Online Collaborative Learning Activities: The Perceptions of Culturally Diverse Graduate Students

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Abstract

This exploratory study examined the perceptions of minority graduate students toward online collaborative learning activities. The participants were 20 minority graduate students from diverse cultural backgrounds (10 African Americans, 5 Hispanics, and 5 international students from Africa) enrolled in online graduate instructional technology and special education program at a university located in the Northeastern United States. A qualitative research design using semi-structured interviews, focus group interviews, and a non-participant observation were employed to collect the data for the study. The analysis of the data identified six themes on the perceptions of the minority graduate students toward online collaborative learning activities: (a) knowledge building and construction, (b) preference to work in small-group over whole-group activities, (c) opportunities to share and lead discussion in cross-cultural online environment, (d) collaborative activities help meet their learning and communication styles, (e) challenges of dealing with cultural differences, and (f) lack of multicultural inclusion in the curriculum/course content. The findings of the study suggest that instructors who are tasked to teach online courses should take into account the benefits, preferences, and challenges of students from diverse cultural backgrounds as they participate in online collaborative learning activities.

**Online Collaborative Learning Activities:
The Perceptions of Culturally Diverse Graduate Students**

Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product (Johnson, Johnson, & Holubec, 2008). This approach to teaching and learning, which represents a significant shift away from the typical teacher-centered instructional practice, is increasingly becoming an instructional approach of choice in both the traditional face-to-face and online education settings due to the numerous positive effect it has on students' educational outcomes (Gunawardena, Layne, & Frechette, 2012; Havard, Du, & Xu, 2008; Shi, Frederiksen, & Muis, 2013; Pattanpichet, 2011; Yazici, 2004). Several research reports have observed that learning tends to be the most effective when students are given the opportunity to work collaboratively, express their thoughts, discuss and challenge the ideas of others, and work together towards a group solution to a given problem (e.g., Gabriel, 2004; Johnson & Johnson, 1989; Means, Toyama, Murphy, Bakia, & Jones, 2010).

Ashong and Commander (2012) reported that the practice of collaborative learning is growing rapidly in online education because many program developers, and instructors of online courses are beginning to realize its positive effect on students' learning, and as a result, are incorporating collaborating learning as one of their instructional strategies of choice in the online environment. Some of the frequently cited advantages of collaborative learning in the online environment include the development of critical thinking and problem-solving skills, the development of skills of self-reflection, and the construction of knowledge and meaning (Brindley, Walti, & Blaschke, 2009; Gachago, Morris, & Simon, 2010). It has also been shown that skills gained from collaborative learning in the online setting are highly transferable to team-based work environments (Shaw, 2006), which are essential for the 21st-century workforce. Collaboration among students and teachers also works to cement a student's interest and expand their knowledge in specific topics (Means et al., 2010; Smith, Clark, & Blomeyer, 2005).

The increasing popularity of collaborative learning in the online environment has been generating significant research interest within the online education community in recent years, resulting in an increasing number of researchers examining factors that promote or impede effective collaborative learning in the online environment (e.g., Brindley, Walti, & Blaschke, 2009; DeRosa & Lepsinger, 2010; Dirkx & Smith, 2004; Gabriel, 2004). Several researchers, for example, have explored students' perceptions about the benefits of collaborative learning, students' participation and sense of community in collaborative learning, and the effects of group settings on collaborative learning outcomes (e.g., Du, Zhou, Xu, & Lei, 2016; Ellis, 2001; Gabriel, 2004; Shea et al., 2001). Others have also examined the kind of interactional strategies that are necessary for collaborative learning to be effective and rewarding, as well as the problems students encounter while studying as members of online learning group (e.g., An & Kim, 2007; Dirkx & Smith, 2004). There is also a growing body of research looking into online instructors' characteristics (e.g., subject matter and pedagogical knowledge) that enhance the implementation of collaborative groups in the online environment, and ways in which instructors can design effective online collaborative learning activities for students (DeRosa & Lepsinger, 2010; Driver, 2002; Garrison, 2006; Murphy, 2004).

For example, in working with students enrolled in a master of education program on collaborative activities, Gabriel (2004) found that the M.Ed. students in her online class developed deeper understanding of the recursive nature of knowledge construction (review, rethink, and

revise one's work), and an increasing belief in their own ability to learn efficiently in the online group environment (i.e., their perception of self-efficacy increased as the course progressed). Similarly, Ellis (2001) identified: 1) access to peer knowledge, 2) availability of other students to provide feedback, and 3) opportunities to reflect on exchanged messages as positive elements of online collaborative work. Shea et al. (2001) found that students taking online courses achieve higher satisfaction with their learning experiences when they are engaged in collaborative assignments.

In identifying factors that impede collaborative learning in the online environment, Dirkx and Smith (2004) reported that online learners are often reluctant, frustrated, and dissatisfied with collaborative learning methods, especially when working within small online groups, because they "struggle with the development of a sense of interdependence and inter-subjectivity within their online groups, but end up holding fast to subjective, individualistic conceptions of learning" (p. 134). An and Kim (2007) examined inservice teachers' (enrolled in an online master's program) perceptions about their online group project experiences, and found that the participants expressed difficulties from participating in online group projects, yet their positive experiences outweighed the negative ones. Hiltz and Turoff (2002) argued that, ideally, collaborative learning activities in online environments should include debates, group projects, case study discussions, simulations, role-playing exercises, the sharing of solutions to homework problems, and the collaborative composition of essays, stories, and research plans. However, in reality, most online collaborative work is usually relegated to discussion board conversations, in which students merely generate a dialogue with their peers about the weekly readings. Additionally, several studies have noted that while the instructions in online education (e.g., the use of small groups and real-time, web-based tools) can be leveraged to engage students in collaborative learning, the effective use of these strategies require deliberately planned lessons on the part of online instructors (Garrison, 2006; Murphy, 2004; Watson & Gemin, 2008).

In spite of above studies and many other vested efforts in researching the effectiveness of collaborative learning in the online environment, there is a dearth of empirical studies examining issues related to culturally diverse students and collaborative learning in the online environment, particularly, the perceptions of culturally diverse students toward collaborative learning activities within the online environment (Boyette, 2008; Du, Ge, Xu, 2015). Thus, as an increasing number of minority students continue to enroll in online education (Ashong & Commander, 2012; Petersen, 2015), it is imperative that researchers examine the extent to which instructional strategies such as collaborative learning—well documented in the research literature as effective for the general online student population—works effectively for culturally diverse students.

This is particularly important because several studies have reported that instructors of online courses often fail to recognize and address the cultural diversity of their learners in the online learning environments (e.g., Adeoye & Wentling, 2007; Gunawardena, Layne, & Frechette, 2012; Mushtaha & Troyer, 2007; Rogers, Graham & Mayes, 2007), and results from some studies seem to suggest that students from diverse cultural backgrounds exhibit poor leadership skills in leading online discussion (Okwumabua, Walker, Hu, & Watson, 2011), as well as experience challenges in participating online collaborative learning activities (Du & Anderson, 2003). The purpose of this study, therefore, was to investigate the perceptions of culturally diverse graduate students about online collaborative learning activities. A related goal was to examine the learning preferences of these learners in online collaborative learning environments, the benefits they derive

from participating in online collaborative activities, and challenges they encountered in such environment.

Review of Related Literature

Individuals from different cultures engage in, as well as expect different communication practices and behaviors during interactions in learning or work environments. Understanding intercultural communication involves studying links between culture and communication. Vygotsky's (1978) constructivist theory identifies personal and cultural backgrounds of learners as essential factors that influence ways in which students learn and acquire knowledge. Watson, Ho, and Raman (1994) defined culture as "the beliefs, value systems, norms, mores, myths, and structural elements of a given organization, tribe, or society" (p. 46). In this study, we considered culture as one of the major factors that influence diverse students' experiences in collaborative processes, communications, and attitudes or behaviors in collaborative group online learning (Shi, Frederiksen, & Muis, 2013), and we investigated the culturally diverse students' perceptions of online collaborative learning activities (Werstsch, 1998; Zhu, 2009).

Several studies have explored the relationships between cultural backgrounds of students and their learning experiences in online collaborative learning environments in the following categories: (1) cultural differences as related to online group processes (e.g., Anakwe & Christensen, 1999; Thompson & Ku, 2005); (2) how linguistic and cultural backgrounds of the collaborative partners affect their actions, behaviors, and engagement in the online collaborative environment (e.g., Kim & Bonk, 2002; Lim & Liu, 2006; Oetzel, 2001); and (3) the differences in the motivation of the students to work within an online collaborative learning environment (Wang, 2007).

Halverson & Tirmizi, (2008) stated that cultural differences can benefit or disrupt "intra-group dynamics" (p. 12). They identified the main benefits as the sharing of culturally diverse knowledge and the preparation of students for working in culturally heterogeneous settings. Among the major challenges of cultural differences were the need to coordinate clearly different, culture-specific perceptions of group processes and approaches to communication. Another study by Tapanes, Smith, and White (2009) that investigated students' perceptions of online course found that students with a collectivist cultural background were less motivated to participate in an asynchronous learning network than students with an individualist cultural background.

A similar study by Fogg, Carlson-Sabelli, Carlson, and Giddens (2013) showed that African American students tended to be more like assimilators in online learning environments in contrast to students of other races. Correa and Jeong (2011) examined the differentiated uses of online participatory technologies among diverse racial and ethnic groups of college students (African Americans, Caucasians, and other racial/ethnic students). The results from their study showed that African Americans students valued the technological tools as instruments to help them connect with online communities and share their identities to augment their voices, while Caucasian students did not value the tools in this way. The findings also indicated that African Americans emphasized the idea of self-expression (the ability to express their inner thought and culture to other students) in contrast to Caucasian students who aimed more at instrumental reasons like promoting their work.

Several studies (Gunawardena, 2014; Kim & Bonk, 2002; Lim & Liu, 2006; Uzuner, 2009) reported that the following forms of communication create problems for racially and culturally diverse students collaborating online: (1) inability to understand specific cultural references in online discussions; (2) lack of non-linguistic cues; (3) difficulties expressing disagreement; (4) communicative constraints resulting in less substantive postings; and (5) mismatched communication patterns (i.e., use of short, content-driven contributions as opposed to long, relationship-driven contributions or vice versa).

A study by Popov, Biemans, Brinkman, Kuznetsov, and Mulder (2013) examined facilitation of computer-supported collaborative learning in mixed-versus-same culture dyads. A total of 130 university students worked in dyads on a topic concerned with intercultural communication. The researchers used a 2 x 2 factorial design to examine the effects of using collaboration scripts on students' online collaborative behavior and the quality of their discussions. Results indicated that students who worked in culturally mixed dyads showed a higher frequency of seeking input and social interaction than the students in the other types of dyads. Students from the same culture showed a lower frequency of planning activity than same-culture dyads working without the script. Overall, the same-culture dyads displayed a higher frequency of contributing activity and higher quality of online discussion than the mixed-culture dyads. The study recommended that further collaboration in culturally mixed groups needs more facilitation.

A study by Du, Zhou, Xu, and Lei (2016) explored the perspectives of African American female students' experiences of online collaborative learning. The study was conducted at a university in the southeastern part of the United States using qualitative semi-structured interviews with nine African American female students in an online instructional design course. The findings from the study indicated that the perceptions of African American females towards online collaborative learning revolved around peer support, group member and identity formation, and challenges of frustration as they respond to different levels of peer participation and interaction. Similarly, Ke and Kwak (2013) investigated online learning across ethnicity and age groups using mixed-method analysis with 28 students in an online course via content analysis to include online interaction, structural equation modeling, and interviews. Results from qualitative analysis of students' transcripts by Ke and Kwak (2013) did not show significant benefit or disadvantage related to the quality and quantity of online interaction of minority students. However, quantitative results found that minority students had preference for student-to-instructor interactions. Yücel and Usluel (2016) investigated the processes of knowledge building, interaction, and participation of students in an online collaborative learning environment, and the relations among them. The participants were 145 prospective teachers using multiple data sources (log records and content analysis of knowledge postings). Results from Yücel and Usluel's study indicated that there was a significant relationship between the use of opinion building, expressing forms, and knowledge creation by the students. The results also showed that courses offered in online collaborative knowledge building environments contributed to students' expression, opinion building, quality of interaction, and participation.

Thus, results from several studies (e.g., Kim & Bonk, 2002; Zhao & McDougall, 2008; Zhu, 2009) have indicated that cultural factors play an important role in how students gain and share knowledge in online collaborative learning activities. However, they failed to recognize the perceptions of students from culturally diverse backgrounds related to online collaborative learning activities and the influence it had on their academic performance (Vatrapu & Suthers, 2010; Weinberger et al., 2007). Additionally, only very few empirical studies have been conducted

about culturally diverse students' perceptions on online collaborative learning activities (Shi et al., 2013). Therefore, this study will fill the gaps of knowledge regarding culturally diverse students' perceptions of cross-cultural online collaborative learning activities.

Theoretical Framework

This study draws on Vygotsky's (1978) social constructivism theory, and Watson, Ho, and Raman's (1994) theory of culture as the theoretical frameworks to advance our understanding about the perceptions of minority graduate students on online collaborative learning activities. Vygotsky's (1978) social constructivism, which is based on his theories about language, thought, and their mediation by society, recognizes the importance of personal and cultural backgrounds of learners as major factors that influence ways in which students acquire knowledge (Vygotsky, 1978; Zhu, 2009). Vygotsky's (1978) work suggests that knowledge is first constructed in a social context and is then appropriated by individuals (Eggan & Kauchak, 2004). According to social constructivists, the process of sharing individual perspectives called collaborative elaboration results in learners constructing understanding together that would not be possible alone (Meter & Stevens, 2000). We also adopted Watson, Ho, and Raman's (1994) definition of culture as "the beliefs, value systems, norms, mores, myths, and structural elements of a given organization, tribe, or society" (p. 46).

Building on the work of Vygotsky (1978) and Watson, Ho, and Raman's (1994) theory of culture, several contemporary researchers have established a relationship between the cultural backgrounds of students and their participation, behaviors, and engagement in the online collaborative environments (e.g., Kim & Bonk, 2002; Lim & Liu, 2006; Oetzel, 2001). Thus, in assessing the quality of the online interactions, cultural factors that are known to play a role in what students share, expand upon, and gain from a collaborative learning process should also be considered (e.g., Kim & Bonk, 2002; Zhao & McDougall, 2008; Zhu, 2009). However, many social and cultural factors have yet to be taken into account in the study of online collaborative learning (Vatrapu & Suthers, 2010; Weinberger et al., 2007). Very little research has empirically examined the quality of online discussions involving students with different cultural backgrounds. In this study, therefore, we considered culture as one of the major factors that influence diverse students' experiences in collaborative processes, communications, attitudes, or behaviors in collaborative group online learning (Shi, Frederiksen, & Muis, 2013), and we investigated the perceptions of culturally diverse students regarding online collaborative learning activities (Werstsch, 1998; Zhu, 2009).

Methods

This study employed qualitative research design using semi-structured interviews, focus group interviews, and a non-participant observation to understand the perceptions of culturally diverse graduate students about online collaborative learning activities. It also examined the challenges the participants encounter in such environment. The following three research questions guided the study:

(1)   How do culturally diverse students describe their perceptions and experiences in online collaborative learning activities?

(2)   How do culturally diverse students describe their learning preferences toward online collaborative learning activities?

(3) How do culturally diverse students describe the benefits and challenges they encounter while engaging in online collaborative learning activities?

Participants

A purposeful sample of 20 full-time graduate students from culturally diverse backgrounds enrolled in Instructional Technology and Special Education Master's degree programs at a university in the Northeastern United States during the study year of 2015-2016. In this study, all of the participants will be referred as culturally diverse students. The race/ethnicity, gender, and age composition of the participants were: 10 African Americans ($n = 10$, aged 25 to 28), five Hispanics ($n = 5$, aged 25 to 30), and five African international students from Ghana, Nigeria, and Kenya ($n = 5$, aged 24 to 35). The 20 participants were 12 males and 8 females. All of the participants were affiliated with two departments in the School of Education (Instructional Technology and Special Education). They had varying experiences of online courses in higher education in general (range: 2-4 years) as well as serving as teaching assistants in online courses. Our rationale for the purposeful sampling was to specifically gather perceptions of culturally diverse graduate students who: (a) had enrolled in at least three online courses in the past, (2) agreed and volunteered to contribute their own perspectives, (3) were familiar with the online programs at the School of Education, and (4) have knowledge of and participated in online collaborative learning activities. Six of the 20 participants had experience teaching asynchronous online course. All of the participants had experience participating in online collaborative learning activities and collaboratively developed a complete instructional design project, which involved selecting instructional problems. Participants have participated in multiple online activities including discussion, group projects, small-group discussions, whole-group discussions, debate discussion, and presentations.

Recruitment and Data Collection

The research team contacted and recruited participants via the School of Education of the university where the study took place. First, we contacted the Office of the Dean to have access to students' biographic data. After Institutional Review Board approval, the Dean's office provided students' information, upon which we contacted the Instructional Technology and Special Education departments, which had a large population of culturally diverse students. Researchers then contacted the heads of departments via email about the rationale and objectives of the study. They agreed to email participants for the study. Second, we emailed participants with the objectives of the study and after the second email, we received 25 responses from which 20 agreed to be interviewed and observed in their online courses. Third, we contacted participants' course instructors with permission to observe them in online activities. The research team then contacted students who agreed to participate in the study and scheduled interviews time and date based on their convenience.

The data for the study came from three main sources: semi-structured interviews, focus group interviews, and observations. The individual interviews took place at the conference room in the School of Education building. Interviews used a protocol of questions that were reviewed by four experts in the field of multicultural education and online learning to ascertain their validity in generating appropriate data that address the research questions under investigation (see Appendix A for Interview Protocol). All the interviews were audiotaped, and conducted in English. We also reviewed materials from the participants' email, transcripts of bulletin boards, online assignments, discussion boards, and presentations with their permission in order to have detailed

information on their perspectives and experiences of the course and online collaboration to complement data from our interviews. We used pseudonyms to protect the identity and confidentiality of all participants.

Focus Group Interviews

We obtained a total of two hours of focus group interview recordings with 20 participants. The purpose of the focus group interview was to help the research team gain insights into participants' shared perceptions and understandings in identifying collaborative learning activities that facilitate their cross-cultural learning experiences. The focus group interviews also afforded the research team the chance to ask the participants to share their perceptions about collaborative learning activities, the benefits gained, and challenges faced as culturally diverse students. The focus group interview questions were also reviewed by four experts mentioned above (see Appendix B for focus group interview questions). During the interviews, the participants were asked to provide insights about their perceptions of online collaborative learning activities including what strategies helped them to succeed, their role in online discussion in collaborative environment, and challenges faced. The participants were also encouraged to share their perceptions during an extended discussion, as well as to reflect on those perceptions and responses.

Observations

The researchers conducted a two-semester observation of 20 participants (minority graduate students) with regards to their perspectives on online collaborative online learning activities. They observed participants' interactions with peers, the support they received from instructors, reading materials, posts in chat rooms, instructor feedback, students reflection posts, and how they led discussions in online classrooms. We also paid special attention to cultural differences of participants' access to resources, their participation in online discussions, and group activities. We observed strategies that the participants used to manage their online learning activities to achieve academic success, and to adapt to the instructional practices and maintain interactions with peers and instructors to facilitate building a community of inquiry. We then took detailed field notes of instructional practices, and students' posts in the discussion forums, and how they address cross-cultural perspectives in collaborative online learning. We did not take any form of photos of participants to protect confidentiality and anonymity.

Data Analysis

During the analysis of the data, the research team thoroughly read through all transcripts (interviews, focused-group interviews, and observation notes) and carefully transcribed and checked for accuracy against the original sources. Our data analysis followed widely accepted forms of qualitative inquiry, comprising both inductive and deductive components (Xu, coats, & Davidson, 2012; Erickson, 1986; Graue, Hatch, Rao, & Oen, 2007), using the constant comparative method (Xu & Corno, 1998; Charmaz, 2005) with the aid of the qualitative software Nvivo (2015). The Nvivo software helped us to develop an audit trail (e.g., the process of data collection and coding procedures), in addition to comments and discussions in our data analysis. This audit trail included coded interview transcripts and course posts in addition to other comments made by participants during the data analysis process (e.g., memos, annotations, and queries). Based on our theoretical framework and related literature in the field, we developed a list of codes during the initial analysis (e.g., participants perceptions on collaborative learning activities, benefits, and challenges faced in collaborative learning activities). We examined participants'

responses and statements in the various group activities to help format the data into systematic categories (Strauss & Corbin, 1990).

Independently, each of the three researchers (two faculty members, and one student assistant) in this study selected, coded, and analyzed that data, after which the team met to discuss, deliberate, and negotiate the various category of codes identified. Through engagement and discussions, the three researchers reached an agreement through the constant comparison thematic analysis process. Further, the units that emerged with commonalities from our data were grouped as the initial themes (Creswell, 2007). For instance, the research team carefully examined many transcripts from the interviews that had similar meanings before labeling a theme (e.g., cultural differences, preference of small group over whole/large group, contributions to discussions, benefits of collaborative activities and cognitive learning, perspectives towards online discussions, and cross-cultural online classrooms). At this stage, we checked to find out if the addition of other excerpts from interviews or participants' posts could change the meaning.

The first themes were then refined by removing any redundancies, as well as by capturing the main thrust of each theme's meaning, and then re-examining them via member checking (Guba & Lincoln, 1994). At the initial stage of our data analysis, six themes, including "(a) facilitates knowledge building and construction, (b) preference to work in small-group over whole-group activities, (c) opportunities to share and lead discussion in cross-cultural online environment (d) collaborative activities meet learning and communication styles, and (e) challenges of dealing with cultural differences, (f) lack of multicultural inclusion in the curriculum/course content" emerged. However, after further reviews of the coding records, we recognized that participant statements in Blackboard and interactions with peers and instructors preferred using the word "active," hence we added (g) "Active attitude towards online discussions." Finally, the research team employed the services of three peer reviewers who helped to review all interview transcripts and observation notes by debriefing to reduce potential biases (Erickson, 1986). We also shared with other researchers from diverse backgrounds and other peers at conferences (e.g., the Annual Meetings of Instructional Technology Conference, American Educational Research Associations, Online Learning Consortium Innovate conferences). The feedback and critique we received helped us to clarify and expand our interpretation and analyses of initial findings to promote credibility and ensure validity of the current study.

Results

Our analysis of the response data produced six major themes, namely (a) facilitate knowledge building and construction, (b) preference to work in small-group over whole-group activities, (c) opportunities to share and lead discussion in cross-cultural online environment, (d) collaborative activities meet learning and communication styles, (e) challenges of dealing with cultural differences, and (f), lack of multicultural inclusion in the curriculum/course content.

Facilitate Knowledge Building and Construction

Knowledge building and construction begins with small group learning that promotes higher-level thinking, positive interactions, and discussion among students and instructors in an online learning environment. One participant indicated that online collaborative learning activities helped him to engage with peers during discussions. He noted that: "Collaborative learning facilitates critical thinking and communication - which is crucial for knowledge building. It allows

me to think and contributes to knowledge construction." Participants expressed that online collaborative learning activities allowed them to exchange ideas, critique the work of others, and become part of the knowledge construction process. They expressed their preference to work in a diverse group, by stating that interacting with other students from diverse backgrounds provides them with different views, insights, opinions, and ideas about the topics discussed. A similar sentiment was noted in another participant's response:

> Collaboration involves lots of networking in the classroom to build via web format—that is from inductive to deductive or vice versa. It is the best way to facilitate me to or help me build on knowledge via collaborative learning activities. I like the fact that it helps you to become part of the knowledge-building process.

The participant stated that collaborative online activities helped them to work with other students via learning activities such as group projects, project presentation, and inquiry-based projects, as it offered them opportunities to take an active role in the knowledge construction.

For example, one participant commented in his interview: "I really appreciated collaborative activities that allow you to engage, be proactive, and to contribute to knowledge creation." Another participant stated: "Learning a topic is valuable, but creating knowledge is beautiful, as collaborative activities help to facilitate knowledge-building communities in my online classrooms, especially in technology classes." Overall, the majority of the participants in our study suggested that collaborative online learning activities helped them to gain different perceptions and insight from what is being discussed. In particular, they mentioned that working with students from diverse cultural backgrounds helped to provide them with varied perspectives and contribute to their knowledge building in the classroom.

Preference to Work in Small-group over Whole-group Activities

Many of the participants expressed their preference to work in small-groups over whole-groups. Reflecting upon his experiences in online collaborative group activities, a participant stated:

> I prefer small-group over whole-group activities, because I am able to make my presence felt in small-group than in whole-group. You get recognized and demonstrate the ability to work effectively and respectfully with diverse teams. Small-group activities give the best chance to assume shared responsibility for collaborative teamwork.

Likewise, another participant commented that:

> Small groups in online collaborative activities provide the opportunity to value the individual contributions made by each team member because of the size. With the small size, you can interact with team members and share responsibility better than in the whole-group activities, the issue of confusion is less.

It is interesting to note that, participants preferred small-group activities in collaborative online environments because they felt that as minority students, small-group activities allow them to engage and participate more proactively than in the whole-group activities. This was illustrated in one participant's statement: "With small group discussions and activities, you get to know each member easily and share the responsibility with them much better than whole-group interactions and participation." A participant in the instructional technology program agreed with these ideas:

> I guess my interactions and responses are more recognized and appreciated in the small-group activities than in the whole-group activities. I feel like my peers understand me better in small-group interactions and presentations than in whole-group interactions. I am able to build more relationships with peers in small group activities than in whole-group activities.

Opportunities to Share and Lead Discussion in Cross-cultural Online Environment

Another important finding showed that 16 of 20 participants expressed that online collaborative learning activities provide them opportunities to share and lead discussions. They indicated that collaborative activities help them to gain leadership skills because with group work activities, they are delegated to lead discussions and write weekly reflections. A participant elaborated on this:

> I feel comfortable to lead discussions in online collaborative activities as it helps me to express my opinions and make sure all of my concerns are heard. In the courses I'm currently taking, we are assigned to be group leader every other week. I am dedicated to all the work and distribute responsibility for each team member. It makes me feel accepted as a minority student leading a mixed group in an online environment.

These minority graduate students were willing to become leaders in the group activities. It is interesting to note that, having become group leaders, minority graduate students tended to be aware of the benefits of becoming a leader, participate, and contribute to group activities. Most participants also explained their willingness to be group leaders in online learning environments. They reported that group leadership provided them opportunities to share ideas, life experiences, and cultural backgrounds with classmates. This leadership preference could be due to the fact that they want to express their perceptions and experiences in online collaborative learning, and to function as leaders and diverse leaners in online discussions. Group leadership among participants helped them to be part of knowledge construction and collaborative learning.

Online Collaborative Activities Meet Their Learning and Communication Styles

Many participants further expressed that online collaborative learning activities meet their learning and communication styles, as one participant said: "With online collaborative learning activities such as group presentations, project-based learning, and team-work on projects in online learning, these projects meet my learning styles as they have varied reading materials and formats." Another participant commented:

> I enter into online classroom with different perspectives and cultural background and expected instructors and other students to understand me or provide examples that meet my learning styles and communication patterns, and I guess online collaborative activities help to meet my learning preferences and communication patterns as it provides many activities to choose from. Again, I have the opportunity to work with other students where I can express my thoughts and ideas using my cultural backgrounds to serve as an example.

The participants' responses revealed that online collaborative activities help to meet their learning and communication styles. The various activities allowed them to choose which activities meet their learning styles as well as the way they communicate with peers and instructors. For example, a participant noted: "Collaborative online activities provide you the opportunity to

collaborate more with your peers and the opportunities to choose from many online activities in terms of which one best fit or meet your learning and communication styles." Since the need to obtain and sustain knowledge is to understand the concept, the participants felt that group activities give them varied examples to understand the concepts. They also reported that collaborative activities promote social presence and the exchange of ideas; participants have the chance to engage with peers and instructors via blogging, online chats, and other online mediums through social presence.

Challenges of Dealing with Cultural Differences

The participants agree with the above statement but had some reservations with the implementation of cross-cultural online collaboration in all subjects. The participants reported experiencing challenges of dealing with cultural differences with their peers and instructors during discussions. For example, the majority of the participants stated that, sometimes, instructors and other peers do not understand the examples they use in their responses and comments, or posts in online because of the cultural differences. A participant noted: "I face the challenge of lack of cultural understanding and differences on both sides, and wish I could provide examples that my peers and instructors can understand, and same from their side." Yang et al. (2014) indicated that, "students found it difficult to collaborate when they did not have sufficient background knowledge" (p. 216). The participants emphasized that instructors do not incorporate culturally relevant examples and fail to address the cultural differences among students in the online environment. Thus, during collaboration and discussion, they do not know one another's cultural background or experiences where they can learn from each other. They advised that instructors incorporate more activities such as icebreakers in the first week of class so that students introduce themselves in the first discussion and establish ground rules in order to create an open learning environment. Another participant elaborated:

> I believe instructors have a responsibility to integrate cultural education into the curriculum and address cultural differences where appropriate to help minority students. This process will foster understanding of the various cultural differences as I, sometimes, find it difficult to relate and make appropriate contributions to discussions.

The participants in this study faced challenges in dealing with cultural diversity or differences in the online environment. For example, they felt that instructors do not address the issue of multiculturalism in their online classes. One of the participants shared the following to support this assertion: "As a foreign learner, I strongly experienced that language barriers for non-native speakers tend to detract from equal participation, and this caused depression sometimes."

Lack of Multicultural Inclusion in the Curriculum/Course Content

Another salient finding was the reported lack of engagement with cultural diversity and inclusion in the curriculum and reading content. One of the participants recounted the following: "All the articles I read are based on European culture and have no relation to my culture. I would like to read or see examples from my culture to help me understand the content or activities we do online." The participants reported that they experienced minimal cultural diversity in the content of their reading materials or examples in the curriculum. They pointed out that the curriculum materials lacked cultural inclusion, as most of the readings did not relate to their cultural backgrounds or experiences. The participants felt that they were being marginalized in online courses because, in many instances, their comments and responses were being ignored by peers

and instructors, making it difficult for them to contribute to knowledge creation. For example, one of the participants noted: "As a minority student, I would like to read materials and resources that do not lack the inclusion of my culture in the content." Two participants further elaborated:

> I understand that incorporating cultural diversity in online collaborative activities becomes challenging when examples and curriculum are devoid of cultural inclusion, and in most instances, instructors don't address or incorporate cultural diversity into the curriculum. This makes it hard for me to understand and contribute to activities.

> It can be challenging to understand, relate to, and participate in collaborative online activities if the content of what you read is different. I get frustrated when I can't give example based on my cultural background. I think it's not fair for us minority students, as we can't share our cultural experiences mainly because we are minority students. There is lack of response from other group members if you try to share your cultural experience or provide different examples.

This pattern of sentiment has been echoed by other participants, particularly as it relates to cultural inclusion in the course content they read and intercultural relations with peers and instructors. One participant noted:

> I don't see my culture represented in any of the readings in the online courses I have enrolled. Sometimes, I question why all the examples are based on European cultures and not diverse. My friends get confused anytime I used examples based on my culture. It affects my communication with them.

Discussion

This study examined the perceptions of minority graduate students toward online collaborative learning activities. The participants were 20 minority graduate students from diverse cultural backgrounds enrolled in online graduate instructional technology and special education program at a university located in the Northeastern United States. A qualitative research design using semi-structured interviews, focus group interviews, and non-participant observation were employed to collect the data for the study. The analysis of the data generated six themes on the perceptions of the minority graduate students toward online collaborative learning activities. First, the majority of the culturally diverse graduate students agreed that online collaborative learning activities promote knowledge building and construction, as it provides them the opportunity to contribute to learning activities and become part of the knowledge construction process during discussions. Second, the participants indicated a strong preference for working in small groups to working in whole-class activities in a cross-cultural collaborative learning environment. Third, the participants concurred that online collaborative learning activities provided them the opportunities to share and lead discussions in cross-cultural online environments. Fourth, they reported that online collaborative learning activities seemed to meet their learning and communication preferences and enabled them to achieve better academically. Fifth, the participants contended that online collaborative learning activities posed challenges in terms of their ability to deal with cultural differences. Sixth, participants indicated that they experienced a lack of multicultural inclusion in the curriculum and online reading content.

The first theme suggests that this group of participants is willing to work in a racially mixed group that helps them to tap into the diverse knowledge construction of students who participate

in online collaborative learning activities. On the one hand, online collaborative learning activities allowed them to contribute to knowledge creation via reviewing peers' activities, suggestions, and criticisms; on the other hand, the participants also benefitted from learning in a diverse group and the sense of belonging to a community in the online environment where there was constant social interaction between student groups and instructors. These findings are in line with Vygotsky's (1978) social constructivism theory that highlights the importance of social interactions in learner cognition and the construction of knowledge. It also recognizes the benefits of personal and cultural backgrounds of students as major factors that influence ways in which students acquire knowledge (Vygotsky, 1978; Zhu, 2009). The second theme pointed to culturally diverse students' preference of small-group interaction in collaborative learning environment over whole-group collaborative learning activities. The participants reported that small-group learning activities provided a sense of confidence and motivation to contribute to discussions because of the small number of students in the groups. They claimed that small-group activities allowed them to function better as their comments and responses are recognized. It also allowed them to share their cultural and educational experiences with other members to facilitate cross-cultural understanding. The participants also disclosed that cross-cultural online collaborative learning activities allowed them to share and lead discussions. This finding suggests that online collaborative learning activities provided opportunities for minority students to gain leadership skills that helped them to gain access to the control of group decision-making process, which helped them to meet their learning preferences and cultural experiences.

The fourth theme that emerged from the study regarding the participants' learning and communication styles does not seem to be supported by results from prior findings in the research literature, which identified the following problems for culturally diverse students collaborating online: (1) inability to understand specific cultural references in online discussions; (2) lack of non-linguistic cues, (3) difficulties expressing disagreement; (4) communicative constraints resulting in less substantive postings; and (5) mismatched communication patterns (i.e., use of short, content-driven contributions as opposed to long, relationship-driven contributions or vice versa) (Gunawardena, 2014; Kim & Bonk, 2002; Lim & Liu, 2006; Uzuner, 2009). One possible explanation is that this group of culturally diverse graduate students was determined to succeed in online collaborative learning activities, and had prior experience in online discussion settings, which might have helped them to consider academic grades above their individual cultural preferences in online environments. Another possible explanation that is closely related to facilitating learning, communication, and learning preference patterns, is that this group of culturally diverse graduate students claimed that small group collaborative activities served as a source of motivation for them to engage and participate in discussions, which allowed them to share, collaborate with their peers and instructors, and develop identity (Du, Zhou, Xu, & Lei, 2016). It also provided them opportunities to take more time to get to know peers and interact with them. They found this environment ideal for engaging in online collaborative learning activities for knowledge building and creation (Gunawardena, Layne, & Frechette, 2012; Ke, & Kwak, 2013; Li, 2012).

Further, the participants pointed out that they faced challenges in dealing with cultural differences, and the lack of cultural diversity in the curriculum or content of the materials they read online. They disclosed that these challenges limit their academic success, as they have to spend time to deal with the cultural differences among their peers and instructors. Several of the participants felt that their instructors do not incorporate diverse resources to help them understand the content of what they discuss online. This finding seems to be consistent with the results from

several prior studies that identified the cultural diversity knowledge base of the majority of online instructors as poor, and hence they tend to ignore the rich multicultural experiences these students bring to the online learning environments (Anakwe & Christensen, 1999; Thompson & Ku, 2005). They also reported that cultural norms in online classrooms are at odds with their regular online learning practices (Ke & Kwak, 2013). Most culturally diverse students expressed that the reading materials instructors provide them lack cultural inclusion, which often makes it difficult for them to comprehend and contribute to knowledge construction via discussions. Further, some of the participants reported feeling marginalized in online discussions, especially, in whole group learning activities as their comments were unrecognized and received no feedback from other members. Prior research studies found that minority online learners felt a "sense of marginalization, or alienation" from the culturally dominant group (the Americans –i.e., native – born classmates) even in a highly interactive learning environment (Shattuck, 2005, p. 186).

Taken together, the present study extends previous research on online collaborative learning activities in several ways. First, this qualitative study is an attempt to better understand the perceptions of minority graduate students toward cross-cultural online collaborative learning activities, which has addressed a significant knowledge gap in the research literature on online collaborative learning, where cultural diversity of students has rarely been taken into consideration (Ashong & Commander, 2012; Boyette, 2008). Second, the findings indicated that there is a growing need to understand the perceptions of minority graduate students towards online collaborative learning. At a broader level, the study provides an opportunity for instructors who teach online courses to design and implement collaborative learning activities to help students from diverse backgrounds to achieve higher academic success. It also seeks to broaden instructors' understanding and the impact of diversity in promoting cross-cultural collaboration in online teaching. Finally, our findings regarding six themes identified above provide important strategies about how to facilitate and engage culturally diverse graduate students in online collaborative learning activities.

Recommendations

Several recommendations resulted from the present study in efforts to understand the perceptions of culturally diverse graduate students in online collaborative learning activities. For example, to promote cultural inclusion in online courses, instructors may incorporate cultural diversity learning activities at the early stage of the course, sharing ideas about culture, heritage, and how to address cultural differences in an online setting. It is also important for instructors to recognize the multiple cultures students bring to online classrooms, and the need to provide them with diverse reading materials to help them better understand the content, and contribute to knowledge building.

Collaborating with students from a different culture and having designed time to get to know each other can be very rewarding for students looking to understand a new culture. Another important recommendation of this work is to inform instructors and instructional designers to be sensitive and cognizant of the learning preferences of different minority students or groups when designing online courses, specifically with cross-cultural collaborative activities.

Implications

The present study provides insight into the ways in which culturally diverse graduate students collaborate with their peers and instructors in the online learning environments. The findings can guide instructors, educators, and instructional designers on how best to design and

implement an online course to suit the academic needs of culturally diverse learners to better facilitate an intercultural collaborative learning context. Findings will help instructors to better understand how to attend to cultural differences of students to help improve the learning experiences of students in multicultural environments. For example, to promote cross-collaboration, instructors need to place culturally diverse learners in small group discussions and allowed them to take leadership roles to help them interact with other students and instructors. The present study provides the foundation for the design of collaborative activities that take into account the cultural backgrounds of students in the cross-cultural collaborative online learning environments (Popov, Noroozi, Biemans, & Mulder, 2012). For example, findings indicated that culturally diverse students prefer to have opportunities to share and lead discussion in a cross-cultural online environment.

Limitations

The findings from the present study extend previous research in the field regarding online collaborative learning activities. However, our findings were based on the perceptions and experiences of 20 minority graduate students enrolled in graduate online programs in education. Thus, these findings are based on a small sample size, and hence do not reflect the perceptions of all culturally diverse students in online settings. Future studies could look into minority students' perspectives in online collaborative activities via quantitative studies. Additional studies could be conducted to compare the perspectives of different minority graduate students from different programs and other related factors such as gender, age, and socioeconomic status.

Conclusion

Collaborations in online learning environments involve both students and instructors working together to achieve a common goal. According to Haythornthwaite (2006), collaboration in the online learning environment addresses learning and knowledge creation, group learning, development and maintenance processes, computer-mediated communication, and the presentation of these issues in online learning environments. As instructors, we need to understand the perceptions of students from diverse backgrounds toward online collaborative learning activities to help design effective instructional strategies to help diverse learners succeed. The findings indicate that culturally diverse graduate students perceptions about collaborative learning activities is demonstrated via the following: (1) facilitate knowledge building and construction, (2) preference to work in small-group over whole-group activities, (3) opportunities to share and lead discussion in cross-cultural online environment (4) collaborative activities meets learning and communication styles, and (5) challenges of dealing with cultural differences, and (6) lack of multicultural inclusion in the curriculum/course content. This paper sets out to expand our understanding of the perceptions of diverse student populations toward online collaborative learning activities in terms of their interactions, preferences, benefits, and challenges, and the ways that can be adopted to promote their participation in online collaborative learning activities. Since online collaborative learning activities can mean different instructional strategies, instructors are encouraged to understand the specific type of collaborative activity and to plan resources appropriately, taking into consideration the cultural backgrounds of students, and the challenges students may encounter in the online learning environment.

References

Allen, I. E., & Seaman, J. (2016). *Changing course: Ten years of tracking online education in the United States.* Newburyport, MA: Sloan Consortium.

Allen, I. E., & Seaman, J. (2014). Class differences: Online education in the United States. Needham, MA: Babson Survey Research Group. Retrieved from https://www.sloan c.org/publications/survey/pdf/sizing_opportunity.pdf

Adeoye, B., & Wentling, R. M. (2007). The relationship between national culture and the usability of an e-learning system. *International Journal of E-Learning, 6*(1), 119-146.

Anakwe, U. (1999). Distance learning and cultural diversity: potential users' perspective. *International Journal of Organizational Analysis (1993–2002), 7*(3), 224.

Avci Yucel, U., & Usluel, Y. K. (2013). The quality of interaction and participation in knowledge building processes within the online collaborative learning environments. In *International academic conference on education, teaching and e-learning (IAC-TTeL 2013), Prague, Czech Republic.*

Boyette, M. A. (2008). *An investigation of the online learning environment in higher education through the observations and perceptions of students of color* (unpublished doctoral dissertation). University of South Florida.

Chan, C. K. K., & Chan, Y. Y. (2011). Students' view of collaboration and online participation in knowledge forum. *Computers and Education, 57, 1445-1457.*

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* London: Sage.

Correa, T., & Jeong, S. H. (2011). Race and online content creation. *Information, Communication & Society, 14*(5), 638-659.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Dikkers, G. A., Whiteside, A. L., & Lewis, S. (2013, Winter). Virtual high school teacher and student reactions to the Social Presence Model. *Journal of Interactive Online Learning, 12*(3), 156-170.

Du, J., & Anderson, J. D. (2003). Technology and quality of education: does technology help low-income and minority students in their academic achievements? *Journal of Law, Technology & Policy, 2003*(1), 1-34.

Eggen, P., & Kauchak, D. (2004). *Educational Psychology: Windows, Classrooms.* Upper Saddle River, NJ: Pearson Prentice Hall.

Erickson, F. (1986). Qualitative methods in research on teaching. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed.). (pp. 119-161). New York, NY: Macmillan.

Fogg, L., Carlson-Sabelli, L., Carlson, K., & Giddens, J. (2013). The perceived benefits of a virtual community: effects of learning style, race, ethnicity, and frequency of use on nursing students. *Nursing Education Perspectives, 34,* 390-394.

Gachago, D., Morris, A., & Simon, E. (2010). Engagement levels in a graphic design clicker class: students' perceptions around attention. *Journal of Information Technology Education, 10*, 253-269.

Garrison, D. R. (2007). Online community of inquiry review: Social, cognitive, and teaching presence issues. *Journal of Asynchronous Learning Networks, 11*(1), 61-72.

Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence and computer conferencing in higher education. *The American Journal of Distance Education, 15*(1), 7-23. Doi:10.1080/08923640109527071

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical thinking in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education, 11*(2), 1-14.

Goodfellow, R., & Lamy, M. N. (2009). Conclusions: New directions for research in online learning cultures. In R. Goodfellow & M-N. Lamy (Eds.), *Learning Cultures in Online Education* (pp. 170-183). Harrisburg, PA: Continuum Studies in Education.

Goodfellow, R., & Hewling, A. (2005). Reconceptualising culture in virtual learning environments: from an 'essentialist' to a 'negotiated' perspective. *E-Learning, 2*(4), 355–367.

Gredler, M. E. (2009). Hiding in plain sight: the stages of mastery/self-regulation in Vygotsky's cultural-historical theory. *Educational Psychologist, 44*(1), 1-19. doi: 10.1080/00461520802616259

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105e117). Thousand Oaks, CA: Sage.

Gunawardena, C., Wilson, P., & Nolla, A. (2003). Culture and online education. In M. Morre, & W. Anderson (Eds.), *Handbook of distance education* (pp. 753-775). Mahwah, NJ: Lawrence Erlbaum.

Gunawardena, C. N., Nolla, A. C., Wilson, P. L., Lopez-lslas, J. R., Ramirez-Angel, N., & Megchun-Alpizar, R. M. (2001). A cross-cultural study of group process and development in online conferences. *Distance Education, 22(1),* 85–121.

Haythornthwaite, C. (2006). Facilitating collaboration in online learning. *Journal of Asynchronous Learning Networks, 10*(1), 7-24.

Havard, B., Du, J., & Xu, J. (2008). Online collaborative learning and communication media. *Journal of Interactive Learning Research, 19*(1), 37-50.

Henderson, L. (1996). Instructional design of interactive multimedia. *Educational Technology Research and Development, 44*(4), 85-104.

Henderson, L. (2007). Theorizing multiple cultures instructional design model for e- learning and e-teaching. In A. Edmundson & (Ed.), *Globalized e-learning cultural challenges* (pp. 130-153). Hershey: Information Science Publishing.

Hofstede, G. (1986). Cultural differences in teaching and learning. *International journal of Intercultural Relations, 10,* 301-320.

Hoepfl, M. C. (1997). Choosing qualitative research: a primer for technology education researchers. *Journal of Technology Education, 9*(1). Retrieved from http://scholar.lib.vt.edu/ejournals/JTE/v9n1/hoepfl.html

Du, J., Zhou, M., Xu, J., Lei, S. S. (2016). African American female students in online collaborative learning activities: The role of identity, emotion, and peer support. *Computers in Human Behavior, 63*(2), 948-958

Kim, K.J., & Bonk, C. J. (2002). Cross cultural comparisons of online collaboration. *Journal of Computer-Mediated Communication, 8*(1). Retrieved from http://www.ascusc.org/jcmc/vol8/issue1/kimandbonk/html

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of evidence based practices in online learning: A meta-analysis and review of online learning studies.* U. S. Department of Education.

McLouglin, C. (2001). Inclusivity and alignment: principles of pedagogy, task and assessment design for effective cross-cultural online learning. *Distance Education, 22*(1), 7-29.

Meter, P. & Stevens, R.J. (2000). The role of theory in the study of peer collaboration. *Journal of Experimental Education*, (69), 113 – 129.

Mushtaha, A., & De Troyer, O. (2007). Cross-cultural understanding of content and interface in the context of e-learning systems. In N. Aykin M. (Ed.), *Usability and Internationalization. HCI and Culture,* Lecture Notes in Computer Science (Vol. 4559/2007, pp. 164-173) Berlin/Heidelberg: Springer Berlin.

Okwumabua, T. M., Walker, K. M., Hu, X., & Watson, A. (2011). An exploration of African American students' attitudes toward online learning. *Urban Education, 46*, 241-250.

Oetzel, J.G., Ting-Toomey, S., Masumoto, T., Yukochi, Y., Pan, X., Takai, J., & Wilcox, R. (2001). Face and face work in conflict: A cross-cultural comparison of China, Germany, Japan, and the United States. *Communication Monographs, 68*, 235–258.

Panitz, T. (1999). *Collaborative versus cooperative learning - a comparison of the two concepts which will help us understand the underlying nature of interactive learning.* Retrieved September 10, 2017 from ERIC database. (ED448443).

Pattanpichet, F. (2011). The effects of online of using collaborative learning to enhance students' English-speaking achievement. *Journal of College Teaching & Learning, 8*(11), 1-10.

Popov V., Noroozi O., Biemans H. J. A., Mulder M. (2012) Computer supported intercultural collaborative learning: A study on challenges as perceived by students. In A. Ravenscroft, S. Lindstaedt, C. D. Kloos, & D. Hernández-Leo (Eds.) *21st century learning for 21st century skills. EC-TEL 2012.* Lecture Notes in *Computer Science, 7563*. Springer, Berlin, Heidelberg.

Resta, P., & Laferriere, T. (2007). Technology in support of collaborative learning. *Educational Psychology Review, 19*, 65-83.

Rettig, M. (2013). Online postings of teacher education candidates completing student teaching: What do they talk about? *Linking Research & Practice to Improve Learning, 57*(4), 40-45.

Rogers, P. C., Graham, C. R., & Mayes, C. T. (2007). Cultural competence and instructional design: Exploration research into the delivery of online instruction cross-culturally. *Educational Technology Research and Development, 55*(2), 197-217.

Russell, M., Kleiman, G., Carey, R., & Douglas, J. (2009). Comparing self-paced and cohort-based online courses for teachers. *Journal of research on Technology in Education, 41*(4), 443-466.

Shea, P., & Bidjerano, T. (2012). Learning presence as a moderator in the community of inquiry model. *Computers & Education, 59*(1), 316–326.

Shi, Y., Frederiksen, C. H., & Muis, K. R. (2013). A cross-cultural study of self-regulated learning in a computer-supported collaborative learning environment. *Learning and Instruction, 23*, 52–59.

Shattuck, K. (2005). *Glimpse of the global coral gardens: Insights of international adult learners on the interactions of cultures in online distance education.* Unpublished doctoral dissertation, The Pennsylvania State University. Place.

Slavin, R. E., & Cooper, R. (1999). Improving intergroup relations: lessons learned from cooperative learning programs. *Journal of Social Issues, 55*(4), 647-663.

Smith, D., & Ayers, D. (2006). Culturally responsive pedagogy and online learning: implications for the globalized community college. *Community College Journal of Research & Practice, 30*(5/6), 401-415.

Smith, R., Clark, T., & Blomeyer, R. L. (2005). *A synthesis of new research on K-12 online learning.* Naperville, IL: Learning Point Associates. Retrieved from http://www.ncrel.org/tech/synthesis/synthesis.pdf.

So, H. J., Seah, L. H., & Toh-Heng, H. L. (2010). Designing collaborative knowledge building environments accessible to all learners: Impact and design challenges. *Computers and Education, 54(2), 479-490.*

Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Newbury Park, CA: Sage Publications.

Timmis, S., & Cook, J. (2004). Motivating students towards online learning: Institutional strategies and imperatives. *The new educational benefits of ICT in higher education,* 73-79. Retrieved from http://repub.eur.nl/res/pub/1233

Ümmühan Avcı Yücel, Yasemin Koçak Usluel. (2016). Knowledge building and the quantity, content and quality of the interaction and participation of students in an online collaborative learning environment. *Computers and Education, 97*, 31-48.

Uzner, S. (2009). Questions of culture in distance learning: a research review. *International Review of Research in Open and Distance Learning, 10*(3), 1-19.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes. Cambridge*, MA: Harvard University Press.

Wang, M. (2007). Designing online courses that effectively engage learners from diverse cultural backgrounds. *British Journal of Educational Technology, 38*(2), 294-311.

Whiteside, A. L. (2015). Introducing the social presence model to explore online and blended learning experiences. *Journal of Asynchronous Learning Networks*, *19*(2)

Wertsch, J. V. (1998). *Mind as action.* New York, NY: Oxford University Press.

Wolfe, A. (2012). Implementing collaborative learning methods in the political science classroom. *Journal of Political Science Education, 8,* 420-432.

Wong, F., & Trinidad, S. (2004). Using ICT in web-based distance learning to reduce the cultural distance. *Journal of Interactive Online Learning, 3*, 1–13.

Watson, R. T., Ho, T. H., & Raman, K. S. (1994). Culture: a fourth dimension of group support systems. *Communication of the ACM, 37*(10), 45-55.

Weinberger, A., Stegmann, K., & Fischer, F. (2007). Knowledge convergence in collaborative learning: Concepts and assessment. *Learning and Instruction, 17*, 416-426.

Xu, J., & Corno, L. (1998). Case studies of families doing third-grade homework. *Teachers College Record, 100*, 402-436.

Xu, J., Coats, L. T., & Davidson, M. L. (2012). Promoting student interest in science: The perspectives of exemplary African American teachers. *American Educational Research Journal, 49*, 124-154

Yang, J., Kinshuk, Yu, H., Chen, S., & Huang, R. (2014). Strategies for smooth and effective cross-cultural online collaborative learning. *Educational Technology & Society, 17* (3), 208–221.

Yazici, H. J. (2004). Student perceptions of collaborative learning in operations management classes. *Journal of Education for Business, 80,* 110-118.

Zhao, N., & McDougall, D. (2008). Cultural influences on Chinese students' asynchronous online learning in a Canadian university. *Journal of Distance Education, 22*(2), 59-80.

Zhu, C., Valcke, M., & Schellens, T. (2009). "A cross-cultural study of online collaborative learning," *Multicultural Education &Technology Journal, 3*(1) 33-46. Retrieved from https://doi.org/10.1108/17504970910951138

Appendix A: Interview Protocol

1. Tell me about your online learning experience. How has it been? Please explain in detail how you are enjoying it or otherwise.

2. Can you tell us about your experience in cross-cultural online collaboration? How do you define that?

3. Tell me more about the role you play in the collaborative learning.

4. Tell us about your perceptions about online collaborative learning activities. How has it been? Did you enjoy it? Why or why not?

5. Tell me about your experience in online collaborative learning activities? How has it been? Did you enjoy it? Why or why not?

6. How do you interact with peers and instructors in the online collaborative learning environment?

7. Do you think the communication tools, such as emails, online chats, videos, and discussion board, have been useful for online learning collaboration? Why or why not?

8. What other communication tools (such as Skype, videos) did your online course?

   Why did you choose to use those tools or what was your preference?

9. What type of online group discussion do you prefer (e.g., small group, whole group or both)? Why do you prefer this type? Do you feel you contribute more to the group in this type of discussion?

10. What types of concerns/topics do you prefer to discuss online, theoretical or cultural issues? Why do you prefer to discuss this opposed to the other? What makes you uncomfortable in discussing certain issues?

11. How would you describe your experience leading and facilitating online collaborative learning activities? Please explain with examples.

12. Is there a connection among your peers in your small group online collaborative learning activities? If yes, why? If no, explain, Does this connection extend beyond online collaborative learning activities? Provide specific examples?

13. How do you contribute to online learning activities? Do you think about your answers first or just join in and try to become involved in online collaborative learning activities? Can you elaborate more on this?

14. Do you worry about how you answer questions in online collaborative learning activities? What make you feel this way?

15. How do you feel about your responses and comments and how your peers and instructors respond to your comments? Any specific examples you may have?

16. What are the benefits you gain from online collaborative learning activities? Please explain with specific examples you may have.

17. What are the major challenges you encounter in online collaborative learning activities? Please provide specific examples.

18. What strategies do you use to overcome or reduce the challenges you face in online collaborative learning activities?

19. Tell me how you respond to group leadership in collaborative learning activities. How do you address cultural differences in online collaborative activities? Provide specific examples.

20. How would you address cultural differences in online collaborative learning activities? Do you want anyone to ask you questions about your cultural background or related to your background in online environments?

21. Do you feel more comfortable working in mixed student groups? If so, why or why not? What is your preference? Any specific examples you may have?

Appendix B (Focus Group Interview Questions)

1. Tell us about your experiences in online collaborative learning activities? How has it been? Please in detail your experiences in online group activities?

2. Are there things that help you to be more involved or active in online collaborative learning activities?

3. Describe your perceptions of online collaborative learning activities? What are the roles you play in online collaborative learning activities?

4. Please explain to us how you contribute to group discussion or collaborate with peers in online collaborate learning activities?

5. Is there anything that you think would improve your communications with all of your peers and instructors in online collaborative activities or discussions?

6. Describe the type of online group discussion you prefer (e.g., small group, whole group or both)? Why do you prefer this type? Explain with examples? Do you feel you contribute more to the group in this type of discussion?

7. Tell us how your relationships with peers and instructors have been in online collaborative learning activities (Probing: Would you describe the relationship as positive or negative? If so, in what ways? Do you receive any support from your instructors in online learning environment? If so, what kind of support? Does the support in any way influence your academic performance in online courses?)

8. Describe the benefits you have gained or gain in online collaborative learning activities? Please explain with specific examples?

9. Describe the challenges you experience in online collaborative learning activities? Would you explain the major challenges you face?

10. Tell me about the strategy or strategies you have adopted to manage the challenges and succeed in online collaborative learning activities? How did you manage to navigate through the difficulties to succeed?