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Abstract

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Keywords

Teacher preparation, English learners, Questioning strategies, Interactive classroom simulation, Interactive avatars, ESOL Education

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A Study on Teacher Candidates' Questioning Strategies for English Learners through an Interactive Classroom Simulation

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This study examines a classroom simulation workshop designed for teacher candidates (TCs) to practice questioning strategies with English learners (ELs) at various English proficiency levels, through the lens of sociocultural theory. Data was collected from an assignment in an ESOL methods course consisting of questions that TCs prepared before the simulation, revised after the simulation, and responses to an open-ended questionnaire. Findings show that TCs made their questions comprehensible for beginner level ELs, however, overextended their question modification to both the intermediate and advanced levels. Implications highlight the importance of practicing questioning strategies that are appropriate for all proficiency levels. Keywords: Teacher preparation, English learners, interactive classroom simulation, avatars, ESOL

Introduction

Demographics within U.S. PreK-12 schools have shifted to become increasingly ethnically and linguistically diverse. The National Center for Education Statistics (NCES, 2018) reported that 4.8 million students were considered as English learners (ELs). English learners face both linguistic barriers and cultural differences between their home countries and that of the U.S. school system. Yet, approximately 83 percent of teachers in U.S. schools identified as White (NCES, 2012) leading to an instructional gap where nearly 80 percent of teachers noted feeling underprepared to teach ELs (Durgunođlu & Hughes, 2010; McGraner & Saenz, 2009). More recent literature regarding teacher preparedness for instructing ELs has shown that even after completing university teacher preparation programs, the majority of teachers still feel underprepared to address the academic and linguistic needs of their ELs (Diarrassouba, 2018; Wissink & Starks, 2019).

Teachers need to understand effective strategies for teaching ELs (de Jong & Harper, 2005). Similar to Diarrassouba (2018) and Wissink and Starks (2019), Regalla and colleagues (2016) found that teacher candidates (TCs) have reported their teacher preparation programs still left them feeling unprepared to instruct the ELs in their prospective classrooms. Hence, communication barriers can be reduced when teacher preparation programs focus on meeting the needs of ELs. Specifically, we argue that by introducing and practicing effective questioning strategies, educators better engage ELs and facilitate their ability to express learning. Further, by considering ELs' English proficiency levels (EPLs) when asking comprehensive questions,

teachers are better positioned to determine if their ELs have successfully comprehended academic content (Nutta et al., 2018; Pappamihel & Mihai, 2006). The purpose of this study was to examine a classroom simulation using simulation technology focused on questioning strategies for ELs at three EPLs (i.e., beginning, intermediate, advanced) embedded into a teacher preparation program.

Literature Review

Importance of Teacher Questioning

Questions have historically been fundamental in activating students' intellectual skills (Aydemir & Çiftçi, 2008). Student engagement is critical for success with research demonstrating that higher levels of student engagement is a "robust predictor of student achievement in school" (Klem & Conell, 2004, p. 262). When executed properly, questions are instrumental in inspiring students to actively engage in classroom instruction and enhancing their critical thinking (Cotton, 1988; Gall, 1984; Hu, 2015). Marzano and colleagues (2001) noted that questioning has been highlighted as one of the nine most effective teaching strategies. However, teachers need adequate preparation to engage ELs in meaningful classroom talk with effective questioning strategies (Döş et al., 2016).

Approximately 80 percent of instructional time is dedicated to teachers questioning students (Marzano et al., 2001). However, research has raised many concerns regarding the quality and purpose of teacher-directed questions. Display questions are the most common types of questions asked by teachers (Albergaria-Almeida, 2010), with sixty percent of teacher questions falling into this category (Albergaria-Almeida, 2010). As such, students simply recall factual information back to their teacher. For example, "What is the capital city of Argentina?" Additionally, little to no critical thinking is needed to answer display questions (Barnes, 1969; Cullen, 2002; Ellis, 2008; Long & Sato, 1984).

A common questioning strategy, known as the Initiate-Response-Evaluate (IRE) sequence, allows teachers to control the verbal interactions of a classroom. Mehan (1982) described IRE as "interactional units that occur in a classroom in order to exchange academic information" (p. 69). For example, the teacher may ask, "What is the capital city of Argentina?" The student may answer, "Buenos Aires." The teacher would then evaluate the student's response with a simple, "Correct," and then immediately move to another question. The IRE questioning method dominates most teachers' questioning processes (Albergaria-Almeida, 2010).

Modifying Questions for ELs

Studies conducted in English for speakers of other languages (ESOL) classroom settings indicated no difference in the frequency at which teachers question their students nor the types of questions asked. Long and Sato (1984) demonstrated that over 900 questions were asked in a span of six elementary lessons with ELs. Tsui (1995) established that 70 percent of instructional time was spent on teachers questioning their ELs. In today's PreK-12 classrooms, display questions using the IRE format are still common, particularly for ELs with little English proficiency; however, classroom reports have started to show that progress is slowly being made to include ELs, especially for ELs with an intermediate or higher English proficiency, in instructional conversations and other interactive and social discourses (Mohr & Mohr, 2007). Because it is vital that teachers informally assess ELs' comprehension (Hill & Flynn, 2006), serious consideration must be paid to teachers' questioning strategies so that ELs do not miss

significant academic content (Regalla et al., 2016). Additionally, teachers must create interactions with ELs that are meaningful rather than limiting their verbal interactions to display questions. In the context of language development, Ellis (2008) defined *negotiation of meaning* as the mutual understanding reached by both the EL and the teacher through interactional modifications, including comprehension checks and clarifications. Therefore, it is imperative that teachers of ELs know their ELs' individual EPLs as well as the appropriate types of questions that can be both understood and answered by the ELs at their respective EPL (Hill & Flynn, 2006).

The World-Class Instructional Design and Assessment (WIDA) is dedicated to the design and implementation of high standards and equitable educational opportunities for ELs. Among their Can-Do Descriptors are discourse characteristics depicting what ELs at each EPL can understand and/or perform, as shown in Table 1.

Table 1

<i>WIDA Discourse Level of Can-Do Descriptors</i>	
Level	Discourse Level
Entering – Level 1	Single words Phrases or chunks of language
Emerging – Level 2	Phrases or short sentences Expression of ideas
Developing – Level 3	Some expanded sentences with emerging complexity Expanded expression of one idea or multiple related ideas
Expanding – Level 4	Some complex sentences Organized expression of ideas with emerging cohesion
Bridging – Level 5	Multiple complex sentences Cohesiveness and coherency

Adapted from 2012 Amplification of the English Language Development Standards: University of Wisconsin Systems, Madison Wisconsin, 2012. http://www.wida.us/standards/CAN_DOs/

Aligning with WIDA's Can-Do Philosophy, teachers have the responsibility to build upon their ELs' cultural, educational, and linguistic backgrounds and skills through an equity and social justice perspective. WIDA's (2014) Can-Do Descriptors recognize that both language acquisition and negotiation of meaning are achieved through teachers' instruction and scaffolding. Within content instruction, WIDA (2014) has outlined model performance indicators accounting for each of the five EPLs as shown in Table 1. Additionally, the indicators interconnect the ELs' linguistic functions and processes, respective to their individual EPL, the instructional content, and the instructional support strategies that help bridge language and content for ELs (WIDA, 2014).

Scaffolding Questions for ELs

This study, focused on the differentiation of questioning strategies for ELs, was examined through the lens of sociocultural theory (Vygotsky, 1978). As such, knowledge is constructed

through social interaction between a teacher, or *more capable peer*, and a learner (Vygotsky, 1978; Wertsch, 1985) within the learner's zone of proximal development (ZPD). Two levels of development exist within ZPD. The first, known as the actual developmental level, is what the learner can achieve alone. The second, the potential developmental level, refers to what the learner can accomplish with the assistance of more capable peers (Vygotsky, 1978). According to sociocultural theory, language is the most important tool that the teacher, or the more capable peer, can use to provide learners with the necessary assistance to move them beyond the actual level of performance to the potential level. This assistance is defined by Vygotsky (1978) as mediation or scaffolding. Scholars in the area of language development consider negotiation of meaning as a type of scaffolding that speakers employ to obtain mutual understanding through interaction. These interactions consist of clarifications, rephrasing, and confirmation (Donato, 2000; Gibbons, 2003; Hogan & Pressley, 1997; Wood et al., 1976).

Research has shown that through scaffolding, teachers can differentiate the types of questions so that the questions are both comprehensible and meaningful to all students (particularly ELs) while simultaneously checking for understanding and facilitating language development (Kim, 2010; Nutta et al., 2014). Scaffolding encourages learners to take ownership and responsibility for their own learning. In addition, scaffolding allows ELs to be successful and gain a sense of confidence in their ability to respond successfully to their teachers' questions while being appropriately challenged within the ZPD. Teachers of ELs raised their ELs' level of participation through scaffolded questions that allowed for sufficient participation opportunities beyond display questions and responses (Kim, 2010). Furthermore, when teachers pose questions at their ELs' individual EPL, they engage their ELs by affording them the linguistic ability to comprehend and respond to the questions as well as focus on academic content (Nutta et al., 2014).

Proficiency fluctuates in different contexts; therefore, effective teachers of ELs consistently modify their questions and the directionality for each question in order to meet their ELs' individual EPL (Kim, 2010). When teachers ask questions that are comprehensible to ELs while simultaneously providing enrichment that is "a little beyond where they are now" (Krashen, 1982, p. 21), the negotiation of meaning within the ZPD increases the relevancy of teacher-student interactions (Ellis, 2008). This type of questioning has been referred to as scaffolded questions and tiered questions (Hill & Flynn, 2006). The current study assumes *leveled questions* (LQs) as described by Nutta and colleagues (2014; 2018). Leveled questions provide opportunities for teachers to realize whether ELs' responses are limited due to their overall understanding of the content or their EPL (Nutta et al., 2018). As a result, leveled questions are tailored to the individual ELs' EPL in all aspects, including wording, structure, and the anticipated responses from the ELs.

It is also worth noting that the current study touches upon culturally responsive pedagogy to ensure academic success for all involved, both the TCs and their potential ELs who will be present in their classrooms. Educators who are culturally responsive design their lessons, materials, and instruction so that "effective teaching and learning occur in a culturally supported, learner-centered context, whereby the strengths students bring to school are identified, nurtured, and utilized to promote student achievement" (Richards et al., 2007, p. 64). For this particular study, the term *students* is not just limited to the PreK-12 ELs. Rather, we extend Richards and colleagues' (2007) description to the TCs who are enrolled into university teacher preparation programs due to the learning and practice that TCs undergo in order to become teachers. For TCs enrolled into an ESOL methods course, the very nature of the course assumes a culturally

responsive approach with the goal of producing culturally responsive teachers.

To that end, this study addressed the following research questions:

1. Is there a change in TCs' questioning strategies for ELs after participation in a classroom simulation? If so, what changes occur?
2. Is there a difference between TCs' questioning strategies for ELs according to EPL (i.e., beginner, intermediate, advanced)?
3. What do TCs say about their experiences in the classroom simulation? Do they think the workshop had any effects on their questioning strategies for ELs?

Methodology

Setting and Participants

This study took place in an ESOL methods course within a university's teacher education program designed to prepare TCs of all content areas and grade levels to work with ELs. A convenience sampling was used to recruit the undergraduate TCs for participation. Data was obtained during one semester from two different sections of the course. Of the 103 TC-participants, 77 percent were female and 23 percent were male. Thirty-seven percent of the participants were in the Elementary Education program and the remainder were from various secondary content areas or related fields, such as educational psychology. Demographically, 66.5 percent identified as White, 16.2 percent Latino, and 13 percent Black with the remainder identifying as multiracial or "other". Additionally, the majority of teachers identified as monolingual, with English being their native and only language.

In the ESOL methods course, TCs read a chapter from their text regarding questioning strategies, LQs, and appropriate question types for all three EPLs, as aligned with WIDA levels. Leveled questions are questions targeted to various EPLs providing a reduction of linguistic complexity without simplification of content (Nutta et al., 2014). Furthermore, LQs and the discourse exchange involved in the process can be a springboard to instructional conversations and discussions that engage ELs (Nutta et al., 2018). Nutta et al. (2014) explains that teachers "who are knowledgeable about the comprehension and expression of ELs at different levels of proficiency can attune their questions about academic subject matter for each EL" (p. 25). Question types are categorized based upon linguistic features such as verb tenses, sentence structure of the questions, and amount of language required to formulate a response. Table 2 shows the sample question types from the text that were chosen for use in this study.

Table 2

Question Types Categorized by English Proficiency Level

Level	Question Type	Example
Beginner	One-word answer – Yes/No	Is the sun yellow?
	One-word answer – Either/Or	Is it sunny or rainy?
Intermediate	Interrogative questions	What do you like to do?
	Questions using progressive	What are you doing?
Advanced	Use of conditional	If Dumbledore asked you move to Hogwarts, would you do it? Why or why not?

Complex sentence structure

Could Harry have been hurt by Snape's magic? Explain.

Adapted from Show, Tell, Build, by J. W. Nutta, C. Strelbel, F. M. Mihai, E. Crevecoeur-Bryant, & K. Mokhtari, 2018, p. 62.

Scaffolding TCs' Questioning Strategies

Researchers have verified that teaching and learning is enhanced when TCs have several experiences to apply strategies learned from course curricula (Allsopp et al., 2006; Pryor & Kuhn, 2004). In order to provide a mediated experience for TCs to practice their classroom communication skills with ELs, a mixed-reality environment of a classroom simulation, such as TeachLivE™, has been used. The TeachLivE™ classroom simulation is an avatar-based simulated middle school classroom environment combining human intelligence and computer animations displayed on a television screen. Candidates interact with the simulation classroom by posing verbal questions to the avatar students and receive EL "student" responses in real-time. In their 2016 study, Regalla et al., explored TCs' sense of efficacy when interacting with EL-avatars (2016).

The goal of the classroom simulation experience in this study was for TCs to practice oral communication and questioning strategies with virtual ELs in an environment where the instructor could scaffold these interactions. A class of five avatars was used featuring three avatar students representing different EPLs (i.e., beginner, intermediate, and advanced) to align with WIDA levels 1, 3, and 5. Research has shown that classroom simulation using mixed-reality, such as TeachLivE™, provides personalized learning and the suspension of disbelief with an environment that looks, feels, and reacts like a "real" classroom but contains virtual reality avatar students (Dieker et al., 2014). Further, research corroborates the importance of providing opportunities, such as the simulation classroom, that encourage TCs to enrich their skills in supporting ELs' language development and curriculum needs in a non-threatening atmosphere (Regalla et al., 2016). In other words, classroom simulations incorporating mixed-reality can help mediate potential issues in TCs' interactions and teaching of ELs by providing the candidates with an instructional experience with EL students without the consequences of hindering real-life ELs' learning. To reiterate, the current study's purpose was to examine a classroom simulation situated in a teacher education program with a focus on questioning strategies for ELs. Any changes in questioning strategies and attempts by participants to adjust their questioning techniques according to the ELs' EPL were examined within the ZPD.

Classroom Simulation Workshop

Teacher candidates participated in a classroom simulation workshop following an assigned chapter reading. At the beginning of the class meeting, TCs were instructed to write questions for ELs at each EPL described in the text. Because the participating TCs were of varying content areas (e.g., Elementary Education, Science, etc.), candidates were given a set of non-academic visuals featuring people involved in recreational activities, such as attending a concert or a picnic, as context for the LQs. Using one of the visuals as a prompt, each TC wrote two questions at each EPL, for a total of six LQs. This set of questions will be referred to as Round 1.

Next, the TCs participated in a workshop containing five avatar students in a virtual reality classroom simulation. Each TC interacted with the EL avatars by asking his or her Round

1 question using the visuals for context. During the TCs' interactions with each of the avatars, the course instructor provided coaching as necessary. For example, if a TC asked a question that was too linguistically complex to the avatar representing a beginner EL, the instructor coached the TC to modify the language and repeat the question. After the workshop, the instructor asked the TCs to revise their six Round 1 questions based on the classroom simulation experience and upload to the online class platform. This set of revised questions will be referred to as Round 2.

Data Collection and Analysis

Data collected for this study consists of the TCs' written assignment, named the "LQs assignment", and an open-ended questionnaire. The LQs include the TCs' original set of six questions written in Round 1 and the revisions of these six questions in Round 2, for a total of 12 LQs per TC. Finally, the TCs completed an open-ended questionnaire regarding their experiences during the classroom simulation (Appendix A).

The LQs assignment was analyzed for changes between the TCs' initial questions from Round 1 to their revised questions from Round 2. Each question written was categorized by question type shown in Table 2, and all types were tallied into a frequency distribution. Additionally, all questions were separated amongst the three EPLs for which they were written, and all questions were analyzed within their respective round, as reflected in the frequency distributions. The responses to each question from the questionnaire were analyzed for patterns and themes. Each piece of information was broken into segments and then analyzed for meaningful units and themes (Gall et al., 2007). The themes found in the questionnaire responses were used to support the findings shown in the frequency distributions.

The data from both the LQs assignment and the questionnaire were cross-checked by each author for inter-rater reliability. First, two authors worked individually to analyze the open-ended comments for themes. The two authors met to compare themes and discuss differences until an agreement was made. The authors employed axial coding (Saldaña, 2009) and identified patterns within each theme. Another author categorized and counted the questions TCs wrote for each EPL, including incidences of filler language, and created a frequency distribution. For inter-rater reliability, the frequency distribution were crossed-checked by the two authors who created the themes, and the themes were crossed-checked by the author who completed the counts. All three authors met and discussed differences until a resolution was made. Finally, in-vivo coding was applied to analyze specific commentary from the TCs in order to substantiate the findings.

Findings

The findings presented consist of data collected from the LQs assignment and the TCs' responses to the open-ended questionnaire. Four themes emerged within the questionnaire's responses: (a) TCs' overall experience with the simulated classroom, (b) TCs overcoming communication barriers with beginner ELs, (c) TCs' overgeneralization of beginning level questioning strategies for intermediate and advanced levels, and (d) TCs' use of "filler language." Findings are presented thematically with selected quotations taken from the questionnaire to support the numerical data listed in the tables. Frequency distribution tables show data from the LQs assignment and the questionnaire. Data from the LQs assignment is reported according to the three EPLs and categorized as Round 1 and Round 2 to show a comparison of the differences in question types for each round.

Theme 1: TCs' Overall Experience with the Simulated Classroom

Of the 103 TCs, 61 reported prior experience with ELs, with 21 TCs having had prior experience with ELs in PreK-12 ESOL programs. Eight reported prior experience with the simulation classroom. Despite an overall positive experience, some TCs encountered challenges during the classroom simulation. Table 3 shows the frequency distribution of TCs' responses regarding their overall experiences and impressions of interacting with the EL avatars in the classroom simulation.

Table 3

Theme 1: TCs' Overall Experiences with the Simulated Classroom

Overall Experience	Occurrences
Overall positive experience with the classroom simulation	70
Realistic experience interacting with ELs	39
Overall negative experience with the classroom simulation	2
Struggled to differentiate among the 3 EPLs	57
Experienced difficulty communicating with EL avatars	44
Struggled with their own speech during classroom simulation	22

Within Theme 1, the majority (70) of TCs indicated that the use of the simulated classroom seemed realistic and provided good experience for interacting with ELs. One participant stated, "Today was my very first time experiencing a simulated classroom, and [...] it could be a great tool for us future educators." Another mentioned, "This is my first experience with a simulated classroom, and it was very informative once I got used to the process. It was helpful to hear and see the avatars [...] to adjust my questions accordingly." Nearly 40 TCs commented on how the simulated classroom provided a realistic experience interacting with ELs via the avatars. One commented, "[The simulation classroom provided a] hands-on feel as to how [ELs] could react and how [teachers could] improvise." In addressing the interactions with the EL avatars, one TC stated, "[The avatars] responded so well, and I learned a lot from working with them. Their personalities are amazing, and I loved talking with them and hearing their answers. I would love to do this again!"

Only two TCs indicated that their overall experience with the simulated classroom was negative. One student commented that the mechanics of the simulation was too distracting. She stated, "The fact that I was talking to a screen and not an individual person threw me off." The second TC indicated that her peers' positive experiences hindered her own. She explained, "I didn't feel as successful as other [TCs] because I didn't feel confident in myself."

Theme 2: TCs Overcoming Communication Barriers While Questioning Beginner Level ELs

The TCs' positive experiences with the simulation classroom translated into learning about formulating questions for beginner level ELs, as supported by the evidence from the analysis of question types. As shown in Table 4, the TCs' use of question types that were appropriate for beginner ELs increased from Round 1 to Round 2 with the use of *yes/no* and *either/or* question types. Additionally, questions using interrogative expressions that require a lengthier response, and are typically more appropriate for intermediate level ELs, decreased from Round 1 to Round 2.

Table 4*Types of Questions Asked by TCs to Beginner Level ELs*

Question Type	Round 1	Round 2
Yes/No	52	62
Either/Or	11	40
Interrogative questions	92	40

Table 5 shows sample questions written from the TCs' first to the second round for the beginner level ELs.

Table 5*TCs' Sample Questions Written for Beginner Level ELs*

Question	Round 1	Round 2
Yes/No	Where are the people at?	Are the people at a table?
Either/Or	What color is the man's shirt?	Is the shirt green or brown?
Interrogative	What are the children in the picture doing?	Are the children happy?

Relating the challenges that the TCs faced in writing questions specifically for beginner ELs, only one TC expressed that she had difficulty. After the interaction with the simulation classroom, 44 TCs reported challenges in asking their questions to the EL avatars. Six TCs specifically addressed overcoming their initial challenges when interacting with the beginning level EL avatar. One TC stated, "I did have problems initially with [the beginning level EL avatar] making sure the question was only a few words, but then I got the hang of it." Others noted growth in their self-awareness for their own delivery of the questions with the beginner EL by becoming acutely aware of their rate of speech, the amount of words they used when asking the questions, and the gestures that were used when trying to convey their question to the EL avatars. As one TC stated, "I did have trouble with the questions that I asked. With [the EL avatar with a beginning proficiency], I had to use gestures, revise my question, and even point to the answer and repeat myself." A second TC relied on the intermediate level EL avatar to translate her question into Spanish for the beginning level EL avatar. Another TC indicated, "My only challenge was with [the beginner EL avatar]. She didn't understand when I asked her my question. I broke the question down into a simpler format and used body movement."

Theme 3: TCs' Overgeneralization of Beginner Level Questioning Strategies for Intermediate and Advanced Level ELs

Despite the increase in appropriate beginner level questions, the majority of the TCs experienced challenges in writing appropriate questions to ask intermediate and advanced ELs. In examining the question types that were written for intermediate level ELs, questions with interrogative expressions remained relatively constant from Round 1 to Round 2 and the use of progressive tenses decreased. Question types that are appropriate for beginner ELs (e.g., *yes/no*, *either/or* questions) increased from Round 1 to Round 2 when asked to the intermediate EL avatar. Table 6 shows the types of questions asked by the TCs at the intermediate level.

Table 6*Types of Questions Asked by TCs to Intermediate Level ELs*

Question Type	Round 1	Round 2
Yes/No (appropriate for beginner)	19	41
Either/Or (appropriate for beginner)	3	19
Interrogative	67	64
Progressive Tenses	52	30

Table 7 shows sample questions written from the TCs' first to the second round for the intermediate level ELs.

Table 7*TCs' Sample Questions Written for Intermediate Level ELs*

Question	Round 1	Round 2
Yes/No	Would you enjoy doing an activity like this?	Is the man in the picture jumping in the water?
Either/Or	What do you think they are doing in the picture?	Is it hot or cold outside?
Interrogative	How many people are in the picture?	What kind of party is this?
Progressive Tenses	How many women are there?	What are these people doing?

Additionally, the types of questions that are appropriate for advanced ELs changed little from Round 1 to Round 2. The use of hypothetical situations and the conditional tense increased by ten questions; whereas, the use of complex sentence structures decreased. Again, the use of beginner and intermediate level questions (e.g., interrogative) increased when the advanced EL was questioned by the TCs. Table 8 shows the types of questions asked by the TCs at the advanced level.

Table 8*Types of Questions Asked by TCs to Advanced Level ELs*

Question Type	Round 1	Round 2
Yes/No (appropriate for beginner)	36	70
Interrogative (appropriate for intermediate)	99	110
Hypothetical/conditional	10	20
Complex sentence structure	11	0

Table 9 shows sample questions written from the TCs' first to the second round for the advanced level ELs.

Table 9*TCs' Sample Questions Written for Advanced Level ELs*

Question	Round 1	Round 2
Yes/No	If you were in the party, would you have fun?	Do you think they prepared in advance for the party?
Interrogative	What all is on the table?	What items are on the table?
Hypothetical/conditional	What are they wearing in the picture?	If it was cold outside, what do you think you would wear?
Complex sentence structure	Tell me about the cultures in this photo.	Have you ever tried dancing? What kind of music do you dance to?

Two patterns emerged from the questionnaire's responses. First, 57 TCs stated that they struggled with writing questions appropriate for all three EPLs; however, a closer analysis of showed that the TCs had particular difficulty differentiating what was appropriate to ask intermediate and advanced ELs. One TC stated, "My main challenge was with [the] intermediate level because I asked questions that would be either too easy or too difficult for them to understand." Another TC said, "I had a hard time distinguishing what kinds of questions were appropriate for intermediate versus advanced." Many TCs expressed the same sentiment with no real description. However, another TC explained, "I think that working with the avatars made me realize that maybe my questions weren't advanced enough for the [advanced EL avatar]". One TC provided some detail by explaining

I had some difficulty writing LQs for the intermediate and advanced EL proficiency level. I had trouble with these two because I felt that I was writing questions that were a little too challenging or not challenging enough; I couldn't find that middle ground.

The second pattern that emerged within Theme 3 highlighted the TCs' anticipation for how the EL avatars would respond to the TCs' questions. One candidate expressed, "It was hard to see which questions the [EL avatars] may or may not be able to understand or respond to [...] I was unsure of how to write the questions so that the [EL avatars] can really learn from it." Another TC indicated, "I had some challenges writing LQs because it was hard to visualize certain answers and see how the students would react to the wording of the questions." An additional candidate stated, "I was afraid of making the questions too hard for the students at different levels, and I didn't know how they would respond to the questions." Another focused on her own speech by stating, "I had a few challenges because I was not doing as much supportive feedback as I should have been." Another said, "At first I had a little trouble asking [the intermediate level EL avatar] a question because I had used a polysemous word. However, I was able to clarify."

Theme 4: TCs' Use of Filler Language

The fourth theme shows a reduction of excessive language, which we call *filler language*, within the questions from Round 1 to Round 2. Filler language can obstruct or distract from the negotiation of meaning with ELs due to the amount of unnecessary words used to ask a question. For example, a more direct approach to ask the question, "Can you tell what the boy is doing in this picture?" would be, "What is the boy doing?"

Table 10 reveals that the amount of questions containing filler language used in Round 1 greatly decreased in Round 2. This table reflects the TCs' initial *written* questions that were

created in Round 1 and their revised questions in Round 2.

Table 10

TCs' Questions Containing Filler Language

Level	Round 1	Round 2
Beginner	67	34
Intermediate	52	11
Advanced	31	7

Table 11 shows sample questions written from the TCs' first to the second round for all three EPLs and the reduction of filler language.

Table 11

TCs' Written Sample Questions' Reduction of Filler Language

Question	Round 1	Round 2
Beginner	What kind of face are the girls making?	Are the girls happy?
Intermediate	In your own words, tell me what do you think is happening in this picture?	What are they doing?
Advanced	Using complete sentences to answer, how would you describe what the children are doing in the picture?	What do you think the people are doing?

Although *written* filler language was reduced for all three EPLs, the majority of the TCs' responses from the questionnaire regarding filler language was about TCs' oral interactions with the beginner EL avatar, as highlighted in Theme 1. A summary of this commentary indicated that "rewording" the questions asked to the beginner EL avatar during the simulation helped the TCs better convey their meaning and better elicited a correct response from the EL avatar. One TC explained that she had difficulty in getting the EL avatars to appropriately respond to her questions at the beginning of her simulation session. However, she continued, "After I simplified the questions for [the beginner and intermediate EL avatars], I felt more successful." Some TCs recognized the need to reduce the amount of vocabulary used in their questioning. One TC reflected, "I used too many words in my question when addressing [the intermediate EL avatar]." The following TC's comment nicely sums up how filler language may cloud the message of the question being asked. She issued, "I think it's hard to condense our language when asking questions. I think we know our language, but it can be difficult to help non-English speakers learn the language with excessive vocabulary." Finally, one TC posited, "I found it harder to formulate questions for the beginners [EL avatars]; text simplification and circumlocution avoidance should be utilized adroitly in order to properly word questions aimed at engaging beginners academically."

Discussion

The study's findings show that the TCs described the simulation classroom experience as

useful and realistic. As a result, the TCs' questioning strategies for ELs evolved from the two rounds of questions. The findings show that TCs increased the total number of questions appropriate for beginner level ELs from Round 1 to Round 2. Also, TCs showed a decrease in their use of filler language in questioning ELs of all levels. However, the trend in the majority of TCs' questions showed a decrease in the total number of questions appropriate for intermediate and advanced level ELs between the two rounds.

The TCs' questions became more comprehensible for beginner ELs as a result of the classroom simulation. With respect to all three EPLs, this is a notable finding as previous research (Durgunođlu & Hughes, 2010; McGraner & Saenz, 2009) indicated that most teacher preparation programs fail to provide adequate preparation in teaching ELs of all EPLs. The participating TCs reported their struggles in communicating with the beginner EL avatar during the classroom simulation; however, their questions with the beginner ELs were improved. Further, the number of questions TCs asked the beginner EL avatar that were more appropriate for a higher EPL decreased from 92 in Round 1 to 40 in Round 2. The TCs also became more aware of their excessive wording and realized the importance of slowed speech, incorporating gestures, and relevant visuals to scaffold their questioning. The TCs used the strategies presented in their ESOL methods course to adjust their questions to be more comprehensible for beginner ELs during the classroom simulation, even when their initial questions in Round 1 were not appropriate for a beginner EL.

However, the learning gains TCs made in questioning beginner level ELs did not extend to higher EPLs. It became evident that the TCs adjusted their questioning techniques so that all questions were more appropriate for beginning ELs. Previous research shows that TCs overextended what was appropriate for the beginning ELs to both the intermediate and advanced ELs (Albergaria-Almeida, 2010; Ellis, 2008). Furthermore, the TCs found it challenging to distinguish the level of complexity in writing the questions between the intermediate and advanced ELs. Fifty-seven TCs noted in the questionnaire that the simulation workshop raised their awareness for differentiating their questioning strategies for ELs so that questions were both comprehensible and challenging. The TCs' comments revealed that their questioning for intermediate and advanced ELs was not providing enrichment that follows Krashen's (1982) input+1 model. Thus, more emphasis should be put on differentiating question types. Moving forward, TCs realized the obvious need for asking questions that are appropriate for each EPL, something that they may not have considered prior to this workshop.

This experience substantiates the importance of offering TCs opportunities such as the classroom simulation that are well grounded in ZPD. This notion is rationalized because through the experience of negotiating meaning during the asking of questions, the interaction allowed TCs to construct knowledge in the learners' ZPD (i.e. EPL; Vygotsky, 1978; Wertsch, 1985). The TCs reported their attempts to negotiate meaning with the EL avatars. In fact, the TCs changed their questioning strategies and provided necessary assistance to move the beginner EL beyond their actual level of performance to another potential level of answering questions. Additionally, the classroom simulation took place in the presence of classmates and the instructor who coached the TCs when they struggled in their attempts to negotiate meaning. This aligns with the notion of sociocultural theory (Vygotsky, 1978) that the "more capable peer" (p.86) and/teacher can be used to mediate by providing the learner with the necessary assistance to move beyond the actual level of performance to the potential level. Therefore, the TCs experienced their own scaffolding with questioning techniques as they attempted to scaffold their communication with ELs in the classroom simulation.

Conclusion and Implications

The results of this study highlighted the necessity of teacher preparation programs to provide more focused instruction in asking questions appropriate for ELs at all EPLs. It is not enough to address EL accommodations as a “one size fits all” approach. In order to address the type of scaffolding necessary for TCs to comfortably navigate various EPLs, two considerations must be considered. First, explicit instruction is necessary to show TCs how to modify input for beginner ELs and reduce unnecessary wording without simplifying both the question and content. Teacher candidates need scenarios where they can provide intermediate and advanced ELs more complex input that supports the ELs’ expanded output. Secondly, TCs must have hands-on experiences in providing comprehensible input to ELs of various EPLs either from classroom simulation or carefully guided field experiences.

The findings of this study show that TCs became aware of the need for skill in asking questions to ELs at all three EPLs. Clearly, TCs need to know how to effectively ask questions to ELs at each proficiency level. Candidates’ responses indicated their understanding that effective teachers of ELs scaffold their students’ learning and language acquisition by continually re-assessing their ELs’ linguistic and academic progress. The classroom simulation proved beneficial to the TCs in their practice of asking appropriate questions to ELs, which overall assists TCs in their preparation of meeting the needs of ELs. Likewise, the TCs realized the importance of re-assessing their own delivery when asking ELs comprehensive questions. The implications of these findings suggest highly that pointed, specific instruction, practice, modeling, scaffolding, and LQs are instructional practices that are beneficial for programs training TCs to work with ELs in PreK-12 school settings.

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Appendix A
Open-Ended Questionnaire

1. Have you had any experiences in providing accommodations with English learners before taking this ESOL methodology course? Explain.
2. What experiences with classroom simulation interactive avatars have you had before in your other education courses?
3. Did you experience any challenges in writing leveled questions for each EL proficiency level (i.e., beginning, intermediate, and advanced) before your experience with the classroom simulation?
Explain.
4. Describe your interactions (question-answer session) with the EL avatars during the classroom simulation.
5. Did you have any challenges asking your set of leveled questions to the EL avatars during the classroom simulation? Explain.
6. Did you feel successful in asking your set of leveled questions to the EL avatars during the classroom simulation?
Explain.