8 State Communicative Self-Confidence

Layer IV is Situated Antecedents, consisting of State of Communicative Self-Confidence and Desire to Communicate with a Specific Person. As previously discussed, L2 self-confidence is manifested through the individual's perception of their language skills and lack of language anxiety. However, at this layer, the situational factor is also taken into account. For example, some particular situation may trigger the learner's anxiety at a given moment. Some transient circumstance may also affect students' speaking confidence. MacIntyre et al. (1998) pointed out a "novel situation should be particularly detrimental to WTC because the speaker will be uncertain of his or her ability
to meet the communicative demands present at the moment" (p. 549). The major goal of this online course was to orient students to their first-year program. One of the module activities was directly taken from ENGR 131. The activity had students read through a story and present a solution after group discussion. The engineering program instructors mentioned this type of activity occurs often because they want to foster students’ critical thinking skills. However, the activity may be a challenge for students who are new to it. Therefore, having them practice through the online course may be beneficial.

3.3.9 Desire to Communicate with a Specific Person

Based on social psychology research, feeling connected to a given person often results from physical proximity, frequent encounters, physical attractiveness, or shared interests. The goal of this course was to create an online learning community in which students have the opportunity to get to know some of their classmates before arriving. When they arrive at their first class, they would have already talked to someone through the online course. This might encourage students to speak with or seek help from those people they already met.

By enhancing the various factors outlined in the WTC model, the pre-arrival online course aimed to promote students’ communicative skills in their first-year-engineering classroom. In order to foster authentic and meaningful interactions among the cohorts, the online course utilized a video-based platform based on an asynchronous video learning model, which is explained in detail in the following section.

3.4 Design Principles Derived from AVLM

Embracing the related impacts on the three CoI presence types, Griffiths (2010) articulated a set of AVLM principles and applications, which became this foundation for
the present study. Due to the different setting of this study’s online course, some of his principles and applications were adopted with modifications.

3.4.1 Mentoring Relationships and High Expectations

This principle relates to how instructors present themselves as a real person in the online learning environment and communicate their course objectives and expectations to the students. In addition, instructors get to know the students as individuals and then build a rapport, the foundation of mentoring and feedback exchange. These applications include both instructors and students introducing themselves, instructors responding to each student’s introduction, and instructors delivering weekly updates, including motivational and encouraging messages. In the ACR course designed by the present study, there were two types of instructors with different roles: faculty members from the College of Engineering and tutors from the course platform provider. The faculty members covered Purdue-centric information, such as engineering classroom culture, via pre-recorded videos, while the tutors moderated the ongoing online discussions and provided content and linguistics feedback. At the beginning of the course, a motivational video was delivered by the assistant dean of undergraduate education, during which she welcomed the students and provided the rationale of this online course: to help students succeed.

3.4.2 Visual-Oral Presentations

This principle is based on the active learning concept that students’ participation, including discussing what they are learning and connecting it to their personal experience, promotes learning. Therefore, actively engaging in visual and oral presentation via the video recordings is likely to prompt students to critically reflect on
the learning tasks. Moreover, adding a video presentation to a traditional written assignment adds variety to student activities. In the present study’s online course, students responded to prompts that often solicited their experiences or thoughts on the topics being covered. For example, on the topic of culture shock, students were asked to talk about their previous experiences. Another example is that after being introduced to the classroom culture at Purdue, students were asked to compare what they saw in the ENGR 131 classroom footage to classrooms in their own countries. Throughout the entire course, students produced approximately 60 videos.

3.4.3 Rapid, Individualized, and Learning-Centered Feedback

Feedback is an essential catalyst for improving performance, and students should be provided with frequent opportunities to receive feedback throughout their learning (Chickering & Gamson, 1987). This AVLM principle emphasizes that instructors attain a clear view of students’ current language level through video recordings and provide specific feedback in a timely manner to encourage improvement. Its applications included instructors watching each student video and offering an individual response to most students. The responses were delivered within 24 hours with learning-centered, substantive feedback. In the ACR course, the tutors responded to students’ submissions promptly, and rubrics were used to provide quality feedback on the major assignments.

3.4.4 Collaborative Learning with Expert Guidance/Input

The social interactions of exchanging ideas and reciprocal teaching can motivate learners and stimulate learning (Goodsell, Maher, & Tinto, 1992). A collaborative learning environment creates opportunities for students to interact with one another, solve problems together, and challenge one another to deepen their understandings. This
AVLM principle focused on creating a learning community in which students’ involvement in the discussion was valued. In addition, instructors moderated the process and provided guidance when necessary. To build the learning community, students introduced themselves to the cohort at the beginning of the course via video recordings. Throughout the course, students responded to other’s video presentations. In the ACR course, some of the topics were argumentative, which allowed students to defend their side and disagree with the other side.

3.4.5 Communication and Motivation to Fulfill Requirements

It is important to communicate to students the time and effort necessary to complete a learning task (Chickering & Gamson, 1987) because this information helps them determine how to complete the task effectively. This AVLM principle uses regular communication to remind and motivate students to complete the assignment. When students were struggling, instructors encouraged them through a personal video. In the American Classroom Readiness course, the instructors mentioned the time required for tasks would be 20 to 30 minutes daily. Throughout the course, instructors referenced how to succeed in the online course and ENGR 131.
CHAPTER 4. METHODOLOGY

Utilizing a mixed methods design, this study explored how taking a pre-arrival video-based online course affects Asian students’ language skills, Willingness to Communicate, and classroom participation in their first-year-engineering class, ENGR 131. The quantitative data from a proficiency analysis and WTC scale were deployed to determine whether changes occurred as a result of participation in the online course. The qualitative data illustrated how students’ experiences in the online course influenced their readiness to participate in ENGR 131. The configuration of different comparison sets is summarized in Table 4.1.

Table 4.1: Summary of Comparison Settings

<table>
<thead>
<tr>
<th>Comparison Items</th>
<th>Number of Sample</th>
<th>Comparison Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Proficiency</td>
<td>9 course takers</td>
<td>Before-and-After Treatment (QUAN)</td>
</tr>
<tr>
<td>WTC Scale</td>
<td>5 course takers 5 non-course takers</td>
<td>Control V.S. Treatment (QUAN)</td>
</tr>
<tr>
<td></td>
<td>including 1 dropout</td>
<td></td>
</tr>
<tr>
<td>ACR Course Experience</td>
<td>5 course takers 1 dropout</td>
<td>Emerging Themes across the Cases (QUAL)</td>
</tr>
<tr>
<td>First-Year Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Participation</td>
<td>5 course takers 5 non-course takers</td>
<td>Emerging Themes across the Groups (QUAL)</td>
</tr>
<tr>
<td></td>
<td>including 1 dropout</td>
<td></td>
</tr>
</tbody>
</table>

4.1 Participants

The pool of potential participants for this study including 66 students who were identified by the College of Engineering as needing to take additional English courses based on their TOEFL (Test of English as a Foreign Language) scores. Among the 66 students, 33 students received an invitation to participate in the online American Classroom Readiness course and nine of them completed it. These nine students were
labeled as the treatment group in this study. There were also eight students who
completed part of the course at the beginning and then dropped out. They were also
invited for the follow-up session to investigate their reasons for not completing the
course. The rest of the pool was the non-course-takers, whose experience in their first-
year engineering class was compared with the treatment group. All groups were
contacted via emails for the follow-up interview session after the approval was granted
by the Institutional Review Board (IRB). The interviews were conducted during the 12 to
18 weeks after their enrollment to allow for time and context to demonstrate their
willingness to communicate in classroom activities. Among the nine course takers, four
attended the follow-up interview session. Only one student from the dropout group
agreed to be interviewed. Among the non-course-takers, five attended the follow-up
interview sessions. All participants are referenced here with pseudonyms for
confidentiality purposes.

4.2 Instruments

To address the different nature of the research questions, several instruments were
deployed. The details of each are as follows.

4.2.1 Oral Proficiency Analysis of the Treatment Group

To assess the change in the oral proficiency of participants in the ACR course, the
study examined the discourse of students responding to the prompts in videos at two time
points in the course: the 2nd week and the 6th week. Based on Wright’s (2015) Student
Oral Language Observation Matrix-Revised (SOLOM-R), the researcher and an
experienced ESL instructor independently evaluated the discourse in terms of the
following features: fluency, vocabulary, pronunciation, and grammar (See Appendix C
for the matrix). The original matrix includes the “Comprehension” feature, which was not applicable to this study. Therefore, the total score reduced from 25 to 20 due to the exclusion of “comprehension.” In addition, the linguistic features of Type-Token Ratio (TTR), lexical density, and unique level of vocabulary were calculated using a web-based software called Vocabulary Profiler (http://www.lextutor.ca/vp/comp/). Type-Token Ratio is calculated by dividing the total number of different words (types) by the total number of words (tokens) in a text or speech. A higher TTR indicated that the text/speech contains a high degree of lexical variation. Lexical density is a ratio obtained by dividing the number of lexical words by the total number of words in a text or utterance. Lexical words refer to words that provide meaning or context. A high lexical density indicates that the text/speech contains a large amount of information-carrying words. The unique level of vocabulary was defined using a ranking system from most commonly-used words to specialized words in the academic field. Two video clips from the nine course takers were sampled from each time point for examination. Wilcoxon’s Matched-Pairs Signed-Rank Test was performed to determine if there were changes in students’ oral proficiency between the 2nd and 6th week.

4.2.2 Follow-up Interview Session

All participants from the three groups were invited to a follow-up session, during which they were asked to complete a WTC survey prior to the semi-structured interview. Participants, on average, spent 5 to 10 minutes to fill out the WTC survey. The interviews were conducted in English, and their length ranged from 20 to 45 minutes.
4.2.2.1 WTC Surveys

The survey consisted of three parts: Willingness to Communicate in English scale, Language Competence scale (Robson, 2015), and Language Anxiety scale (Robson, 2015). Most of the measures were taken or developed from previous studies in which the perceived communicative competence and anxiety were identified to have strong correlations with WTC (D’Amico, 2012; MacIntyre et al., 1998). The reliability of the survey items was assessed by Cronbach coefficient alpha.

4.2.2.1.1 Willingness to Communicate in English Scale

The original 20 items from McCroskey and Baer (1985) were adapted for English as Second/Foreign Language (ESL/EFL) classroom contexts (See Bukhari & Cheng, 2017; Peng & Woodrow, 2010; Yashima, 2002). The survey items in McCroskey et al. (1985) were situated in a L1 communication context based on daily life situations. For example, one of a survey questions asked the participants to indicate the percentage of time, from 0 (never) to 100 (always), they are willing to “talk with a waiter/waitress in a restaurant.” The internal consistency reliability (Cronbach α) of the original WTC survey was 0.92. When it was adopted into L2 communication context, MacIntyre et al. (2001) revised the survey items to reflect the distinct language learning environment. In their study, a 5-point Likert scale was employed to measure four language skills: speaking, comprehension, reading, and writing. The statements included scenarios both inside and outside of the classroom. For example, survey takers were asked to specify the degree, from “almost never willing to almost always willing,” they would “speak to a teacher about a homework assignment” (inside the classroom) or “write a newspaper article” (outside the classroom). Internal consistency reliability (Cronbach α) for this L2 WTC
survey for inside the classroom items was 0.81 and outside the classroom was 0.96. Weaver (2005) further revised the survey items from MacIntyre et al. (2001) to more specific learning tasks inside the language classroom. Based on a 4-point Likert scale, from “definitely not willing” to “definitely willing”, survey responders indicated the degree they would perform a given task (speaking and writing), such as “give a short speech in English about your hometown with notes” and “write an email in English describing your favorite website.” In Peng & Woodrow’s (2010) study, 10 items were adapted without statements from Weaver (2005) that measured writing tasks. Internal consistency reliability (Cronbach α) of their 6-point Likert scale was 0.88. Because situations such as “do a role-play standing in front of the class in English” were only applicable to a language classroom, modifications were required before adopting these survey items. Therefore, this study modified some of the items to the ESL/EFL context and added additional items to reflect ENGR 131’s group-centered learning environment. Students indicated their level of willingness to communicate (from 0 to 100%) in the situations depicted in 8 statements such as, “I am willing to ask my group mates in English about the word I do not know” and “I am willing to contribute my ideas in English during the discussion with my group.”

4.2.2.1.2 Language Competence Scale

The 8 items in the present study were altered from questions used in Peng et al. (2010; Cronbach α= 0.93) and Robson (2015). These statements focused on student communicative competence specifically within their ENGR 131 course: For example, “My English level is OK for ENGR 131 class” and “I am confident when discussing
project ideas, homework problems, or reading materials with my group mates.”

Participants rated their agreement with the statements using a 6-point Likert scale.

4.2.2.1 Language Anxiety Scale

Three items in the current study were adapted from Robson (2015) with slight modifications. These statements asked students about classroom situations that might trigger their negative feelings when speaking English, including “I am worried that other students will think my spoken English is not very good” and “I feel unhappy if other students cannot understand my spoken English in ENGR 131.”

4.2.2.2 Semi-Structured Interview

The semi-structured interview began with background information related to language learning, such as ESL classes taken and study abroad experience. The interview content focused on students’ communicative behaviors in the ENGR 131 course. All participants were asked to reflect on how often certain communicative behaviors occurred weekly in their classroom during their first semester at Purdue. For the treatment group, additional questions regarding their experience in the online pre-arrival ACR course were included. The focus of the additional questions aimed to probe whether the content of the ACR course and the use of video-based communication helped course takers to cope with the communicative demands of ENGR 131. For the group with partial ACR course completion, questions regarding their reasons to drop the course were also included. The interviews were audio-recorded with the participants’ permission. The recordings were turned into verbatim transcriptions for analysis. An interview protocol was utilized to ensure the reliability and validity.
4.3 Data Analysis

Descriptive statistics were generated by the quantitative data analysis. Due to the small sample size of each group, the study deployed a nonparametric method to analyze the data. Wilcoxon’s Matched-Pairs Signed-Rank Test was carried out to determine if there was a difference in the proficiency analysis of the early and later discourses in the treatment group. For the responses collected from the WTC surveys of all participants, a Kruskal-Wallis Analysis of Ranks was performed to reveal if there were differences across the groups. All statistical analyses were performed using SPSS for Windows.

The qualitative data collected from the interviews was analyzed in the following steps. First, an initial coding scheme (See Appendix D) was developed based on the literature and interview questions. For example, the code VP (Verbal Participation) was generated to capture students’ participation in their first-year classroom, which addressed part of research question 1. VP subcodes included IC (Initiate Conversation), GD (Group Discussion), and WC (Whole Class). Next, the researcher applied the conception of bracketing (Denzin, 1989) to examine the interview content. After reading through two transcriptions to identify key phrases and statements related to the research questions with the reference to the initial coding scheme, the researcher revised the coding scheme to better reflect the interview content (See Appendix E). When examining the meaning of key phrases and statements emerging from the data, the researcher started to develop themes to capture the reoccurring features of the experience. A tentative statement or definition was created for each theme. Based on these tentative statements or definitions, the researcher generated descriptions of the experience. Finally, the researcher scrutinized these experiences to synthesize the deeper meanings of the stories related to the research
questions. Moreover, the study purposefully searched for negative experiences mentioned by the course takers to identify the areas of refinements for the course design. The interview data was coded using NVivo for Windows.

4.4 Reliability and Validity

The following measures were deployed to enhance the reliability and validity of the current study.

4.4.1 Survey Items Review

Most of the survey items were validated in the previous studies related to WTC in ESL/EFL classrooms. However, considering that the context of this study was different than an ESL/EFL classroom, the researcher gathered a panel of experts to review the questions. The panel consisted of one current ENGR 131 instructor, a professor who developed the curriculum in the first-year engineering program, one ESL instructor, and two other ACR course developers. Each panelist provided feedback on the first draft of the survey and interview questions. Following this revision process, the survey questions were tested on a small group of non-native-English-speaking students and then revised again according to the feedback received. A Cronbach coefficient alpha was also generated to assess the reliability.

4.4.2 Interview Protocol

The interview protocol (see Appendix B) was tested on two non-native-English-speaking students from the school of Engineering to enhance the face and content validity. The researcher revised the wordings of the questions based on the feedback from the pilot test.
4.4.3 Oral Proficiency Analysis

A training session was conducted by the researcher for the other grader who assessed students’ speaking performance. The evaluation team first worked on the same recordings independently, and then discussed their disagreements together. These discussions helped the team members familiarize themselves with the matrix. After grading the four recordings as a practice in the training session, the team moved on to the sample clips. The inter-rater reliability was calculated to measure their level of agreement.

4.4.4 Other Measures

Triangulation of Data. The data collected in this study were from multiple sources, including surveys, interviews, and content analysis, which helped “build a coherent justification for themes” (Creswell, 2014, p. 201) that increased the validity of the study.

Rich Description. The researcher aimed to create a vivid presentation that allowed interview participants to tell their stories using their own voices through “rich, thick descriptions” (Creswell, 2014).

Member Checks. The transcriptions of the interviews were provided to the participants to check if they agreed with the content presented. Their requests for changes were honored.

Negative-Case Coding. The researcher intentionally collected negative experiences by creating a code for such a negative course experience, not only to inform the revision of the course design but also to remain objective in the evaluation process.
Declaration of Research Bias. The researcher addressed her potential bias in the section titled “The Role of Researcher.” She also kept a reflective journal with field notes to examine her role in the process.

4.5 Limitations

There were limitations of this study that were beyond the control of the researcher, but remedies were employed when possible.

4.5.1 Lack of Observation

Due to the nature of the online course in which participants mostly worked on the tasks individually, the researcher had limited opportunity to observe how they handled the learning tasks. As Creswell (2014) suggested, interviews can be an alternative way “when participants cannot be directly observed.” Therefore, the interview questions focused on their course experiences were expected to address this limitation.

4.5.2 Insufficient Data from the Course Dropouts

The researcher faced the challenge of recruiting students who did not complete the ACR course for the follow-up session. Only one student from this group completed the WTC survey and interview. Their experience and feedback were expected to be beneficial for the ACR course revisions, but this study was unable to include more data from them after several rounds of recruiting efforts. Thus, the researcher focused on the negative experience of participants who came to the interview to identify possible areas of refinement.

4.5.3 The Heavy Use of Self-Reported Data

Aside from the analysis of the ACR course video recordings, the present study relied heavily on self-reported data from the participants regarding their classroom
participation. Because students were clearly aware of the researcher’s intention, social desirability bias may have occurred. According to Beretvas, Meyers, and Leite (2002), participants tend to desire to alter a response to make them look good based on certain social norms. This type of desire is more likely to occur during a face-to-face interview (Tourangeau, Rips, and Rasinski, 2000). In this study, students might not have wanted to admit that they did not participate in the classroom discussion actively, and accordingly gave a response that helped to maintain their self-esteem. During the interview process, the researcher tried to reduce this effect by sharing her background and stories as an international student.

### 4.6 Role of the Researcher

The researcher is a graduate student majoring in Learning Design and Technology with a focus on online course development. She was employed as a teaching assistant in the teaching center of her university. Prior to pursuing a Ph.D., she taught Chinese at a high school in Indiana. Her background of combining foreign language instruction and online learning was the main reason she was asked by her colleague at the teaching center to assist with the content development of the American Classroom Readiness course. Her role in the project began as an instructional designer who conducted need assessments, topic selection, and material development. After this work was completed, she took on the task of creating an evaluation plan, which transitioned her role into a data collector and analyst.

Recognizing that her significant involvement in the project may be a source of potential bias, the researcher intentionally took proactive measures to minimize the effect of her bias. The interview protocol was carefully crafted to eliminate any leading
questions after an iterative review process. The proficiency analysis was performed by her and another independent grader who did not participate in the course design or development. Member checking was also completed to ensure that participants’ voices were accurately presented. Throughout the process, the researcher cautiously monitored her biases by engaging in regular self-reflection (Johnson & Christensen, 2012).
CHAPTER 5. RESULTS

The collected data were labeled around two primary research questions and categorized as quantitative (QUAN) or qualitative (QUAL). Changes in students’ speaking abilities and willingness to communicate were reflected by the statistics, while their verbal participation in their ENGR 131 classrooms and experience with the online American Readiness (ACR) course were presented through the descriptive interview data.

Nine students completed the entire ACR course, and their oral proficiencies were analyzed via before-and-after treatment settings. Five of the course takers attended the follow-up survey and interview session. Of numerous course dropouts, one female student agreed to be surveyed and interviewed. After verifying that her ACR completion rate was 20% before she gave up, the researcher decided to include her in the control group of four other participants who did not take the course. Their WTC scores and first-year classroom participation were compared across the groups.

5.1 Quantitative Data Results

The quantitative data included the oral proficiency evaluations of nine course takers and the WTC survey results from the control and treatment groups. The course takers group consisted of six Chinese and three Korean students. Four of them (three Chinese and one Korean) attended the follow-up interview session.

5.1.1 Oral Proficiency Analysis

Each of the four video recordings from the nine course takers received a score from the two graders based on criteria listed in the matrix (See Appendix C). As seen in
Table 5.1, the shorthand “V1G1” in the top column indicates the course taker’s speaking score for “Video 1 from Grader 1.” When the data was processed by the statistics software, the average scores from each week were entered. The mean score for Week 2 was 14.06 (SD= 1.15) and the mean score for Week 6 was 14.72 (SD= 1.18). The inter-rater reliability was 0.80.

5.1.1.1 Student Oral Language Observation Matrix

Each of the four video recordings from the nine course takers received a score from the two graders, based on criteria listed in the matrix (See Appendix C). As seen in Table 5.1, the shorthand “V1G1” in the top column under the week number indicates the course taker’s speaking score for the “Video 1 from the Grader 1.” When the data was processed in the statistics software, the average scores from each week was entered. The mean score for the week 2 was 14.06 (SD= 1.15) and the mean score for the week 6 was 14.72 (SD= 1.18). The inter-rater reliability is 0.80.

The results from the Wilcoxon’s Matched-Pairs Signed-Rank Test (see Table 5.2) showed that the slight increase in scores from Weeks 2 to 6 is significant (p=0.026). Therefore, the hypothesis that students’ speaking performance improved as the ACR course progressed was supported by the data.

5.1.1.2 Linguistic Feature Analysis

The linguistic features analyzed in this study included Type-Token Ratio (TTR), lexical density, and unique level of vocabulary. The analysis was carried out through an online application called Vocabulary Profiler which is available via the link: http://www.lextutor.ca/vp/comp/. The results for each linguistic feature are presented in the following section.
Table 5.1: Student Oral Language Observation Matrix Scores

<table>
<thead>
<tr>
<th>ACR Taker</th>
<th>Week 2</th>
<th>Week 6</th>
<th>Ave.</th>
<th>V1G1</th>
<th>V1G2</th>
<th>V2G1</th>
<th>V2G2</th>
<th>Ave.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V1G1</td>
<td>V1G2</td>
<td>V2G1</td>
<td>V2G2</td>
<td>Ave.</td>
<td>V1G1</td>
<td>V1G2</td>
<td>V2G1</td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>15.75</td>
<td>16</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
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<td>9</td>
<td>16</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>15.5</td>
<td>16</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
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<td></td>
<td></td>
<td></td>
<td>14.72</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Table 5.2: Wilcoxon’s Matched-Pairs Signed-Rank Test on Speaking Matrix

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week6 - Week2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>2(^a)</td>
<td>2.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>7(^b)</td>
<td>5.86</td>
<td>41.00</td>
</tr>
<tr>
<td>Ties</td>
<td>0(^c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Week6 < Week2  
b. Week6 > Week2  
c. Week6 = Week2

**Test Statistics\(^a\)**

<table>
<thead>
<tr>
<th></th>
<th>Week6 - Week2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-2.219(^b)</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.026</td>
</tr>
</tbody>
</table>

a. Wilcoxon Signed Ranks Test  
b. Based on negative ranks.
5.1.1.2.1 Type-Token Ratio

As seen in Table 5.3, each course taker received a score for their video clips after the transcription analysis. Two different videos were sampled from Weeks 2 and 6. The average scores for each week were entered into the statistics software to complete the Wilcoxon’s Signed-Rank Test. The hypothesis was that students’ TTR scores from Weeks 6 and 2 are different.

Table 5.3: Type-Token Ratio of the ACR Course Takers

<table>
<thead>
<tr>
<th>ACR taker</th>
<th>Week 2</th>
<th>Week 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Video 1</td>
<td>Video 2</td>
</tr>
<tr>
<td>1</td>
<td>0.67</td>
<td>0.60</td>
</tr>
<tr>
<td>2</td>
<td>0.63</td>
<td>0.72</td>
</tr>
<tr>
<td>3</td>
<td>0.56</td>
<td>0.46</td>
</tr>
<tr>
<td>4</td>
<td>0.71</td>
<td>0.66</td>
</tr>
<tr>
<td>5</td>
<td>0.74</td>
<td>0.67</td>
</tr>
<tr>
<td>6</td>
<td>0.63</td>
<td>0.38</td>
</tr>
<tr>
<td>7</td>
<td>0.62</td>
<td>0.60</td>
</tr>
<tr>
<td>8</td>
<td>0.82</td>
<td>0.77</td>
</tr>
<tr>
<td>9</td>
<td>0.57</td>
<td>0.58</td>
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</tbody>
</table>

The results from the Wilcoxon’s Matched-Pairs Signed-Rank Test (see Table 5.4) showed that there is no evidence to support the hypothesis that students received a higher TTR for their videos in Week 6 (p=0.86).
Table 5.4: Wilcoxon’s Matched-Pairs Signed-Rank Test on TTR

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week6 - Week2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>7a</td>
<td>5.29</td>
<td>37.00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>2b</td>
<td>4.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Ties</td>
<td>0c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Week6 < Week2
b. Week6 > Week2
c. Week6 = Week2

Test Statistics

<table>
<thead>
<tr>
<th></th>
<th>Week6 - Week2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-1.718b</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.086</td>
</tr>
</tbody>
</table>

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.

5.1.1.2.2 Lexical Density

As for Lexical Density, the scores were summarized in the same manner in Table 5.5. The statistics software performed the test for comparison using the average score from each week. The hypothesis was that students’ recordings from Weeks 6 and 2 would have different average scores in terms of lexical density.

The results from the Wilcoxon’s Matched-Pairs Signed-Rank Test (see Table 5.6) showed that students’ recordings from Week 6 received significantly higher ratings of lexical density compared to those from Week 2 (p=0.033).
Table 5.5: Lexical Density of the Course Takers

<table>
<thead>
<tr>
<th>ACR taker</th>
<th>Week 2</th>
<th></th>
<th>Week 6</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Video 1</td>
<td>Video 2</td>
<td>Ave.</td>
<td>Video 1</td>
</tr>
<tr>
<td>1</td>
<td>0.48</td>
<td>0.51</td>
<td>0.495</td>
<td>0.52</td>
</tr>
<tr>
<td>2</td>
<td>0.44</td>
<td>0.45</td>
<td>0.445</td>
<td>0.58</td>
</tr>
<tr>
<td>3</td>
<td>0.41</td>
<td>0.47</td>
<td>0.44</td>
<td>0.47</td>
</tr>
<tr>
<td>4</td>
<td>0.47</td>
<td>0.51</td>
<td>0.49</td>
<td>0.55</td>
</tr>
<tr>
<td>5</td>
<td>0.49</td>
<td>0.52</td>
<td>0.505</td>
<td>0.51</td>
</tr>
<tr>
<td>6</td>
<td>0.43</td>
<td>0.44</td>
<td>0.435</td>
<td>0.47</td>
</tr>
<tr>
<td>7</td>
<td>0.51</td>
<td>0.52</td>
<td>0.515</td>
<td>0.57</td>
</tr>
<tr>
<td>8</td>
<td>0.53</td>
<td>0.48</td>
<td>0.505</td>
<td>0.47</td>
</tr>
<tr>
<td>9</td>
<td>0.39</td>
<td>0.53</td>
<td>0.46</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Table 5.6: Wilcoxon’s Matched-Pairs Signed-Rank Test on Lexical Density

<table>
<thead>
<tr>
<th>Week6 - Week2</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Ranks</td>
<td>2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.25</td>
<td>4.50</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>7&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.79</td>
<td>40.50</td>
</tr>
<tr>
<td>Ties</td>
<td>0&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- <sup>a</sup> Week6 < Week2
- <sup>b</sup> Week6 > Week2
- <sup>c</sup> Week6 = Week2

**Test Statistics**

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Week6 - Week2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-2.136&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.033</td>
</tr>
</tbody>
</table>

- <sup>a</sup> Wilcoxon Signed Ranks Test
- <sup>b</sup> Based on negative ranks.
5.1.1.2.3 Unique Level of Vocabulary

Each course taker’s unique level of vocabulary is categorized in terms of four vocabulary levels: K1 includes the most common 1000 words, K2 covers the 1001 to 2000 most-commonly-used words, AWL refers to academic-level vocabulary, and Off-List vocabulary are words that are not identified by the analysis software database. Each student’s transcripts from Weeks 2 and 6 were entered into the software for analysis. A line graph was created for each course taker and the graphs were then combined to identify patterns among the students (see Figure 5.1).

As shown in Figure 5.1, the line graphs of the nine course takers present a similar pattern. Each course taker’s K1 level vocabulary decreased from Week 2 to Week 6, while the other three levels of vocabulary increased by varying degrees. Noticeable increases were observed in the K2 and off-list words. This may be related to the Week 6 prompts. One of the prompts required students to talk about an Engineering event of their choice. Due to the increased use of the Engineering jargon and terminology, some of the words were counted as off-listed.

In summary, the before-and-after treatment comparisons carried out in this section indicated that ACR students’ speaking ability improved, along with higher lexical density and a higher level of vocabulary. However, the lower TTR might indicate that they tend to repeatedly use the same words during a recording.
Figure 5.1: Line Graphs of Unique Level of Vocabulary
5.1.2 WTC Survey Scores

The WTC survey responses included three sub-scales: Willingness to Communicate (WTC), Language Competence (LC), and Language Anxiety (LA). The WTC subscale consisted of 11 items (Cronbach $\alpha=.86$), the LC subscale consisted of 8 items (Cronbach $\alpha=.91$), and the LA subscale consisted of 5 items (Cronbach $\alpha=.87$). The results from this section addressed part of research question 1: How does taking an online pre-arrival course influence Asian students’ willingness to communicate? The hypothesis
was that course takers would have a different level of willingness to communicate, language competence, and language anxiety, compared to non-course takers. The descriptive statistics (See Table 5.8) showed that the group of course takers on average reported a lower willingness to communicate, higher language competence, and lower language anxiety compared to the group of non-course takers. The Kruskal-Wallis H test was performed to determine if the differences were significant. The test results showed that none of the differences between the two groups were at a significant level (p= 0.05) in terms of WTC (p= .347), LC (p= 0.753), and LA (p= 0.754) (see Table 5.9). The statistics did not provide evidence that students who completed the online course were more willing to communicate, had a higher degree of perceived language competence, or a lower level of anxiety.

Table 5.7: Descriptive Statistics of WTC Survey Result

<table>
<thead>
<tr>
<th>Group</th>
<th>WTC</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Taker</td>
<td>5</td>
<td>47.36</td>
<td>84.00</td>
<td>65.2182</td>
<td>16.25489</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3.00</td>
<td>5.25</td>
<td>4.6500</td>
<td>.94538</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2.20</td>
<td>5.20</td>
<td>3.1600</td>
<td>1.20333</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Course Taker</td>
<td>5</td>
<td>64.64</td>
<td>85.91</td>
<td>72.8182</td>
<td>9.59231</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3.25</td>
<td>5.63</td>
<td>4.3000</td>
<td>1.02164</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1.00</td>
<td>4.40</td>
<td>3.2000</td>
<td>1.41421</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. WTC: Willingness to communicate; LC: Language Competence; LA: Language Anxiety.
Table 5.8: The Kruskal-Wallis H Test on WTC Survey

<table>
<thead>
<tr>
<th></th>
<th>1. ACR Course Taker</th>
<th>2. Non-Course Taker</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTC</td>
<td></td>
<td></td>
<td>5</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>6.40</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>LC</td>
<td></td>
<td></td>
<td>5</td>
<td>5.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>5.20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td></td>
<td></td>
<td>5</td>
<td>5.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>5.80</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Test Statistics\(^b\)

<table>
<thead>
<tr>
<th></th>
<th>WTC</th>
<th>LC</th>
<th>LA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>.884</td>
<td>.099</td>
<td>.098</td>
</tr>
<tr>
<td>Df</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.347</td>
<td>.753</td>
<td>.754</td>
</tr>
</tbody>
</table>

a. Kruskal Wallis Test
b. Grouping Variable:
   1- ACR Course Taker
   2- Non-Course Taker

5.2 Qualitative Data Results

The quantitative interview data are presented in this section, including the participant profiles and background information, course takers’ course experiences, and the ENGR 131 classroom participation of all participants. Comparisons are drawn to answer the relevant research questions.

5.2.1 Interview Participant Profile

In this section, a profile of each interviewee is provided. These profiles were carefully written with elements related to their willingness to communicate based on their conversations with the researcher. All participants were assigned a code name that
reflected their profile. The use of the profile-based code names is intended to enhance comprehension when the data from each participant are extracted and compared across the groups and cases in the following sections. Moreover, personality traits play a significant role in their willingness to communicate. These profiles help to depict the personality traits demonstrated by the participants during their interviews. This approach was adopted from Liu’s (2001) study, in which he interviewed 20 students to map their communication patterns.

5.2.1.1 Course Takers

The Coder. Speaking at a faster rate during both the interview and the course recordings, The Coder took pride in her relatively-advanced coding skills. She indicated that her group members relied on her knowledge of coding, so she contributed more on that in terms of verbal communication.

The Improver. Using an unassertive tone during the interview, The Improver believed her speaking improved as a result of her extensive practice for the ACR course video recordings. She felt her confidence decreased during the face-to-face class because her group members tended to switch topics too quickly, which made it difficult for her to comprehend.

The Small-Group Presenter. Carrying herself in a personable manner, The Small-Group Presenter built arguments with evidence during her class group discussions. However, she would not volunteer to answer a question in front of the whole class because she thought answering overly-easy questions was annoying.
**The Video Gamer.** When the researcher walked into the room, The Video Gamer was resting her head on the table. She indicated that the video recording made her uncomfortable, and she was concerned that others would judge her English speaking.

**The YouTube Pianist.** Appearing to be confident and enjoying the video recordings, The YouTube Pianist indicated that he has a YouTube channel of his piano playing. During the interview, he asked the researcher to schedule an appointment to meet his online cohorts.

5.2.1.2 Non-Course Takers

**The Dropout.** The Dropout competed less than 20% of the ACR course. She said her classroom participation gradually increased as she became familiar with her team members and her role in the group project. To avoid any potential embarrassment, she never answered a question in front of the entire class.

**The Shy Guy.** Avoiding eye contact with the researcher during the interview, The Shy Guy mentioned that his shyness made him nervous if he had to answer a question in front of the class. He was looking for a Chinese church because he would feel more comfortable there.

**The Model UN Representative.** The Model UN Representative stated that a prior experience at the UN made her aware that she needs to speak more to improve her English. Therefore, she actively participated in the group discussions during her first semester at Purdue.

**The Social Butterfly.** Self-claiming the title, The Social Butterfly joined a religious club despite the fact that he has no religious belief. He mentioned utilizing all available resources to learn about his new environment and culture. He reported that he
likes to participate in classroom discussions most of the time. He often goes to lunch with his classmates after class.

**The Question Asker.** Afraid of not learning the class material, The Question Asker clarified what he did not understand by asking questions. He felt more comfortable participating in group discussions, as opposed to answering questions in front of everybody.

### 5.2.2 Participants’ Background Information

This section presents participants’ background information, including their countries of origin, study abroad experiences, and WTC scores. Although no difference in the WTC scores of the control and treatment groups was found in the previous section, their individual scores may provide insights when accompanied by the interview findings. Therefore, the WTC scores are included as a reference in this section. In terms of educational background, half of the participants graduated from traditional high schools in their home countries; two attended U.S. high schools; one went to an international school in Thailand; and two participated in an international high school program that prepared students to study abroad. All demographic information is summarized in Table 5.9.

### 5.2.3 Verbal Participation in the First-Year-Engineering Classroom

The collected interview data addressed part of Research Question 1: How does taking an online pre-arrival course influence students’ verbal participation in their first-year engineering class? Verbal participation was categorized using the following codes: Initiate Conversation (IC), Group Discussion (GD), and Whole Class (WC).
Two themes emerged when comparing the coded data from the control and treatment groups regarding this research question.

Theme 1: Answering questions in front of the whole class is the least preferred form of verbal participation among the control and treatment group participants.

Completing the ACR course did not seem to promote this type of participation among the course takers. The code No Whole Class (NWC) revealed multiple reasons for participants’ unwillingness to engage in this type of participation, which included the

<table>
<thead>
<tr>
<th>ACR Taker</th>
<th>Education</th>
<th>Country</th>
<th>Gender</th>
<th>WTC</th>
<th>LC</th>
<th>LA</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Coder</td>
<td>Regular HS</td>
<td>China</td>
<td>Female</td>
<td>47.36</td>
<td>4.75</td>
<td>3.20</td>
</tr>
<tr>
<td>The Improver</td>
<td>Regular HS</td>
<td>China</td>
<td>Female</td>
<td>57.64</td>
<td>5.25</td>
<td>2.40</td>
</tr>
<tr>
<td>The Small-Group Presenter</td>
<td>U.S. HS</td>
<td>China</td>
<td>Female</td>
<td>80.91</td>
<td>5.25</td>
<td>2.20</td>
</tr>
<tr>
<td>The Video Gamer</td>
<td>International HS in Thailand</td>
<td>Korea</td>
<td>Female</td>
<td>56.18</td>
<td>3.00</td>
<td>5.20</td>
</tr>
<tr>
<td>The YouTube Pianist</td>
<td>U.S. HS</td>
<td>China</td>
<td>Male</td>
<td>84.00</td>
<td>5.00</td>
<td>2.80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-ACR Taker</th>
<th>Education</th>
<th>Country</th>
<th>Gender</th>
<th>WTC</th>
<th>LC</th>
<th>LA</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Shy Guy</td>
<td>Regular HS</td>
<td>Taiwan</td>
<td>Male</td>
<td>64.64</td>
<td>3.64</td>
<td>4.20</td>
</tr>
<tr>
<td>The Course Dropout</td>
<td>International Program</td>
<td>Taiwan</td>
<td>Female</td>
<td>68.36</td>
<td>3.25</td>
<td>4.40</td>
</tr>
<tr>
<td>The Model UN Representative</td>
<td>Regular HS</td>
<td>China</td>
<td>Female</td>
<td>85.91</td>
<td>5.63</td>
<td>1.00</td>
</tr>
<tr>
<td>The Question Asker</td>
<td>International Program</td>
<td>China</td>
<td>Male</td>
<td>65.18</td>
<td>3.88</td>
<td>2.60</td>
</tr>
<tr>
<td>The Social Butterfly</td>
<td>Regular HS</td>
<td>China</td>
<td>Male</td>
<td>80.00</td>
<td>5.13</td>
<td>3.80</td>
</tr>
</tbody>
</table>
discomfort of being the center of attention, the fear of being challenged by unpredictable comments, and the assumption that someone else would answer the question. These responses echoed previous studies’ findings that cultural and situational factors affect the willingness to communicate (Kumaravadivelu, 2003; Jackson, 2002; Liu, 2001; Jones, 1999; Lee, 2007; Xia, 2009).

Theme 2: Group discussion seemed to be an ideal setting for Asian students to participate, and the communication strategies covered by the ACR course were viewed as beneficial. The code ACR Benefits (ACR_BN) included comments on how two students used the techniques they learned from the ACR course to participate in class discussions. Referring to those techniques as “templates,” the Small-Group Presenter commented: “You kind of learn how to respond to people…and how you start it, some kind of templates. I think that’s very important, so you don’t have to try to say something, but you don’t know how to start.” Similarly, The Improver mentioned that she changed her way to disagree with others by using the ACR course strategy “Finding a Common Ground.” She was uncomfortable with proposing a different idea or telling people that they were not correct. Moreover, The Course Dropper said she would hint at the correct answers by pushing her notebook toward her teammates.

In terms of Initiate Conversations (IC), no specific pattern was identified after reviewing this category’s coded interview content. Overall, the group discussion materials provided by the ACR course helped students to participate in the group discussions, because they could use the techniques to express their ideas in scenarios such as responding to teammates’ comments and disagreeing with others.
5.2.4 Course Takers’ Experience in ACR course

The collected interview data helped to answer Research Question 2: What are the course takers’ experiences of the online American Classroom Readiness class? The course experiences were further grouped into four aspects: their perceptions of the use of the video recording, their perceived language competence and speaking anxiety, the effects of the online ACR in the face-to-face classroom, and their reasons for quitting. As indicated in the previous chapter, this study used a negative-case coding strategy, so the course experience codes were labeled as negative or positive.

5.2.4.1 The Use of the Video-Based Communication

Several codes—Positive (PO) and Negative (NG) comments on Interaction (IA), Video (VD), and Feedback (FB)—provide answers to research question 2.1: How do course takers perceive the use of the video-based platform as a way to engage in authentic communication in English? The common themes that emerged from these codes are as follows.

Theme 1: Social presence was highly perceived by the participants through the use of the video-based platform. Almost every interviewed participant was able to recall an occasion of running into someone from the ACR course after arriving at the campus. The Video Gamer described attending an on-campus event where she felt someone looked familiar. She logged back into the platform to check before she finally asked: “Did you take the ACR course, too?” The Improver claimed that her best friend on campus is The Small-Group Presenter. The only person who did not meet any of his online cohorts is The YouTube Pianist. During the interview, he urged the researcher to host a reunion. His comments indicated how much he enjoyed the interactions during the
ACR course: “Yes, that’s why I want to meet them face-to-face. We have been talking online, you know.”

Theme 2: Exchanging feedback on certain topics and prompts was not easy. Although the participants perceived a high degree of social presence after using the video-based communication, several of them reported that they sometimes found it difficult to provide feedback to one another. The Improver described her struggle as follows:

“For some part of it, it’s helpful because I would know the good point they have. But sometimes, it’s useless because everyone is saying the same thing, is talking about the same thing, so sometimes I have nothing to say, to tell them.”

The Video Gamer indicated that this repetitiveness created boredom “because other people would say the same thing and I had to get fed up by at least two people, so I felt a little bored.” Some participants commented that a topic such as academic integrity was common sense and they had no idea how to discuss it in depth.

Theme 3: Different perceptions of responding to questions via video recordings. The YouTube Pianist stated that it was “more natural” to respond to questions using videos, and that is why he improvised when making the videos. He was the only course taker who did not prepare an outline or script. In contrast, The Video Gamer felt that the format of the video did not allow her to think thoroughly, and she compared the video recording with the discussion board written messages: “Well, discussion, I think it might be okay because students have more time to think about as they type. Because for the video, if you get one part wrong, you need to do it all over again.”
Theme 4: ACR course’s Negative effects on cognitive presence. Some Themes 2 and 3 comments suggested that the course may have had negative effects on the cognitive presence of the ACR course takers. Students’ comment that “everyone was saying the same thing and they had nothing to add” indicated that they ceased to expand their cognitive efforts due to the lack of continuous stimuli. The reason for everyone “to state the obvious” when responding to the prompts might be that the use of video did not allow them to think thoroughly, which was the experience of The Video Gamer, for example.

Overall, it is evident that the video-based platform provided a channel for authentic communication; moreover, social presence was highly perceived among the course takers. However, the course’s negative effects on cognitive presence were also observed related to certain less-engaging speaking prompts. Because of varied preferences for communication tools, some participants were more positive in their perception of the use of video recording to exchange ideas. However, due to the certain topics covered and prompts given in the ACR course, participants sometimes felt the feedback exchange was an unpleasant task.

5.2.4.2 Language Competence and Language Anxiety during Recordings

Comments coded under ACR Benefits (ACR_BN), Perceived Competence (PC), and Video Recording Process (VRP) included the sub-code Emotion (EM) and Repeat, which helped to answer research question 2.2: In what ways do the video-based communication increase or decrease learners’ perceived competence and speaking anxiety? The participants responded differently regarding how their perceived competence and speaking anxiety were affected by the video-based communication.
Theme 1: Some participants felt less confident and more nervous during the video recordings. Emphasizing that she was uncomfortable with the video recording, The Video Gamer described the fear of being judged by the tutor and her online cohort:

“You know how you need to give feedback to other people? I thought other people would look at my face and (listen to) my English and go ‘Oh my god, her English is so bad!”

The Coder also reported being nervous while recording because she wanted to make a perfect recording. She did not feel very confident because she tended to think “it’s not good enough.”

Theme 2: Some participants felt less nervous and more confident during the video recording. Both The Small-Group Presenter and The Improver reported not feeling nervous because they thought “no one knows me” and “no one was nearby,” respectively. The use of the video-recording provided them a safe place to talk about their ideas whenever they felt ready. They tended not to think about that fact that the videos would be watched by their cohorts after the submission. The Improver further reported that her confidence increased because of the videos: “I became more confident; I have more ideas after (making) some videos. At first, I need to spend 10 or 15 minutes to think about ideas; after that, I think of ideas more quickly.”

Theme 3: Repeated attempts to make a perfect video recording brought frustration. Almost every participant reported a sense of frustration after their numerous attempts to produce a good recording. Although the quantitative data provided the evidence that students’ speaking abilities slightly increased over the course duration, their frustration may have resulted in adverse effects, such as giving up. As the Video Gamer
recalled, “After I did it for a few times, even it was not that perfect, I would be like ‘Whatever’ and just let it go.”

In summary, some participants enjoyed the buffer space provided by the use of video recordings. They practiced multiple times without thinking about their peers and then submitted their best effort. On the other hand, some participants were more inclined to think that the video recordings would stay on the platform for a long time and people would judge their performance. They practiced extensively and worried about not being good enough. It is noteworthy how their perceptions represented two sides of the same coin and affected their perceived competence and anxiety. However, these repeated attempts to produce satisfactory video recordings resulted in frustration for all participants.

5.2.4.3 Effects Carried into the ENGR 131 Classroom

Responses coded under the same categories as the previous question provided answers to research question 2.3: Are the effects carried over when students enroll in the actual classroom? As discussed in the previous section, participants reacted either positively or negatively regarding their perceived competence and speaking anxiety during the recordings. These differences continued in their first-year engineering classroom, but in a practically opposite fashion. The participants (The Coder and The Video Gamer) who reported being nervous and lacking confidence during the video recording claimed they felt more confident and not nervous during face-to-face conversations. The participant (The Improver) who reported feeling confident and not being nervous during the video recording indicated that sometimes she felt nervous in the face-to-face classroom because her team members switched topics too quickly for her to
follow. It is worth noting that these participants’ WTC survey scores seemed to portray a different story. In terms of Perceived Language Competence, the Video Gamer and the Coder ranked the lowest of all the course takers. As for Language Anxiety, the same pair ranked the highest. These survey questions were based on the communication scenarios in their face-to-face classroom. On the other hand, the WTC survey results indicated The Improver had a high language competence and low speaking anxiety in the face-to-face classroom. It can be inferred that the ACR may have helped some students in ways they did not realize. Moreover, students who demonstrated a higher degree of anxiety and a lower degree of confidence during the ACR course may have benefited less from the course, and their perceived competence and anxiety remained the same.

5.2.4.4 Reasons for Quitting

As indicated in the previous section, this study only recruited one course dropout, and her account may be insufficient to reveal all the reasons participants dropped the course. Therefore, this study examined the course participants’ negative comments to infer the reasons for not completing the course. Responses coded as Drop Reason (DP_RS), Negative (NG), and Improvement (IM) provided answers to this question.

Theme 1: Quit to fulfill other commitments. The Course Dropper indicated that she took other summer courses in mathematics and physics at a local college to prepare herself for Purdue coursework. She thought those courses were more important than the ACR course because they were directly related to Engineering. Other participants also reported they had other plans after graduating from high school, and taking the ACR course took time away from those plans. Students who chose to drop out of the course may have prioritized other plans.
Theme 2: The recording tasks were time-consuming. On average, students were required to submit 1 to 3 videos every other day. Participants described how they recorded multiple times before submitting the best one. They considered producing numerous videos to be time-consuming. All of the course takers, including The YouTube Pianist who enjoyed video recording, suggested that the number of videos should be reduced. As The Small-Group Presenter phrased it, “I have to record videos every day; it’s kind of annoying. This is the summer that I expected no homework.” Therefore, it can be inferred that students who dropped out may have preferred not to spend time on these tasks.

In conclusion, a 6-week long summer online course that required students to produce several dozen videos was not perceived positively by high school graduates. While the regular video recording practice increased their speaking abilities, the length of the online program and the number of required videos may need to be adjusted to increase the course completion rate.

5.2.5 Themes across the Groups

The shared experiences of ACR course takers and non-course takers regarding their classroom participation helped the researcher understand the motivations behind their communication behaviors. Two themes emerged when the coding was compared across the two groups. A new code, “WTC promoter,” was generated as well.

Theme 1: Content knowledge as a WTC promoter. Several participants mentioned that they feel more confident and would talk more when they are knowledgeable about the content and topics being discussed. The Shy Guy revealed that his strategy to speak more English is to talk more in math or physics class, “because in
those classes, I feel confident in myself, and I can teach other students.” When he
described the activities he did in his English class, he mentioned that he had to “perform
small drama (skit) in class, and I think that is really stupid,” which indicated his low
WTC for tasks that did not offer a sense of fulfillment. The same situation also occurred
for The Coder, who had a low WTC survey score. However, she described how she
taught her teammate: “I express my thoughts a lot because the Arduino required coding
stuff and I am the only one in the group who knew coding...I basically told them what to
do.” The Course Dropper also revealed that her participation in ENGR 131 gradually
increased as she realized what she could contribute to the group project. In previous
studies, the focus was students’ perception of their language ability as a major factor of
their not participating in classroom activities. However, the accounts from various
participants in this study shifted the focus to how their confidence was boosted by their
knowledge of the subjects being discussed.

Themes 2: External factors promoting WTC of Asian students. Most participants
indicated that they seldom answered questions in front of the entire class, and their
reasons were discussed in the previous section. When asked what might promote their
participation in this setting, some participants indicated bonus points would motivate
them. Others mentioned that they preferred to be called on. These two external factors
were derived from social and cultural norms. Most Asian countries have high-stake
exams for entering college; as a result, academic performance based on grades becomes a
motivator for students. Also, being modest and yielding to others are practices
encouraged by Confucianism (Liu, 2001), which cause students to prefer to be asked by
teachers to respond to questions. This indirect communication style affected these Asian
student participants both inside and outside of their classrooms. For example, The Shy Guy was shocked when his American roommate confronted him about not laughing at his jokes. He has also had some issues with people living on his floor, and he chose to avoid those people. He also decided to look for another place to live for the following year.

Identifying additional WTC promoters would be helpful to further adjust instructional method to encourage Asian students’ verbal participation in the American classroom. The implications of these WTC promoters are discussed in the final chapter.
CHAPTER 6. DISCUSSION AND CONCLUSION

This study attempted to cultivate Asian students’ willingness to communicate in their first-year U.S. engineering classroom via their participation in an online pre-arrival video-based course. Built upon the Willingness to Communicate (WTC) theory and Asynchronous Video Learning Model (AVLM), the course covered a comprehensive list of topics to increase students’ readiness for an American classroom. The effectiveness of the course was judged by students’ speaking ability, willingness to communicate, classroom participation, and online course experience. This section provides a summary of each research question, followed by the implications of the findings.

6.1 Summary of the Findings

6.1.1 Research Question 1

1. How does completing an online pre-arrival course influence Asian students’ speaking abilities, WTC, and verbal participation in their first-year-engineering classroom?

The quantitative, comparative analysis of the video recordings from Weeks 2 and 6 indicated students’ oral proficiency in English slightly increased. The linguistic features analysis showed that students used more words that provide contextual information and a higher vocabulary level in the Week 6 video recordings. However, their WTC survey scores, compared to those of non-course takers, did not show a significant difference.

When it comes to verbal participation in their first-year engineering classroom, students who took the ACR course used strategies gained from the course to communicate during group discussions. However, the whole-class discussion was perceived as the least
preferred communication task by both groups. The approach of using video recordings to practice speaking did not seem to help students in this regard.

**6.1.2 Research Question 2**

2. What were the course takers’ experiences in the online American Classroom Readiness class?

2.1. How do course takers perceive the use of the video-based platform as a way to engage in authentic communication in English?

Using a video-based platform, students were able to connect with one another with a highly perceived social presence. Two of the course takers developed a friendship after meeting each other on campus. Perceptions of the course format were mixed. Some students were more comfortable with the video recordings; others were nervous about being in front of the camera. The feedback exchange requirement became repetitive, and some topics were considered less interesting than others.

2.2. In what ways does the video-based communication increase or decrease learners’ perceived competence and speaking anxiety?

Course takers reported that the video-based communication affected their perceived competence and speaking anxiety in different ways. A couple of the participants felt that the recording allowed them to express ideas in a judgment-free zone once their speeches were prepared. On the other hand, some participants tended to worry about their videos being watched and judged by others, which made them nervous about their speaking abilities when recording.

2.3. Are the effects of the ACR course carried over when students engage in the actual classroom?
The face-to-face classroom WTC scores of participants who reported feeling comfortable with the video recording appear to be higher than the rest of the treatment group. The effects were unclear for participants who reported being nervous about the video recording.

2.4. Under what conditions do students choose not to complete the online pre-arrival course?

Based on participants’ responses, the time-consuming recording tasks appeared to be a major reason to drop out of the ACR course. Moreover, it can be inferred that some students may not have been comfortable with the video recordings. One course dropout indicated that she perceived taking other engineering-related summer courses would better prepare her for her first-year engineering courses than the ACR course.

Although not all the data indicated this innovative undertaking has been a completely successful one, this study was of value in its theory and application. The following section summarizes the key findings as well as their connections with the theory and implications.

6.2 Contribution to Willingness to Communicate

There are limited studies on Willingness to Communicate (WTC) in the English as a Second/Foreign Language (ESL/EFL) field. In particular, there has not been much discussion of ESL/EFL students’ verbal participation in their content classrooms. Although the small quantitative data sample size in this study did not support the correlation established by the previous studies—that high perceived language competence and low anxiety promote the willingness to communicate (D’Amico, 2012; MacIntyre et al., 1998)—student accounts in this study have validated what has been
known, as well as adding a deeper and more nuanced understanding to this complicated phenomenon.

6.2.1 Key WTC Findings

Multiple factors that influence Asian students’ Willingness to Communicate were observed in this study. Participants’ experiences reflected the factors of the six-layered WTC pyramid (MacIntyre et al., 1998). For example, the State Communicative Self-Confidence refers to the certain circumstance that increases or decreases one’s confidence at a given moment. Participants in this study mentioned that answering a question in front of the class was their least preferred type of classroom participation, and they felt much more comfortable participating in small group discussions. Another example is the Communicative Competence, which refers to the communication strategies one deploys to effectively deliver intended messages. ACR course takers’ responses indicated that they deployed the techniques gained from the course to communicate with their teammates. For example, one participant tried to highlight her “common ground” before offering a different point of view during her group discussion. The social presence that was highly perceived among the ACR course takers was also associated with several WTC factors, including Social Situation, Interpersonal Motivation, Intergroup Motivation, and Desire to Communicate with a Specific Person. Social Situation includes the participants, setting, purpose, topic, and channel of communication. In terms of the topic, several participants in this study indicated that topics that required them to demonstrate their fairly-advanced knowledge would enhance their confidence, and, in turn, promote their willingness to communicate. Compared to studies done in ESL/EFL contexts (Olaniran, 1993; Cheng, 2000; Kim, 2006), where
perceived language competence was often the focus, this study highlighted that being knowledgeable about a certain topic and field gave Asian students a sense of pride that added to their motivation to speak. As for the channel of communication, the ACR course takers revealed different preferences for video-based and face-to-face means of communication. Some course takers reported being more comfortable with video recordings as a way to communicate. They perceived a feeling of safety because no one was nearby when they were recording. They had opportunities to select the best videos after several practice runs. On the other hand, the knowledge that other classmates would watch their videos afterward seemed to intimidate other course participants. This thought made them nervous and decreased their confidence during the recording. Using a video as the channel of communication could have produced frustration because making satisfactory videos required multiple attempts.

Interpersonal Motivation and Intergroup Motivation refer to how one communicates to establish a relationship with another person and/or group through control- and/or affiliation-oriented communication. Student interviews revealed that they held different attitudes towards target culture people and groups, and sometimes their attitudes changed over time based on the events that occurred after their arrival. While the topic of culture shock was covered in the ACR course, students from both groups still reported incidents that took them time to process. For example, being confronted by his American roommate was a shocking experience for The Shy Guy, which made him think about moving out of the dorm after other unpleasant incidents occurred on his floor. In terms of the classroom environment, giving feedback to peers was a new experience for these Asian students. After practicing the video recordings for the online course, a couple
of ACR course takers reported that they quickly adapted when the class required them to exchange feedback. The desire to Communicate with a Specific Person can be developed from physical proximity, frequent encounters, physical attractiveness, or shared interests. Several ACR course takers recalled the occasions in which they started a conversation after meeting their online peers on campus. These experiences indicated that their interactions through the ACR course promoted their desire to communicate with a specific person.

6.2.2 WTC Implications and Recommendation

As stated in the literature review, Willingness to Communicate is built upon multiple layers of linguistic, cultural, affective, and situational factors (MacIntyre et al., 1998). This study aimed to supply relevant knowledge and skills through an online course to enhance several relevant factors. While the results indicated that ACR takers’ speaking abilities had improved after the video recording assignments, the effects of the course on cultural, affective, and situational factors appeared to be less clear. The course takers’ shared experiences regarding their verbal participation in their first-year classrooms reflected the intricate nature of this phenomena. The online ACR course, compared to the face-to-face classroom, was a more stable and predictable environment for communication. Therefore, the higher confidence and lower anxiety perceived by a number of ACR course takers may not have transferred well into the face-to-face classroom, or at least in the form of willingness to communicate. In other words, while the ACR course promoted several factors that affect WTC, other factors, especially situational ones, were not controlled in the face-to-face classroom. As Vongsila (2016) pointed out, some of the variables that effect WTC “are more directly under teachers’
control than others” (p. 334). For example, teachers who do not wait long enough after asking a question or always allow the first volunteer to answer a question are less likely to elicit Asian student participation. Student participants in this study reported that they were more willing to participate when asked challenging questions that allow them to demonstrate their advanced knowledge. Moreover, Asian students also need to overcome fears of uncertainty and potential embarrassment when answering questions asked by their instructors and classmates. Teachers who understand Asian students’ fears may be able to eliminate these demoting factors by creating a safe classroom environment with well-structured discussion protocols. One of the limitations of this study was being unable to account for these situational factors, which can be further investigated by future research.

6.3 Contribution to AVLM Principles

Innovative AVLM course structures enhance social and teaching presence (Clark et al., 2015; Griffiths & Graham, 2010) and stimulate authentic oral communication (Hirotani & Lyddon, 2013; Huang & Hung, 2013). The design of the ACR course was based on AVLM principles and was expected to have the similar positive effects reported by previous studies. However, the ACR course in this study was offered as a pre-arrival orientation program, rather than a semester-long course. Accordingly, the experience and results were not expected to be identical.

6.3.1 Key AVLM Findings

As indicated in the previous section, social presence was a salient element based on the experience of all ACR course takers. The highly perceived social presence was associated with the use of the Visual-Oral Presentations, the second principle of AVLM,
for which students are encouraged to discuss what they are learning and connect it to their personal experience. Unlike previous, semester-long AVLM courses, the ACR course only ran for 6 weeks as a pre-arrival online program. As a result, the course load was intensive with frequent due dates for the recording tasks. Although the quantitative data indicated that course takers’ oral proficiency improved, the course takers reported negative feelings regarding the video assignments. None of the course takers were happy about the fact that the ACR course required 6 weeks of their summer. Therefore, the length of the program would also need to be taken into consideration. However, if either the length of the program or the number of the video assignments is reduced, the positive effects on students’ speaking abilities might not be sustained. It would be difficult to determine the necessary adjustments to make the ACR course more enjoyable but still effective. Another issue associated with the use of the Visual-Oral Presentations was that some participants did not feel comfortable with recording themselves. The Video Gamer indicated that she seldom takes a selfie; therefore, talking in front of the camera made her uneasy. This raises the issue of how to accommodate students whose preferred learning style is not AVLM. This issue is addressed in the Implications and Recommendations section. The fourth principle of AVLM is to provide Collaborative Learning with Expert Guidance/Input. In the ACR course, argumentative topics allowed students to challenge one another’s ideas. However, other topics appeared to be less interesting for the online cohorts to engage in meaningful discussions, and the requirement of responding to at least two other classmates became a boring task. The repetitive statements and feedback reportedly decreased the significance of this authentic communication.
6.3.2 AVLM Implications and Recommendation

In response to the findings summarized in the previous section, adjustments are needed to effectively adopt AVLM as an online course structure. First, additional accommodations for learners who have an anxiety when recording videos might be needed. Some preparation at the beginning of the course that provides a rationale for why videos assignments are required in the course might encourage learners to step out of their comfort zones. The assumption that the more videos learners record, the easier it becomes was not the case for the course takers in this study who disliked video recording. Second, AVLM prompts should be carefully examined to avoid repetitive comments that defeat the purpose of authentic communication. When the discussions lag in their liveliness and content, the tutors might need to supply follow-up prompts to revive the conversation. The ability to moderate AVLM classroom discussion becomes an essential skill for AVLM course instructors. Third, feelings of frustration were reported both by students who liked and disliked video recording due to the numerous attempts to produce their best videos. To reduce the degree of frustration, the current platform’s recording system can be adjusted to only allow 1 or 2 times attempts. This might encourage students to practice prior to clicking the record button. After recording once or twice, they would submit the video without the option of additional attempts. However, this approach might decrease the quality of the recordings. A future study can investigate whether the reduction of the number of submissions is beneficial to the learning experience.

In terms of the course content topics, the interviews generated a number of ideas that can be taken into consideration. For example, some participants thought academic
dishonesty was common sense and unworthy of further discussion. It is a school policy that they need to be aware of, but it might not be a fruitful video prompt topic. If the goal is to reduce the number of recording tasks, this assignment topic can be turned into a text discussion. During the interviews, some participants also shared tips they used to cope with the communication demands of ENGR 131. Students who have taken ENGR 131 can become a great resource for new Asian students. They can record videos to share their survival tips, which could become a new topic in the revised ACR course. This approach might increase the relevance of the course for the participants. Kim (2013) suggested that having an experienced international student share his/her experience in the content course can be an effective way to make new international students realize the importance of active participation. Moreover, since the social presence was highly perceived, American students can be invited to the ACR course to interact with their future classmates as well.

The negative impact of the course on cognitive presence was observed in this study and called for measures to mitigate the impact. Participants reported that they felt the video recording requirement did not allow them to think thoroughly, and everyone ended up repeating the same thing. When prompts are designed to promote deep thinking, a series of guiding questions might be posted to require students to jot down their thoughts first. These guiding questions can be presented in a form of scenarios using videos or a written pros/cons list to help the learners generate ideas. A future study can evaluate whether altered prompts improve discussions and enhance the cognitive presence of AVLM courses.
6.4 Limitations of the Study

To better interpret the findings of this study, its limitations need to be addressed. First, the generalization of the study is limited because of the specific characteristics of the ACR course. The participants in this study included newly-admitted, first-year engineering students from Asian countries. It is not clear if the results from this study would remain the same if the ACR course was taken at a different time of the academic year, was a different length, or enrolled students from non-Asian countries.

Second, negative perceptions of the ACR course were observed, and their impacts are unknown. Participants in this study had negative perceptions of the program, albeit to varying degrees, because the course impacted their summer vacation. Brown and Green (2011) suggested that learners’ attitudes toward course content, delivery systems, and training organizations have a great impact on the effectiveness of instruction. Since this was the first time the ACR course was offered to pre-arrival international students, the learner analysis was unable to capture their attitudes toward the three above elements. It can be inferred that their negative perceptions might have affected their motivation and participation in the ACR course. The interview data provided in this study can serve as a knowledge base of future ACR courses’ target learners.

Third, this study included a small sample size of quantitative and qualitative data. The small sample size of quantitative data did not yield robust statistics. The small sample data of qualitative data indicated that the results might not be representative of different participants. For example, this study only recruited one course dropout, which did not provide direct and substantial data on reasons for students to quit the course. The researcher should contact dropouts as soon as possible to obtain their reasons for doing
so. In order to produce robust and representative data, future studies should recruit much more participants to prepare for the high dropout rate of online learning environments.

6.5 Suggestions for Future Research

Recognizing the limitations of this study, recommendations for future studies are made in this section. First, different ACR course formats can be offered as different treatments to compare the learning outcomes. The format configurations can vary the length of the program (e.g. three weeks versus six weeks), discussion methods (e.g. adding text discussion versus video only), participants (e.g. including American students versus Asians only), and enrollment requirements (e.g. mandatory versus voluntary). After the learning outcomes are compared using these configurations, an ideal format of the ACR course can be determined. Second, this study was limited in its capacity to assess learners’ attitudes toward course content, delivery systems, and the training organization. If possible, a pre-survey that provides a brief introduction to the course features or a sample module should be sent to the target participants in order to evaluate their attitudes toward relevant course elements.

6.6 Reflection of the Research Process

While surveying and interviewing Asian students for this study, I had an opportunity to reflect on my educational journey of studying in the U.S. Listening to undergraduate Asian students describe their first-year study-abroad experience reminded me of my own struggles. I am a returning international student, and two of my graduate degrees are more than 10 years apart. My willingness to communicate was much higher during the course of pursuing the second degree. I can articulate the linguistic, cultural, and situational factors that influenced my change of WTC after reading the relevant
literature. However, understanding all the WTC factors does not guarantee the increased participation of Asian students in American classrooms. Straker (2016) argued that the focus of relevant studies should shift from highlighting the deficiency of international students in language ability and cultural knowledge to leveling the playing field and promoting participation in multicultural classrooms. He suggested a “holistic view which includes both international and local students’ perspectives and those of other stakeholders” (p. 314).

An incident during my second year at Purdue may better illustrate Straker’s perspective. In one of my courses, the professor employed different types of discussion: paired, small group, and whole class. At the end of the semester, she explained why she had taken a few points away from my classroom participation grade. She indicated that while I was always active in paired and small-group discussion, I seldom participated in the whole-class discussion. Being a seasoned international student who perceived no difficulty when participating in whole-class discussions, I wondered why the situation had occurred. It was a course offered by another department, and most students were majors from that department. Many of them knew each other well and had worked on group projects together prior to the class. When one of them answered a question or made a comment, that student would frequently cue another student and ask for support or feedback. The professor seemed to be satisfied by the students prompting one another to sustain the conversation, and I had no idea that she had an issue with me not contributing. There were other domestic students from my department who were excluded from those conversations among a group of friends. My experience in this course reflected the
importance of Straker’s (2016) argument to focus on how to provide a leveled playing field for the participation of all involved stakeholders.

6.7 Conclusion

In conclusion, the quantitative data in this study did not find that students’ willingness to communicate increased by taking the ACR course, despite the fact that their speaking abilities showed a slight improvement. Compared with video-based communication, the unpredictability of face-to-face classroom communication seemed to decrease students’ confidence and increased their anxiety. However, this study identified several WTC promoters, pedagogical suggestions for increasing Asian students’ classroom participation, and areas for online ACR course refinement. As the number of international students continues to grow, U.S. colleges and universities need to expand their efforts to accommodate these students. Green (2013) pointed out that “too many institutions have ramped up their goals without planning for the accompanying investment in student services, language support, or programs to facilitate integration into the local and campus community” (p. 53). The design and implementation of this pre-arrival ACR course is one step forward to extend the support of Asian students, and the results of this study are expected to shed light for institutions with large Asian student populations to create similar programs.
APPENDIX A. WTC SURVEY

WTC Scale

The following statements relate to different situations that students may choose to communicate or not communicate in English. Please respond to the following statements by thinking about yourself in the different situations in your Engineering 131 course, and rate the extent to which the statement is true for you or you agree with the statement.

1. I am willing to ask a peer sitting next to me the meaning of an English word.
2. I am willing to ask my group mates about a word I do not know.
3. I am willing to ask my group mates how to pronounce a word in English.
4. I am willing to ask my classmates the meaning of a technical term.
5. I am willing to ask a student sitting next to me how to say an English phrase to express a thought in my mind.
6. I am willing to answer a question when the instructor is asking the entire class.
7. I am willing to contribute my ideas during the discussions with my group.
8. I am willing to answer a direct question from my native English speaking classmates.
9. I am willing to speak during group presentations in class.
10. I am willing to talk about my ideas during a think-pair-share activity.
11. I am willing to express my thoughts to the whole class without being asked.
12. I am willing to ask for help when I need.
APPENDIX A. WTC SURVEY (CONTINUED)

Self-Perceived Communicative Competence Scale
1. My English Speaking level is OK for Engineering 131 Class.
2. I can make a conversation with someone in English in my class.
3. I think I am good at speaking English in Class.
4. I am confident when giving an oral presentation to the rest of the class.
5. I am confident when asked to contribute to a formal discussion in class.
6. I am confident when discussing project ideas, homework problems, or reading materials with my group members.
7. I am confident when I have to give an impromptu speech in class.
8. I am confident when speaking informally to my teacher during classroom activities.

Communicative Anxiety
1. I am worried that other students will think my English speaking is not very good.
2. I'd feel embarrassed if I was not good at speaking English in ENG 131.
3. I feel frustrated if other students cannot understand my English in ENG 131.
4. I feel nervous if I have to speak to my instructor.
5. I feel uneasy when I speak to the peer teachers.
APPENDIX B. INTERVIEW PROTOCOL

Thanks again for willing to be interviewed. Before we start the interview, can you tell me first if you have any study abroad experience before you come to Purdue? Are you taking any English course now?

1. **How often did you initiate a conversation in English with classmates before the class (ENG 131) starts, during the break, or right after the class finished?**

   Always= More than 5 times per class; Often= 3-5 Times per class;
   Occasionally=1-2 per class, Seldom= Never

   **Follow up question: What are the nature of those conversations?**

   Greeting: Say hi and goodbye; Academic related: Asking about homework or reading assignments; Social related: Asking about weekend activities including sport or cultural event, TV shows watched previous night.

2. **How often do you express your thoughts during the group discussion in ENG 131?**

   Always= More than 5 times a week; Often= 3-5 Times a week;
   Occasionally=1-2 Times a week; Seldom= Never

   **Follow up question when participants indicated they often or always express thought during the group discussion: What are the nature of those thoughts?**

   The following are prompts. Contribute to brainstorming ideas; Asking clarification questions; Agree with other members; Disagree with other members; Building arguments with evidence; Contribute to discussion for decision making; Answer questions; Other.
APPENDIX B. INTERVIEW PROTOCOL (CONTINUED)

Follow up question when participants indicated they occasionally or seldom express thoughts during the group discussion: What are reasons for not expressing thoughts? English barrier: Don’t understand the task requirement, worry about English speaking ability; Feel bad to disagree with others; Others dominate the conversation; Other: Time constraint, lack of opportunity

3. How often do you volunteer to answer a question when the instructor is asking the whole class and you know the answer? Always = More than 5 times a week; Often= 3-5 Times a week; Occasionally=1-2 Times a week; Seldom= Never

Follow up question for participants who indicated they seldom/occasionally volunteer to answer questions. The following are prompts: Language barrier/issue; Feel nervous; Someone else will answer; No perceived reward for answering and participating.
APPENDIX B. INTERVIEW PROTOCOL (CONTINUED)

Additional questions for the online course participants

Let’s talk about your experience in this online pre-arrival course.

1. What do you think about the course?
2. Why did you choose to participate?
3. How about your experience with recording those videos?
   Prompt: Difficulty? Nervous?
4. How did you usually feel when recording the videos for the class?
   Prompt: Do you feel confident in your speaking when practicing using video recording? Did you feel nervous when recording?
5. In what ways did the online pre-arrival course help you with the first-year engineering class you are taking now?
   Follow-up: After your arrival, is there any other program/class that help you with the transition?
6. What improvement will you suggest?
APPENDIX B. INTERVIEW PROTOCOL (CONTINUED)

Additional question for the participants who dropped the online course

Let’s talk about your experience in this online pre-arrival course.

1. What do you think about the course?

2. How about your experience with recording those videos?
   Prompt: Difficulty? Nervous?

3. Why did you choose not to continue?

4. What would have kept you in?

5. Will you participate in a different format of the course?
## APPENDIX C. STUDENT ORAL LANGUAGE OBSERVATION MATRIX

<table>
<thead>
<tr>
<th>Point</th>
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<tr>
<td><strong>Fluency</strong></td>
<td>Can produce simple words and phrases to convey meaning, but halting, fragmentary speech can make conversation difficult.</td>
<td>Can express self in simple interactions, but usually hesitant and often forced into silence by language limitations.</td>
<td>Can express self, but with frequent pauses to search for the correct manner of expression.</td>
<td>Can express self with general fluency, with occasional pauses to search for the correct manner of expression.</td>
<td>Can express self fluently and effortlessly similar to other proficient speakers.</td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td>Can use a few words and phrases, but vocabulary knowledge not yet sufficient to express self beyond very basic messages.</td>
<td>Can use small but growing vocabulary, but large gaps in vocabulary knowledge and frequent misuse of words make it quite difficult to express intended meanings.</td>
<td>Can use increasing range of vocabulary, but gaps in vocabulary knowledge and frequent misuse of words make it somewhat difficult to express intended meanings.</td>
<td>Can use extensive vocabulary, but gaps in less familiar domains and occasional misuse of words may require need to rephrase to fully express intended meanings.</td>
<td>Can use extensive vocabulary and idioms similar to other proficient speakers.</td>
</tr>
</tbody>
</table>
## APPENDIX C. STUDENT ORAL LANGUAGE OBSERVATION MATRIX (CONTINUED)

<table>
<thead>
<tr>
<th>Pronunciation</th>
<th>Can say a few words and phrases, but severe pronunciation challenges make speech very difficult for others to understand.</th>
<th>Can express self, but pronunciation challenges necessitate strong concentration on the part of the listeners and frequently lead to misunderstandings.</th>
<th>Can express self, but pronunciation challenges necessitate some concentration on the part of the listeners and occasionally leads to misunderstandings.</th>
<th>Can express self with good pronunciation that seldom leads to misunderstandings, though listeners may detect a non-standard accent and occasional intonation pattern differences.</th>
<th>Can express self with pronunciation and intonation similar to other proficient speakers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>Can say a few words and phrases, but errors in grammar and word order make speech very difficult for others to understand.</td>
<td>Can express self using simple patterns, but frequent errors in grammar and word order in longer utterances frequently obscure intended meanings.</td>
<td>Can express self using longer utterances, though errors of grammar and word order may occasionally obscure intended meanings.</td>
<td>Can express self well with only occasional grammatical and/or word order errors that do not obscure intended meanings.</td>
<td>Can express self with grammatical usage and word order similar to other proficient speakers.</td>
</tr>
</tbody>
</table>
## APPENDIX D. INITIAL CODING SCHEME

<table>
<thead>
<tr>
<th>Abbrev Code</th>
<th>Code</th>
<th>Definition/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP</td>
<td>Verbal Participation</td>
<td>General comments on verbal participation in the classroom</td>
</tr>
<tr>
<td>VP_IC</td>
<td>Initiate Conversation</td>
<td>Students initiated a conversation</td>
</tr>
<tr>
<td>VP_IC_FQ</td>
<td>IC Frequency</td>
<td>How often did students initiate a conversation</td>
</tr>
<tr>
<td>VP_IC_TP</td>
<td>IC Type</td>
<td>Content covered when initiating a conversation</td>
</tr>
<tr>
<td>VP_NIC</td>
<td>Not Initiate Conversation</td>
<td>Students did not initiate a conversation</td>
</tr>
<tr>
<td>VP_NIC_RS</td>
<td>NIC Reasons</td>
<td>Reasons for students not to initiate a conversation</td>
</tr>
<tr>
<td>VP_GD</td>
<td>Group Discussion</td>
<td>Students participated in a group discussion</td>
</tr>
<tr>
<td>VP_GD_FQ</td>
<td>GD Frequency</td>
<td>How often did students participation in a group discussion</td>
</tr>
<tr>
<td>VP_GD_TP</td>
<td>GD Type</td>
<td>Type of verbal contribution during group discussions</td>
</tr>
<tr>
<td>VP_NGD</td>
<td>Not Participate in Group Discussion</td>
<td>Student did not participate in group discussions</td>
</tr>
<tr>
<td>VP_NGD_RS</td>
<td>NGD Reasons</td>
<td>Reasons for students not to participate in group discussions</td>
</tr>
<tr>
<td>VP_WC</td>
<td>VP Whole Class</td>
<td>Students volunteered to answer questions in front of the whole class</td>
</tr>
<tr>
<td>VP_NWC</td>
<td>VP No Whole Class</td>
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<tr>
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<td>ACR Experience</td>
<td>General comments on taking American Classroom Readiness course</td>
</tr>
<tr>
<td>ACRE_PO</td>
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### APPENDIX D. INITIAL CODING SCHEME (CONTINUED)

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ACRE_PO_VD</td>
<td>Positive Video</td>
<td>Positive experience with the use of video recording</td>
</tr>
<tr>
<td>ACRE_PO_IA</td>
<td>Positive Interaction</td>
<td>Positive experience on interactions with the cohort and tutors</td>
</tr>
<tr>
<td>ACRE_PO_FB</td>
<td>Positive Feedback</td>
<td>Positive experience with feedback received from or given to the cohort and tutors</td>
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<tr>
<td>ACRE_NG_VD</td>
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<td>Video Recording Process</td>
<td>Students explained their video recording process</td>
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<td>VRP Emotions</td>
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</tr>
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<tbody>
<tr>
<td>Aca. Adjustment</td>
<td>Academic Adjustment</td>
<td>Students talked about adjustment they made for academic matters</td>
</tr>
<tr>
<td>Comm. Barrier</td>
<td>Communication Barrier</td>
<td>Students talked about experience of communication and language barriers</td>
</tr>
<tr>
<td>Comm. Barrier_Stra.</td>
<td>Communication Barrier Strategy</td>
<td>Students talked about the strategies they used to overcome communication and language barriers</td>
</tr>
<tr>
<td>Cul. Barrier</td>
<td>Culture Barrier</td>
<td>Student talked about experience of a culture barrier</td>
</tr>
<tr>
<td>Eng. Class</td>
<td>English Class</td>
<td>Student talked about English class they took during first semester</td>
</tr>
<tr>
<td>ENGR 131</td>
<td>Engineering 131</td>
<td>Students commented on or talked about the course ENGR 131</td>
</tr>
<tr>
<td>PC</td>
<td>Perceived Competence</td>
<td>Students commented on their confidence level when speaking English</td>
</tr>
<tr>
<td>Social</td>
<td>Social Activity</td>
<td>Students talked about social activates they participated during their first year</td>
</tr>
<tr>
<td>WTC Promo</td>
<td>WTC promoter</td>
<td>Students mentioned occasions in which they were willing to speak</td>
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REFERENCES


Olson, J., & McCracken, F. (2014). Is it worth the effort? The impact of incorporating synchronous lectures into an online course. Online Learning Journal, 19(2), 1-12


