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# Creating an Interactive Virtual Community of Linguistically and Culturally Responsive Content Teacher-Learners to Serve English Learners

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This qualitative case study was framed by an experiential learning approach organized around video resources and linguistically and culturally responsive content teaching. The study explored an overarching research question: How did teacher-learners in a grant project interact with a multimedia learning platform that combined teaching video and VoiceThread presentation, called  $\breve{VT}$  project, designed to enhance their linguistically and culturally responsive content teaching (LCRCT) for English learners (ELs)? Data included participants' VT projects, online and face-to-face class discussions, survey results, and final reflective papers in two TESOL courses as part of a National Professional Development grant program in a Midwestern University. Analyses demonstrated that the technologyassisted course design generally promoted a critical habit of mind among teacherlearners through opportunities to attentively notice and critically reflect on one's own and others' teaching practices. Teacher-learners demonstrated a shared ownership over their teaching processes while establishing a reflective discourse community, where the LCRCT framework guided their learning and practices of LCRCT for ELs. Study implications include ways for the teacher-learners to transfer their learning from this reflective multimedia-supported TESOL program into their classrooms, schools, and districts, as well as the challenges. The research was conducted by the three instructors who designed and implemented the course.

The growing diversity of the US student population has posed new, imminent challenges for educators, due to the lack of appropriately trained teaching staff to serve incoming immigrant and refugee children (Bunch, 2010; Portes & Smagorinsky, 2010). Prospective and practicing teachers, whom we call "teacher-learners," need to be trained to better understand, relate with, and serve linguistically and culturally diverse students, particularly English learners (ELs; Gay, 2010).

Teacher educators agree that fostering teacher-learners' professional vision, the ability to attentively observe and critically reflect on their classroom practices (Blomberg, Stürmer, & Seidel, 2011; Geyer, 2008; Hewitt et al., 2003), is essential. In the field of teaching English to speakers of other languages (TESOL), this professional vision is even more important. First, many teachers lack the knowledge and skill sets to intentionally support ELs' academic achievement (Meskill, 2005; Pennycook, 1999). Second, teachers often take for granted the classroom routines and lose the critical mindset needed to improve their teaching for ELs.

Teacher education programs have been incorporating technology as a tool to develop teacher-learners' professional vision and critical skills. Recently, teaching videos have been widely used to provide teacher-learners with opportunities to learn from best-teaching practices (Brunvand, 2010; Dhonau & McAlpine, 2002) or to capture classroom details to modify and improve their instruction (Jay & Johnson, 2002; Lemke, 2007). the use of teaching video, However, is not an automatic guarantor of successful teacher development; its use should be guided with clear course objectives (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Brophy, 2004). In addition, little research has examined the feasibility and effectiveness of video-based reflective practice (Star & Strickland, 2008), even less in TESOL, except for using videos as best teaching examples (e.g., Dhonau & McAlpine, 2002).

This study aims to address these research gaps by looking at how teacher-learners in a grant project designed to better serve ELs responded to a new course experience in TESOL methods and practicum courses that used a multimedia learning platform of Kaltura Media and VoiceThread. Using a qualitative case study design, three instructors (the authors) in a Midwestern US university designed and taught hybrid TESOL methods and practicum courses in a National Professional Development (NPD) grant project.

To study the impact, we tried to capture how the participating teacher-learners responded to these virtual teaching and learning opportunities by asking the following research question: How did teacher-learners in a grant project interact with a multimedia learning platform that combined teaching video and VoiceThread presentation, called VT project, to enhance their linguistically and culturally responsive content teaching (LCRCT) for English learners (ELs)?

Several terms and acronyms appearing throughout the paper are defined as follows:

- ELs English learners, sometimes known as ELLs or English language learners.
- QTEL Quality Teachers for English Learners, National Professional Development Grant Project (2011-2016).
- LCRCT Linguistically and culturally responsive content teaching.

 VT project – a multimedia learning platform that combines Kaltura teaching video and VoiceThread presentation with oral and/or video peer/instructor feedback.

#### **Guiding Frameworks**

To investigate the efficacy of technology-based TESOL course design, we drew from a synthesis of theories and practices, including the experiential approach, video-based learning in teacher education, and LCRCT for ELs.

#### **Experiential Approach Toward Critical Reflection**

The "learning by doing" approach (Dewey, 1916) has been widely adopted in preparing educators to promote teacher-learners' self-inquiry into classroom practices. Experiential learning models typically involve high-impact practices (Bass, 2012), such as active teacher-learner participation, peer collaboration, and field experience embedded in teacher education courses or professional development programs (Ebsworth, Feknous, Loyet, & Zimmerman, 2004; van Es, 2012).

Emphasized in this approach is the importance of developing teacher-learners' ability to observe and reflect on teaching practices beyond the descriptive level toward critical evaluation of the classroom context and instructional decision-making (Harford & MacRuairc, 2008; Richards, 1995). Critical reflection also entails considering broader sociopolitical and historical contexts of schooling (Jay & Johnson, 2002), such as ELs' immigration backgrounds, teacher-learners' sociopolitical dispositions on language teaching, and larger discourses about immigrants and their cultures. The experiential teacher preparation model, based in the reflective and critical pedagogy, ultimately aims at teacher-learners' transformation in their awareness, knowledge, and practice (Servage, 2008).

#### **Video-Based Approach for Collaborative Critical Reflection**

One challenge in the experiential approach is that teaching in real classroom contexts is largely an isolated individual practice with few opportunities to observe and learn from other teachers (Hatch & Grossman, 2008; Sherin, 2000; van Es, 2012). Observation seldom occurs, except for the purpose of supervising or assessing individual teachers' performance and is mostly done by either the supervising teacher educator or administrative staff. For the reflective practice to be transformative, however, it should take place in a safe learning environment where teacher-learners have a chance to view and analyze their practice without the fear of outsiders' criticism (van Es, 2012).

Another challenge is that simply viewing diverse teaching practices does not automatically improve teachers' skills to notice important aspects of classroom occurrences. A conscious effort is required to learn such skills, but teacher education programs seldom focus on training teacher-learners how to collaboratively observe, reflect, and analyze teaching processes.

The use of teaching videos has countered these challenges by (a) providing a tool to watch one's own practices, even multiple times with different foci each time (Firdyiwek & Scida, 2014; Zhang, Lundeberg, Koehler, & Eberhardt, 2011) and (b) creating a communal space in which teachers share and learn from each other's teaching (Harford, MacRuairc, & McCartan, 2010).

Fundamentally, video affords ways to *experience* a wide range of classrooms in an authentic way that would not be available in other ways for reasons like school permission for observation, physical distance, and time limitations (LeFevre, 2004). By adopting teaching videos, teacher-learners can attentively notice what is happening in their own and other teachers' classrooms (Lemke, 2007), analyze teaching practices and exchange feedback, and finally, connect course objectives to the actual classroom context beyond the theory-practice divide (Tochon, 2008).

This team-based course design places teacher-learners at the center of the learning process through collaborative interplay among course pedagogy, instructor support, teacher-learners' participation, and technology (Firdyiwek & Scida, 2014). The structural change in the curriculum optimizes reflective learning through combining authentic classroom experiences, critical dialogues, and reflective opportunities.

Video technology like Kaltura Media facilitates teacher-learners' collaboration as a space to share their work and feedback from varying perspectives (Harford & MacRuairc, 2008; Hatch & Grossman, 2008; Newhouse, Lane, & Brown, 2007). Teaching videos can also create a zone of proximal development (Vygotsky, 1978), where the instructor(s) and peers serve in the role of expert, each with different teaching practices and perspectives. Multiple studies (e.g., Sherin, 2000; Sherin & Han, 2004) have indicated that teacher trainees demonstrate a significant change in their ability to notice classroom processes and develop new interpretive frames to analyze what they see with the help of video-technology.

#### Self-Video vs. Other-Video

Three types of teaching video are used in teacher education courses: published video, self-video, and peer-video (Zhang et al., 2011). Whereas published videos are utilized mainly as best practice models in general (Dhonau & McAlpine, 2002), self-video and peer-video aim to capture the complexity of teacher-learners' own classrooms and serve as a vehicle for focused and comparative analyses across classrooms. When combined, the different teaching videos can enrich teachers' experiential learning. Teacher-learners individually watch them but collaboratively discuss diverse authentic practices.

Zhang and colleagues (2011), for example, documented how teacher-learners established a video-based practice in which they shared what they learned and what instructional changes they made. The study of Rosaen, Lundeberg, Cooper, Fritzen, and Terpstra (2008) showcased how video-supported practices helped teachers capture rich details of specific teaching moments instead of merely retrieving the general impression of the lesson. As such, adopting videos can create a culture of attentive observation, collaborative inquiry, and analytic approach to teaching (Harford & MacRuairc, 2008; Rosaen et al., 2008).

Likewise, proponents of electronic portfolios support the idea that student-centered assignments, including teaching videos, can be part of the teacher certification and licensure programs. They can serve as an essential tool of assessing the teacher-learner's mastery of course content and practice (Stansberry & Kymes, 2007).

#### LCRCT through Technology-Mediated Learning

Despite the numerous benefits of teaching videos, video is only a medium that does not necessarily lead to the successful transformation of teacher-learners unless guided by a clear purpose of the course (Borko et al., 2008; Brophy, 2004). In the field of TESOL, one main goal is to prepare linguistically and culturally responsive teachers who demonstrate knowledge of applied linguistics and language acquisition principles, who value the

linguistic and cultural diversity of students with an extensive repertoire of EL-specific instructional scaffolding, and who reflect on how their situated sociocultural-political identities intersect with those of their students (Lucas & Villegas, 2013). Highlighted in this goal is *linguistically* responsive teaching (Lucas & Villegas, 2011; Lucas, Villegas, & Freedson-Gonzalez, 2008; Song, 2014).

Some note that the predominant emphasis on *culturally* responsive teaching (CRT) (Ladson-Billings, 1999) may have resulted in shadowing or downplaying the role of language and its intertwined nature with culture and power in ELs' learning (Liggett, 2014; Nieto, 2002). In addition, *all* teachers, not only EL specialists or language teachers, should develop linguistically responsive pedagogy alongside CRT, since "language cannot be separated from what is taught and learned in school" in any content classroom (Lucas et al., 2008, p. 362).

To address the project goal, we adopted the LCRCT framework in designing and implementing TESOL course activities. The LCRCT framework (Appendix A) was developed by the second author with empirical data from research on LCRCT (Aguirre, Zavala, & Katanyoutanant, 2012; Commins & Miramontes, 2006; Fillmore & Snow, 2002; González & Darling-Hammond, 1997; Grossman, Schoenfeld, & Lee, 2005; Halliday, 1978; Lucas & Villegas, 2013; Schleppegrell, 2007; Song, 2014; Song & Tranel, 2017; Turner & Drake, 2016).

The LCRCT framework has two dimensions, one featuring content-related competencies and the other metacontent competencies. The first dimension of content-related competencies includes (a) content competence, (b) content discourse competence, and (c) content pedagogical competence. The second dimension of metacontent features addresses larger contexts of teaching practice, mainly through three how-to actors for teacher improvement of LCRCT: (a) acquire knowledge in depth, (b) develop metacognitive procedure skills, and (c) critically examine sociopolitically just teacher beliefs. The goal is to enhance teacher-learners' capacity to practice a more linguistically and culturally responsive (LCR) content instruction following the features of the nine constructs of the LCRCT framework as illustrated in the Appendix A.

#### VT Project: Combining Teaching Video and VoiceThread Presentation

Finally, teaching videos alone cannot show the teacher-learners' planning processes that include their reasoning of the whats and whys of particular instructional decision-making (Brunvand, 2010; Hatch & Grossman, 2008). Teacher educators also need to support and evaluate teacher-learners' entire teaching processes across lesson planning, classroom teaching, and postreflection (Hatch & Grossman, 2008; Song & Coppersmith, 2017).

To complement the limitation of teaching videos, we combined Kaltura teaching videos and VT presentations, known here as the VT project. Kaltura Media is a cloud-based video management system that allows students to upload and share their teaching videos. To the Kaltura teaching videos, VT was added so that teacher-learners can look beyond the classroom wall. As an asynchronous presentation tool, VT allows teacher-learners who are separated in time and geography to discuss, respond, and share their reflection on lesson presentations, leave audio/video and written comments, and learn from peers' and the instructor's threaded comments (Jackson & Helms, 2008; Murphy, Walker, & Webb, 2013; Petrides, 2002; Vonderwell, 2003). This asynchronous collaborative learning among teacher-learners may not be an option in a traditional practicum experience where students

may receive one-on-one supervision when a supervisor visits the classroom. Peer feedback based on actual classroom observation, however, is often not available (Song & Tranel, 2017).

#### Research Design

In this section is first described the context of the two TESOL courses and participating teacher-learners and the methods of data collection and analysis. Finally, results are shared: how the purposeful course design using VT projects facilitated critical LCRCT dialogues through collaborative reflection in this learning community.

#### Research Context: Participants and TESOL Course Designing

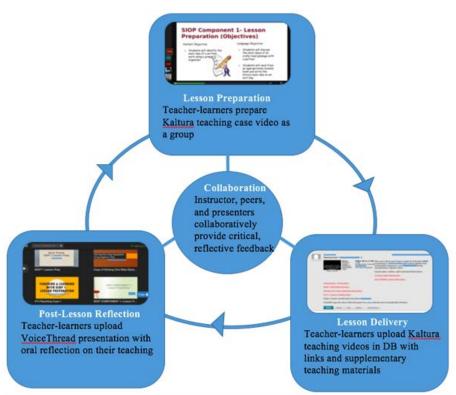
This study adopted a qualitative case study design (Yin, 2003) to explore teacher-learners' responses to technology-mediated TESOL methods and practicum course experiences through an in-depth investigation of a case group of preservice and in-service teacher trainees who participated in a Midwestern university's grant project. Participants for this case study were the final cohort group of a 5-year NPD grant program (2012-2016), called QTEL, sponsored by Office of English Language Acquisition in the U.S. Department of Education. Participants were comprised of 20 preservice teachers and 15 in-service content-area teachers who completed six TESOL courses along with a series of five full-day professional development workshops from January to December 2016.

Authors of this paper, including a QTEL director/instructor, and two QTEL research professors/instructors, designed and cotaught the final two hybrid courses of Methods and Materials in TESOL (known as "Methods" going forward) and Practicum in TESOL ("Practicum") in the 2016 fall semester. We purposefully combined the pre- and in-service teachers for the Methods course to facilitate a learning community of practice in which teachers with varying experiences (e.g., years of teaching, subject area, and grade level) could learn from each other in a zone of proximal development (Vygotsky, 1978).

All the in-service teachers worked in an urban school district that recently started receiving diverse immigrant and refugee students and, thus, shared new and unique experiences and challenges in serving their students. The Practicum course was taken by in-service teachers only, since preservice teachers took an elementary/TESOL dual certificate practicum course that all of the elementary majors needed to complete.

The two culminating TESOL courses were designed for teacher-learners to incorporate their previous QTEL training into observable teaching practices. Course activities and assignments included an observation workshop, a technology workshop (Kaltura Media and VT), observational field notes, an actual classroom teaching experience with ELs, online discussion board (DB) participation, in-class discussions, VT projects with teaching videos and corresponding VT presentations, final reflection papers, and an optional electronic teaching portfolio with EL-specific teaching tools.

For the Methods course, 35 participants were assigned to join one of the three mixed groups of in-service and preservice teachers for collaborative VT projects, whereas the Practicum course served 15 in-service teachers working on individual VT projects. The three instructors helped students learn and apply the LCRCT framework and teaching strategies and properly use VT technologies through a cyclical course performance (see Figure 1).



**Figure 1.** Cyclical learning progress in VT Project.[/caption]

#### **Data Collection and Analysis**

To understand how participating teacher-learners interacted with and responded to a technology-integrated TESOL course design, we used this case study to collect and analyze diverse data sources. The foremost data set included 33 VT projects that the participants created in two courses. These multimodal data, composed of verbal and nonverbal components, were compiled and transcribed alongside screenshots of VT electronic slides (see <u>Appendix B</u> for a transcript excerpt).

The second data set included participants' written responses to the exit survey questions, including whether or not the use of VT technology affected their learning; the transcribed final large group discussion (Dec 5, 2016) with the participants' overall evaluation of QTEL experiences; a Blackboard DB student writing throughout the semester; and final reflective papers from in-service teachers in the Practicum course.

Data analysis was conducted in two phases. First, grounded theory approach (Charmaz, 2010) was used with open and axial coding, constant comparison, and finding patterns across data sets. With the varying experiences of language teaching, intercultural communication, and research in bilingual education and policy, we looked into data sets individually first, then compared and exchanged interpretations at multiple regular meetings. From this analysis, we found that throughout the semester, a community of practice (Wenger, 1998) was formed, in which the QTEL members used particular social language of the TESOL field as teachers of ELs. We also identified that, according to most

QTEL participants, their VT projects facilitated their attentive observation and critical reflection on their teaching practices.

As the second step and for further triangulation of our analysis, an intensive discourse analysis (Gee, 2011) was conducted to see how the VT project actually assisted the development of a community of LCRCT practice. This question was pursued through an analysis of participants' discourses in selected VT projects – each first, third, and fifth VT project – of the three groups in the Methods course.

According to Gee (2011), analysis of people's use of language reveals their social identities and their theories regarding how the world works, since people use language to accomplish certain social goals, namely, *building tasks*. In other words, people use language to build particular social identities, relationships, and significance of meaning, for instance.

Following Gee's (2011) approach and based on the initial analysis, we examined ways in which QTEL members engaged with the LCRCT discourses, attending to three building tasks of *identities, significance of meaning*, and *relationships* in their VT projects (See Appendix C for building task analysis excerpts). For each building task, we analyzed how QTEL members adopted and used LCR "social languages," how they ascribed importance to the "situated meaning" of the required practice of critical reflection, and finally how they connected with other members through "intertextuality," that is, collaboratively referring to and building on voices, texts, and practices of one another.

Finally, analyses of teachers' discourses and practices of LCRCT were compared to the nine constructs of the LCRCT framework (Appendix A); the three how-to-actors (acquire knowledge in depth, develop and apply metacognitive procedural skills, and examine sociopolitically just beliefs), and the three content-related competencies (content, content discourse, and content pedagogical competencies) were matched with what teachers said and practiced throughout the two courses.

#### **Findings**

Data analysis showed that VT projects generally enhanced the teacher-learners' ability to capture classroom details and reflect on their teaching process. Analysis also demonstrated how the discourse around VT projects evolved throughout the courses toward a fuller adoption of LCRCT framework into English language teaching through a collaborative learning process.

#### **Enhanced Ability to Notice and Reflect**

Most participating teacher-learners reported that technology integration enhanced their capacity to observe and reflect on teaching. Twenty-seven respondents out of the 30 teacher-learners who completed the exit survey, for example, indicated that the virtual observation of diverse classrooms as well as their own teaching through the VT project had a positive impact on their practice.

One in-service teacher noted that videos offered opportunities to "see what other classrooms throughout the district and outside the district look and feel like," across diverse contexts of student demographic make-up, grade levels, subject areas, and teaching styles. Other teachers said they became more active in capturing and analyzing classroom details, as seen in the following comments on what they observed in the teaching video (**bold** in quote is author emphasis):

- "The first observation I had of this lesson was the implicitly taught math vocabulary, which I think is a great support for every student in the classroom....
   I noticed that your content and language objectives used measurable action verbs such as solve, identify, describe, pronounce, and define. The execution of these terms can be easily identifiable and were definitely present throughout your videotaping." (preservice teacher peer feedback for the group VT project, emphasis added)
- "I was able to see what things I didn't notice during class." (preservice teacher, exit-survey, emphasis added)

Teacher-learners in the quotations were involved in a deliberate effort of seeing and describing classroom contexts; they engaged in a higher order perceptual process of making connections between their observation and the LCR teaching components. For example, the peer feedback quoted previously referred to the way the presenting teacher practiced writing EL-supportive content and language objectives using measurable verbs, one of the critical components of LCRCT.

Teacher-learners also pointed to the increased capacity of "see[ing] things" which they "didn't notice during class" or were "too close to see." They ascribed such new perspectives to the collective opportunity to see, compare, and analyze self-videos and other-videos:

- "I was able to look at them from a more detached perspective and notice things in their videos that I had in my videos." (preservice teacher, exit survey, emphasis added)
- "It was also helpful to watch a video and exhale [meaning "feel relieved"] once I realized it actually did go OK. Then, I was in a better position to critique myself. Plus, hearing other perspectives always allows me to see a lesson in a different light." (in-service teacher, exit survey, emphasis added)

Discerning and describing classroom details was the first step toward their reflective practice that was both critical and collaborative. It was critical because the viewer now engaged with a purposeful evaluation of what worked well and what did not. VT projects allowed a "better position to critique" one's own practice, often a "mannerism" that was not recognized previously. It was also collaborative because the viewer worked together with the instructor and peers to understand and learn about different teaching styles, instructional strategies, and classroom environments. This collaborative culture lowered teachers' discomfort with being observed in person by others, often external evaluators, while developing professional vision and willingness to reciprocate critical feedback:

- "Through the video, VoiceThread and feedback, I have been able to notice
  incremental changes and have been able to reflect on how to do something
  differently without the pressure of getting observed by administration."
  (in-service teacher, exit survey, emphasis added)
- "I kind of tried to use the videos that I watched before and listen to the comments
  on those to mentally note what I should do in my video, so that helped. Just
  knowing that a bunch of other people were going to see it, [and] it
  made me think through how it was going to be before I actually sat down and
  wrote the plan." (in-service teacher, final class discussion, emphasis added)

#### **Engaging in LCRCT Discourses and Practices: Intentionality Matters**

While VT projects promoted the collaborative practice of constructive criticism, they also enhanced many teacher-learners' application of the LCRCT framework. To indicate the

alignment between the LCRCT framework ( $\underline{Appendix\ A}$ ) and teacher-learners' practices, we identified each matching construct in the parenthesis after each example/quote in this section. As analyzed, most teacher-learners increasingly incorporated the LCRCT framework into their key conversations and teaching practices. Participants expanded their toolkit to plan and deliver their instruction.

Each group's five VT projects moved from using only a couple of SIOP components (that is, Sheltered Instruction Observation Protocol, Echevarria; Vogt, & Short, 2017) in the initial recordings to a full-fledged application of all eight SIOP components for the final VT project. Likewise, presenters' comments became comprehensive with more LCRCT-specific critiques.

For example, in the first VT project across three groups, the teacher-learners mostly commented on the language and content objectives and whether they were aligned with corresponding assessment plans. In the VT 5, however, the same group members made more thorough and comprehensive comments on areas of learning objectives, students' detailed backgrounds with the itemized ACCESS (Assessing Comprehension and Communication in English State to State) scores, assessment tools, teaching strategies such as group configuration, and differentiated scaffolds, and student work samples.

The most salient change among the majority of teacher-learners was the shift from the general good practice approach for "all students" toward intentional LCRCT practices specifically for ELs. For example, a group of three in-service teachers reflected in the final paper and exit survey that they prepared the first VT project with using a whole-group approach focusing on "good practices to reach all students." One of them wrote in her final paper that she had not realized until listening to the instructor and peer feedback that this "business as usual attitude for the whole class" might not have helped ELs. Then, these teachers started intentionally designing and implementing EL-specific lessons, "think[ing] through what we wanted and expected our students to be able to do" and incorporating SIOP instructional strategies. Such awareness on the importance of the intentional EL support was manifested in participants' adoption of instructional strategies:

Building our understanding of our ELs' background took an even greater effect during VT 3. Before planning this lesson, we took a serious look at our ELs' modality levels and planned according to their needs. We knew the content would be vocabulary heavy, so we sought out strategies such as creating a vocabulary foldable [vocabulary chart in a folded paper] to help us frontload the content vocabulary. (acquire knowledge in depth/content competence & content pedagogical competence, in-service teacher, final paper)

Likewise, several other teachers commented that by watching peers' teaching, they learned various EL-specific pedagogical techniques, ranging from writing level-appropriate content and language objectives to assisting vocabulary learning through sentence starters and visual aids to modulating diverse group activities. Some teachers emphasized the importance of extended opportunities for ELs to comprehend the class lesson through giving sufficient wait time, allowing students' first language use, incorporating all language modalities, and making connections between their prior knowledge/experiences and the current lesson. Above all, the pinpointed focus on EL-specific needs supported metacognition on the part of teachers, and changed them to assume less and question more to understand their ELs' contexts and needs, as one in-service science teacher said,

Because I am still practicing my craft of teaching ELs, I currently take on the mindset [of being] "better safe than sorry," and by that, **I mean if I'm in doubt, I do it** [implement more scaffolds]. For instance, a question came up on an

assignment asking about a jackhammer. Being unsure if my ELs know what a jackhammer is, I googled a picture and explained how it's used (acquire knowledge in depth/content competence & content pedagogical competence; metacognitive and procedural skills/content pedagogical competence). (in-service teacher, final paper, emphasis added)

Even the use of general good strategies, such as graphic organizers and compare-contrast diagrams, became more contextualized for ELs' access to the content, as evidenced in the quotations:

- "Being aware that ELLs have trouble making connections to past and prior learning is an opportunity for me to help them make a connection. A good strategy to help students make connections between past and prior knowledge would be using a compare and contrast graphic organizer like a Venn diagram that shows how things are connected" (content pedagogical competence). (in-service teacher, final paper, emphasis added)
- "The SIOP method and its many different strategies and tools have provided me
  with ways to make small changes that may need tweaking or refining in
  a way that is less threatening or daunting" (acquire knowledge in-depth/
  content pedagogical competence). (preservice teacher, exit survey, emphasis
  added)
- "I have also gotten better at being more aware and intentional in my teaching techniques and strategies that are especially supportive to ELs" (socially just disposition/ content pedagogical competence). (preservice teacher, exit survey, emphasis added)
- "I have learned additional strategies that work with ELs and especially some that work well for the ELs with lower proficiency" (acquire knowledge indepth/ content pedagogical competence). (in-service teacher, exit survey, emphasis added)
- "Throughout this experience, I have learned various ways to take risks, make changes, and adapt my teaching and instruction to best meet the needs of my students and their backgrounds" (socially just disposition/content and content pedagogical competencies). (in-service teacher, final paper, emphasis added)

In other words, most QTEL participants developed a keen awareness that intentionality mattered. Accordingly, they adjusted and expanded their existing toolkit to be more focused on and supportive of EL students, with a realization that only with such intentional practice can teachers meet the needs of EL students.

#### **Establishing a Community of LCRCT Practice**

The previous section highlighted how teacher-learners' engagement in critical dialogues through VT projects enhanced collaborative reflection as well as EL-focused practices beyond the generalist viewpoint. This section describes a building task discourse analysis (Gee, 2011) to argue how a technology-mediated course design using VT projects facilitated critical conversation among QTEL members to become LCR content teachers for ELs. Analyses addressed (a) how teacher-learners built their identity as QTEL LCRCT community members, (b) how the members established collaborative relationships through a practice of intertextuality, that is, cooperatively building on each other's experiences, voices, and ideas to develop their own, and (c) finally how they coconstructed the significance of critical reflection to enhance LCRCT practices.

*Identity Building as LCR Content Teachers of ELs.* One main building task captured through discourse analysis (see <a href="Appendix C">Appendix C</a>) was participants' identity building as LCR content teachers of ELs. First, teachers became proficient in LCRCT social language which they acquired through QTEL training. Initially, course instructors modeled how to draw on simple to more technical LCRCT discourses for VT project feedback, as in the following comment:

Thank you for **sharing** your VT project.... Thank you for all feedback providers.... You also **need to** provide **language proficiency** levels in **four modalities**. See what the student 1's language proficiency in reading, speaking, listening, and writing are [and include them]. You **can do [include language proficiency levels in four modalities]** for the next teaching case. (Instructor 1 comment to Group 1 VT project 1, emphasis added)

This opening feedback set up a communal learning space in which the instructor positioned teacher-learners as collaborators for course learning. Then, modeling the instructor's feedback, the teacher-learners' comments started to change from the general complimentary tone to include explicit LCRCT discourses, such as SIOP strategies, language proficiency level in all modalities using the ACCESS score, WIDA (World-class Instructional Design and Assessment) Strand, and so forth. The use of this field-specific social language across the instructor comments, peer feedback, and responses indicated that more QTEL participants were making a shift in their perception of their role from general classroom teachers to LCR content teachers for ELs.

**Relationship Building as Collaborative Teachers.** LCR teacher identity development occurred concurrently with the QTEL community building through participants' intertextual practices (see <u>Appendix C</u> for detailed analysis and quotations). Intertextual building of relationships took place through modeling (instructor comment), agreement on ideas, and borrowing others' practices, often with added modifications.

For example, a pair group of preservice teachers explained how they borrowed in-service teachers' practices in their VT project: "We kind of **copied off** the in-service teachers, but I thought of the TPR [Total Physical Response]. So, **we added** the hand motions (emphasis added)." This is a case in which novice preservice teachers appropriated and expanded experienced in-service teachers' practice, exemplifying how the Vygotskyan (1978) zone of proximal development worked for beginning teachers.

In-service teachers also learned from preservice teachers' critique and suggestions for EL-specific approaches, for which both the novice and experienced teachers were on a similar learning curve. In addition, teacher-learners adopted and referred to ideas and resources from their previous TESOL courses or from materials that were external to the course. Some discussed how the larger educational context affected their lesson plan by mentioning State Learning Standards as limiting their choice of "content concepts" in curriculum writing. Others recognized that their peers applied some of their previous TESOL course learning to their VT projects (Appendix C). Taken together, QTEL members' reciprocal mentoring contributed to establishing a collaborative learning community.

**Recognizing Significance of Critical Reflection.** Finally, the VT project discourse analysis revealed that the technology-mediated TESOL course design enhanced a majority of teacher-learners' professional vision and critical reflection. A prominent discourse feature in VT projects was the interrogative mode (questioning) among QTEL members as a sign of reflective inquiry and evaluation beyond descriptive reflection of what and how of their teaching. A questioning mode was first modeled by the instructors, for example, in their prompting questions:

- 1. What did you do to support each of the language learners to improve their academic content competencies?
- 2. **How would you** build on their first language rather than using general scaffolding strategies?
- 3. Then, group 2 members, **how would you apply** what you have learned/noticed from the first teaching case [VT project 1] for your planning and teaching? **What specific areas** might you consider and differentiate to fit with your context?

Instructors used questions to promote the presenting teachers' reflection on previous instruction and intentional incorporation of LCR content teaching strategies. Questions also encouraged other group members to conduct a more critical analysis of VT projects to inform their teaching practice.

This inquiry mode was then adopted by teacher-learners in their questions for VT project presenters, like "How did you use these proficiency levels?" or "What WIDA supports did you use?" with explicit connections to the LCR framework. They also added suggestions of LCR teaching strategies, such as, "I would consider having a sentence stem for your ELs to utilize."

A few QTEL trainees shared across data sets that they were initially worried about sharing critiques to evaluate other teachers. However, novice and experienced teachers alike understood that the VT project space was safe to share critiques, questions, and ideas, and only with them could they develop into effective LCR content teachers, as one teacher reflected:

It's very difficult to be an effective teacher if you're not willing to reflect on your own practice. It's really important to step outside of your usual perspective on how things are going in your classroom to be able to be an observer of yourself. (inservice teacher, exit survey)

Another in-service teacher ascribed her increased reflective skills to the class structure:

Because of the structure of our class, I have been able to reflect meaningfully about plans, lessons, and strategies that I have used. Rather than trying something and moving onto the next idea, I have become more aware of how to analyze as I am teaching, what I need to do to reflect on my teaching, and how I take that analysis and reflection to better my teaching and apply it to the next lesson or day. (inservice, final paper)

Many of these teachers reported that technology affordances made their own and others' teaching practices accessible for their analysis and reflection, which would not be available in the physical setting. One in-service teacher confirmed the benefit of the VT project model in her final paper: "Part of willingness to try this [new instructional strategy] repeatedly came from viewing others' Kaltura videos.... I have abounding respect for my co-inservice teachers from whom my glances into their classrooms was so beneficial." (in-service teacher, final paper)

Overall, the discourse analysis of VT projects demonstrated how these teacher-learners established a professional learning community by engaging in critical dialogues and making links between practices of their own and others. Central to this reflective learning community was the notion that teaching profession should not be an isolating experience, but collaborating space is needed to allow teachers a place to share, evaluate, reflect, and revise their practices.

#### **Remaining Challenges**

Despite the mostly positive feedback on their learning experience through the VT project, participants also shared challenges that they experienced during the course as well as those that still remained after the training. Some teachers initially resisted the use of digital technology. Others had difficulties in videotaping and uploading their teaching or in providing oral feedback due to the technological problems in the system.

Especially, given the workload in an urban school district, in-service teachers took more time learning the required technology components and completing initial VT projects. However, most of the teachers' challenges were more about their future in areas such as application of QTEL training for EL students in special education programs, inconsistent use of QTEL strategies, needs for student background data, alignment between assessment and instruction, difficulty in connecting with students as a monolingual teacher, and lack of the leadership support to continue their learned practices. These challenges indicate that, although the QTEL training may have laid an important foundation for the teachers to grow into competent LCR teachers, it was only the beginning of a journey that requires ongoing training and support to sustain and develop new LCRCT practices.

#### Discussion: Interplay Among Pedagogy, Agents, and Technology

As the study of Hewitt et al. argued (2003), video-based methods do not automatically induce teacher-learners' change in their attitudes and practices, but need to be combined with other ways to engage the learners in a higher order process of analytical reflection. The approach in this study used the VT project to foster teacher-learners' critical reflection and ownership over the entire teaching process, including the preparation and reflection steps.

The VT project model facilitated teacher-learners' open discussion on their instruction without the anxiety of being observed or criticized. Research argues that too often, teachers are not provided with a safe environment where they can share constructive criticism and the "productive disequilibrium" that such critical self-reflection and dialogues elicit for further professional growth (van Es, 2012, p. 183; see also Lord & Lomicka, 2004).

The findings demonstrate that the VT project was able to create a collegial space for change and growth in a teacher education classroom. However, success of the VT project required a balanced interplay among the pedagogy, learning agents, and the multimedia platform. First, the clear pedagogical goal of the course, which in our case was the LCRCT, guided the what and how of the teacher-learners' course progress. Next, each learning agent — instructors and teacher-learners — in this learning community performed their assigned role to establish a learning community.

Three instructors guided and modeled the LCR discourse features and practices through course teaching, assignment direction, and feedback for VT projects. Then, teacher-learners developed individual and collective learning trajectories in each of their practicum sites as well as in their own classrooms by engaging in the guided assignments of observation, teaching performance, and peer feedback.

Finally, the VT project multimedia served as the catalyst for QTEL members to intertextually build on each other's learning process. Whereas the physical teacher education classroom has various limitations, such as time constraints and inability to observe *real* classrooms, a hybrid or virtual course using the VT project model can effectively offer opportunities to experience and analyze authentic classroom interactions

(Hewitt et al., 2003) and increase teacher-learners' dialogues to learn and approximate better practices from one another.

The analyses of VT project discourses further suggested that this instructional model promoted a critical habit of mind among teachers. Drawing from Costa and Kallick's (2005) 16 habits of mind, including metacognition, questioning and problem posing, risk-taking, applying past knowledge to new situations, creativity and continuous learning, we defined critical habits of mind as characteristics of high-quality teachers for ELs through being reflective, collaborative, and innovative in teaching.

More specifically, VT projects helped teacher-learners to view teaching as a more comprehensive process. Whereas seeing others' teaching mostly focused on the immediate teaching in action, the VT project approach made the entire teaching process accessible for analysis, including the rationale of each instructional choice that is often unknown even to teachers themselves. For example, after each collective VT feedback, many participants understood that what they assumed to be the normative teaching might not work for ELs and willingly attempted new and modified strategies with suggested LCRCT guides.

The VT project model has its limitations beyond the technical challenges, however. First, teacher education courses can only monitor teacher-learner learning in the context of the coursework with the instructors; the teacher education courses do not guarantee the transfer of the course learning to the actual field. To address this oversight, the three instructors and researchers involved in the study have conducted ongoing observations of the QTEL cohort teachers' classroom during spring 2017 to examine how the cohort teachers have retained and contextualized – or not – their learning from our courses, which we plan to analyze and share in the future.

The second limitation is that too often, teachers in schools are under the administrative and curricular decisions and regulations of the district, operated by different belief systems or lack of them about how to best support ELs and families. In such cases, teachers may initiate new approaches in their school building, which was noted from several previous cohort teachers by taking the role of the EL specialist or director. Or they chose to conform to the normative school practices, which was not surprising given their position as a beginning teacher with little decision-making power. Thus, LCRCT community building should be supported by the school leadership, since the collaborative culture promoted by the VT project is only the beginning.

In addition, much of the data gathered were based on teacher self-reports about their learning, which could be inflated or biased in some way. Finally, a specific limitation of this research is that the course was designed, implemented, and researched by the three authors of this paper. Students in the program knew that they were answering questions about the project from three teachers who had also designed the course and may have felt pressure to respond positively to questions, like in exit survey, about the value of the work.

#### Conclusion

When carefully designed and implemented, this study of a VT project model for our TESOL Methods and Practicum courses showed that establishing a collaborative learning community of LCRCT practice is possible. Despite the challenges related to training teachers who had minimal experience with EL students and lacked of knowledge in LCR content teaching, QTEL teacher-learners self-reported and demonstrated a significant change and growth in their awareness and subsequent practice of LCRCT within a short period of time. The interactive VT project model appeared to enhance the teacher-learners'

observational skills and reflective capacity with a critical approach to teaching. Above all, the digital learning platform provided opportunities to see, experience, and learn from different classrooms.

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### Appendix A LCRCT Framework With Nine Constructs of Content and Meta-Content Competences

Content Competence Meta-Content Competence	Content Competence	Content Discourse Competence	Content Pedagogical Competence
Acquire & Demonstrate Knowledge in Depth	a. Acquire knowledge of content curriculum and standards (Janzen, 2008; Turner & Drake, 2016; Schleppegrell, 2007); b. Demonstrate confidence creatively with knowledge of language system (linguistics) and sociolinguistics (Richards, 2013)	a. Acquire knowledge on how ELs develop critical content literacy through the first and target languages; b. Demonstrate knowledge of technical content discourse - 1) vocabulary (e.g., 'product' in multiplication); 2); grammatical patterns (e.g., noun and verb phrases with 'be' and 'have' verbs, and conjunctions – as if, when, therefore) (Aguirre, et al., 2012); c. Distinguish natural/nontechnical/ everyday vocabulary and phrases such as place, assuming, given, be, same as, and divided by (Schleppegrell, 2007);	a. Acquire a wide range of strategies and techniques to scaffold language support (e.g., dual language word banks, gallery walk with various children's literatures, guided reading) (Richards, 2013); b. Utilize ELs' language proficiency-levels when composing language objectives that contains the 4 language domains (Richards, 2013); c. Demonstrate understanding of principles of evidence-based assessment and critical pedagogy (Freire, 1970); d. Demonstrate knowledge of informational technology as instructional resources;
Develop & Apply Procedural Demands	a. Develop understanding of content concepts and procedural demands (Turner & Drake, 2016); and b. Justify teachers' confidence by demonstrating content knowledge with reasoning process (e.g., word problems) (Janzen, 2008).	a. Explore and analyze content concepts, procedures, and reasoning strategies (e.g., cognates, prefix, and suffix); b. Attribute process of part-to-whole relationship (Turner & Drake, 2016); c. Identifying process of equality and identity - reversible with equality; d. Demonstrate confidence by creating a personal and social communication space (Richards, 2013); and e. Create effective surprises with something new, which make teaching unique for each EL (Richards, 2013).	a. Develop the intentional, creative, collaborative and reflective teaching strategies with varying tasks (Richards, 2013); b. Facilitate project-based teaching and dual-language teaching approach; b. Acquire ELs' linguistic and cultural strengths (Funds of Knowledge) to make connection to their lives and experience (Moll, 2015; Richards, 2013); and c. Utilize technology to make the subject come alive by using different paths to learning.
Examine & Develop Sociopolitical Teacher Beliefs/ Dispositions	a. Examine teachers' own sociopolitical beliefs and develop 'new' teacher beliefs; b. Create meaningful situated context for academic learning (Gee, 2016); and a. Understand the differences and similarities of academic curriculum between in America and ELs' countries (Song & Coppersmith, 2017b).	a. Create equitable and inclusive classroom climate that ELs can see their identities. b. Helping ELs develop their self-confidence (Richards, 2016); c. Reject an English only orientation (Commins & Miramontes, 2006); d. Reexamine teachers' assumptions or discrimination about different language use, 'linguicism' (Liggett, 2014); e. Commit to the active outreach to and involvement of families, parents and the school community; and a. Use ELs-chosen instructional content materials and/or approaches (e.g., dual language word walls) (Richards, 2016).	a. Stop and rethink content teachers' authority vs. students' value/status contribution; b. Personalize learning strategies and resources to provide ELs equitable opportunity (Liggett, 2014); c. Adapt activities to increase personal value of teaching for ELs (Richards, 2013); d. Follow ELs' progress with personalized feedback; and a. Making instructional decisions collaboratively within situated contexts of language, culture, race, and content (Liggett, 2014).)

### Appendix B VT Project Transcript With Initial Coding

#### Voice Thread and Teaching Cases, 6250 Methods Class; Fall 2016

Group2, VT 1 L & T

Data includes: VT with comments (no discussion board comments

found)-

T: Teacher S: Student/s

Video: Students read LO and CO.

Teacher: L

L: These objectives - this is what you should learn by the end of the lesson; you should measure things on an electronic scale and a triple beam balance. So if you don't - haven't learned that then you haven't learned what I intended you to learn. Second thing, the Language Objective. It is important we incorporate science vocab in our writing. J do you have a question? How much total mass could we measure using a triple beam balance? Close... Tina? 610. The total amount we can measure using this tool. Everybody - (teacher walks around to desks, T distributes materials). OK, hold on - you have to collect the data. Look at the lab sheet where it says data table - it says triple beam; measure using electronic scale. (video edited here by teachers)

T: Ms. N I have a question before you get started. Earlier you asked them to **make a prediction** - about whether or not the predictions would be the same or different and I'm just curious whether you think they would be the same....and how many thought it would be different (students raise hands); Interesting.

Students begin work in pods of 4. Teachers move around to assist.

T Remember this is our first time using a triple beam. I'm not sure if .... treat the equipment nice (video edited here) ....

**Students measure objects**. Four male students get out of seat around 5 - 6 minutes and walk around, milling around talking.

8 minutes - L: **Everyone should be seated**; work on your Exit Ticket. Were you surprised by your results, why or why not? You feel like you are not understanding measurement? The triple beam takes practice. St: "I don't get any of it" .....

\_\_\_\_\_

VT: SIOP Component 1: Lesson Preparation: VOICE THREAD

Z comment: Lesson Preparation: **CO and LO** clearly defined at beginning; the CO measure on electronic scale and triple beam balance. The CO: Use scientific vocabulary in their writing. Not only did you state it but

CODING

Lesson starts with students engaged with and reading LO and CO (pasted below from VT)
Clear statement of learning objectives

Content and process

Content and language in writing
Teacher-directed questioning
L & T assist students

Helps students focus on using tools and data sheet

T clarifies
Asks students about their predictions

Students work in groups; teachers assist Teacher reminds students about using equipment; video edited out by Ts Students engage in the activity measuring objects

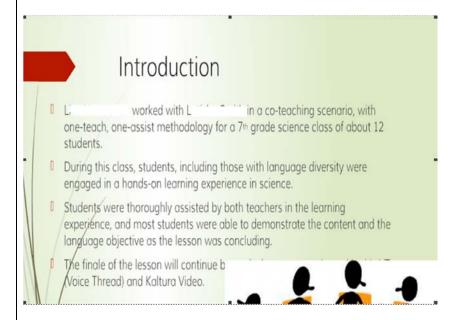
End of lesson - teacher reminds students to work on **Exit Ticket** (assessment).

was written on their scale packet good for the auditory and visual learner.

Dr. S comment: Thank you for sharing your video and power point. When I visited, I saw lots of interaction, talking, collaboration, L is content teacher and T is co-teacher who is helping walking through each of the tables who needs more help. I am wondering if you could add your contribution with **specific ELLs** and using this opportunity with specific ELLS you have helped; what could be done better academic achievement in science class - your contribution to this co-teaching model. Your lesson topic is measuring mass.

Preservice peer comment: Recognizes that CO and LO were addressed from the beginning.

#### Power Point: SIOP Component 1: Lesson Prep



Interactions; teachers working as team; students talking, collaborating.

Questions that remain:

What was done to support and scaffold specific ELLs; not always evident in classroom videos

**Next slide:** LESSON TOPIC: 1) Measuring Mass with a triple beam balance; 2) Measuring mass with an electronic scale)

**Next slide** Content Objective: I can compare the mass of various objects using a triple beam balance and electronic scale.

**Next slide:** I can write a Claims Evidence Response using the following academic science vocabulary words: triple beam; balance; mass; electronic scale; grams.

**Next slide** <u>Do Now</u>: Do you think if you measure the mass of an object using a triple beam balance and an electronic scale you would get the same result? Why or why not? (L: There was a split between the same and different (in student responses).

"students with language diversity" engaged in handson learning as a goal. See Dr. Song's comment on specific ELLs and questions above.

How do these t's include LCRCT strategies as visible in the video?

Students' first attempt with the equipment. As I recall from 6250 when Lisa shared this on a poster board - was this her first time using CO and LO?

## Appendix C Building Task Analysis of Group VT Project Interaction: A Process of Building a Learning Community of Practice

	Description of Linguistic Features	Interpretations using the Building Tasks	Associated Theoretical Frames
Instructor Comment Introducing and reinforcing the guiding	Verbs/ Pronouns "Thank you for sharingand thank you all the feedback providers"	Verbs focusing on community building; set up the identity of the community of collective learners who reciprocate ideas and practices to be LCRC teachers.	Identities/ social languages (as TESOL teachers or teacher- learners)
framework of LCRCT	Mood/ Lexicalization (word choice) "You also need to provide language proficiency levels in four modalities. See how the student 1's language proficiency in reading speaking and listening and writing."	The combination of the deontic mood verbs ("need to") and TESOL specific vocabularies signals the <b>focused course goals</b> guided by Linguistically and Culturally Responsive Content Teaching (LCRCT)	Identities/ social languages (TESOL community language)
	Mood/ Tense/ Verb  "What did you do to support each of the language learners to improve their academic content competencies?"  "how would you build on their first language rather than using more general scaffolding strategies?"  "group 2 members, how would you apply what you have learned/noticed from the first teaching case for your planning and teaching?"	Use of question to promote critical reflection on the teacher-learners' practice.  Past tense (did) to reflect on the previous practice  Modal verb (would) to develop critical planning/ practices  Modal verb (would/ might) to plan future teaching based on the previous lesson (present perfect): from learning to application	Significance/ situated meanings (importance of critical reflection as TESOL teachers)
	Intertextuality  "As many of your group members commented"  "Your peer reviewers and Dr. C gave you awesome ideas"	Instructor acknowledge and refers to peer; collective practice of reflection and mutual development	Relationship/ intertextuality (community of mutual meaning making)
Peer Comments  Establishing a collaborative community of LCRCT practice	Intertextuality/ Lexicalization "besides Dr. Song's comments about strengthening objectives in general" "I also agree with LT's comment with the LO" "Content concepts we don't have a lot of control because we have to use the Missouri Learning	Peer comments informed by instructor feedback with LCRCT focus Peer comment built on other classmate's feedback Explicit links to the State learning standards	Relationship/ Intertextuality (establishing a mutual learning community: ideas and practices shared from each other's comment, teaching practice, and external curricular

	Standards when writing the curriculum"  "it's good that you were able to reach back and apply some of the information that we learned from our previous courses this summer"  "I liked how you had the students say out loud the CO and LO, kind of like the in-service teachers did at [CD school]"	Referring to the course content from previous QTEL courses  Preservice teachers' practice borrowed from observing an inservice teachers' practice	standards); Identity/ social language (classroom teachers limited by the state standards)
	Voice/Verb/ Lexicalization  "I would add in how they would identify and categorize these things"  "I would maybe consider having graphic organizer or sentence stem for your ELL's to utilize"	Verb ("would") to make a suggestion and prompt further reflection for the observed teaching practice using LCRCT languages	Significance/ situated meaning; Identities/ social languages (emphasizing LCRCT practices as EL teachers)
	Mood/ Lexicalization  "how did you use these proficiency levels to provide different scaffolds during lessons what WIDA supports did you use?"	Use of question for more details, to promote reflection on the past teaching with a specific focus on incorporating LCRCT practices	Significance/ situated meaning; Identities/ social languages (emphasizing LCRCT practices)
	Voice/ Tense "I will have to remember to incorporate some sort of graphic organizer into my lesson!"	Use of <b>active voice</b> and future tense positions the teacher-learner as progressive agents of LCRCT instructors	Identities/ social languages (as LCRCT practitioners)
Response to Peer Comments	Intertextuality/Voice/Verbs  "we kind of copied off the inservice teachers but I thought of the TPR so we added the hand motions"	Active voice to appropriate experienced teachers' practice and add their own ideas	Relationships/ intertextuality (building on each other's practice)
	"It wasn't until after when we did the assessment for the LO that we realized they didn't really have a grasp – we felt that they understood it. but yeah, you're right spending more time talking about it"	Active voice ("we did/realized") critically reflecting on the previous lesson based on peer comment Verbs (realized/ felt) to communicate the reflective process	Identities/ social languages (as reflective LCRCT practitioners)
	Voice/ Lexicalization  "we tried as best if you saw in our videoto include the 4 language modalities"	Active voice ("we") as agentive teachers adopting specific LCRCT scaffolding strategies	Identities/ social languages (as active LCRCT practitioners)