Assessing Preservice Teachers' Perceptions and Practices to Differentiate Instruction for Culturally and Linguistically Diverse Students in Secondary Classrooms

Amani Zaier
Texas Tech University
U.S.A

Faith Maina
Texas Tech University
U.S.A

ABSTRACT: This study examined self-reports and instructional videos provided by 25 preservice teachers to demonstrate differentiated instruction in meeting the needs of culturally and linguistically diverse students (CLDS) in the United States. Self-reported journals were thematically analyzed and compared with corresponding instructional videos. The results revealed a mismatch between perceptions and practices of differentiation. Clearly, additional efforts must be taken to prepare preservice teachers to differentiate their instruction for CLDS in the areas of content, process, product, and environment. Teacher preparation programs must invest time and resources to adequately prepare preservice teachers for the challenge of differentiating instruction for CLDS.

KEYWORDS: Differentiation, preservice teachers, cultural-linguistic diversity, secondary classrooms

Differentiated instruction is a teaching strategy that supports student diversity in inclusive classrooms (Tomlinson, 2000). Teachers who use differentiated instruction to design lessons must consider the learning style and readiness level of each student, ways to deliver the same material to each student while varying instructional strategies, and, when necessary, the difficulty level of instruction (Awofala & Lawani, 2020; Benjamin, 2020; Stavrou & Koutselini, 2016; Tomlinson et al., 2003). The effective application of differentiated instruction requires meeting the needs of all students, regardless of their cultural or linguistic backgrounds (Cannon, 2017; Santamaria, 2009). Research indicates that differentiated instruction benefits a wide range of students with different levels of learning abilities (Algozzine & Anderson, 2007; Brevik et al., 2018; Celik, 2019; Heacox, 2017; Kotob & Abadi, 2019; Scigliano & Hipsky, 2010). In real classroom environments, teachers can achieve differentiation by tailoring lessons to individual learning styles or by grouping students according to common interests, topics, or abilities. Teachers who implement differentiation are

expected to create safe and supportive classroom environments with continuous assessment and adjust their instruction to meet the needs of their culturally and linguistically diverse students (CLDS) (Gregory & Chapman, 2012; Stern, 2016; Yenmez, & Ozpinar, 2017). In this study, CLDS are defined as a diverse group of learners with various educational, cultural, and linguistic backgrounds, which may differ from the mainstream student population.

Literature Review

Differentiated instruction covers four domains: content, process, product, and environment (Farris & Werderich, 2019; Nelson, 2019; Mofield, 2020; Partami, 2019; Tomlinson, 1995). Content differentiation includes adjusting lessons plans by modifying the activities and assignments to appropriate levels of difficulty (Benjamin, 2020). As Tomlinson (2001) noted, differentiating instruction based on the learning profiles of learners in mixed-abilities classrooms helps each learner embrace the mode of learning that best fits their learning profile.

Process differentiation is defined by Tomlinson and Imbeau (2010) as "how students come to understand and make sense of the content" (p. 15). Through process differentiation, teachers help their students take part in creating activities, which helps them "own" the content by allowing them to "see how it makes sense and realize how it is useful in the world outside the classroom" (p. 15). Product differentiation, what students create by the end of the lesson to demonstrate mastery of content, requires differentiating the result and the format of the learning outcomes. The goal is to make students aware of the possible options they have by allowing them to independently choose the format that best fits their learning style. This flexibility is intentional and trains students to be creative, think outside the box, and demonstrate learning through innovative products.

The differentiation of the learning environment requires flexibility in rearranging classroom settings to meet the needs of each student. When creating culturally responsive classroom environments, teachers use the look and feel of their classrooms as ways to promote student engagement and progress (Lavania & Nor, 2020; Lindner et al., 2019; Smale et al., 2019). A culturally responsive classroom environment is also a location that promotes safety, togetherness, and a sense of community (Grant & Ray, 2018; Tsuruda & Shepherd, 2016).

Recent research highlights the value of differentiating instruction in its four domains of content, process, product, and environment to deliver equitable education to diverse learners (Clarke, 2016; Griess, & Keat, 2014; Moosa & Shareefa, 2019; Partami, 2019; Tomlinson, & Imbeau, 2012; Trilling & Fadel, 2009). In this study, we investigated preservice teachers participating in a one-year teaching placement that was designed to elevate their awareness about the needs of CLDS and enhance their competence in differentiating their instruction into these four domains. This study addressed the following two research questions:

1. How do preservice teachers perceive their practices to differentiate instruction for CLDS?
2. What do reflective self-reports and instructional videos reveal about preservice teachers' perceptions and practices when differentiating instruction for CLDS?

Differentiation for Culturally and Linguistically Diverse Students

Differentiating instruction based on the learning profiles of CLDS is an effective educational practice highly encouraged by many scholars in the literature (Partami, 2019; Tomilson, 2000). However, there is always a need to further investigate the emerging challenges CLDS face. (Garcia et al., 2019; Kotob & Abadi, 2019). Recently, some studies started looking at how differentiated instruction has been impacted amidst the COVID-19 pandemic (Hernandez, et al. 2021). Overall, there are useful guidelines for preparing preservice teachers to identify and respond to the different learning needs of CLDS (Jackson & Evans, 2017; Partami, 2019; Smale-Jacobse et al., 2019). Teachers should also receive adequate preparation to help their CLDS reflect on their learning preferences and share these reflections in class. For instance, teachers are expected to provide their students with specific options during the differentiation process, instead of merely asking what they want their students to do (Khan & Asif, 2018; Tripp, 2017). Teachers also need to understand their students' preferred learning styles and allow them to choose what would help them learn better (Heacox, 2017; Jackson & Evans, 2017; Kamarulzaman, et al. 2017). Preservice teachers should be well prepared on how to connect with their students' cultures. This knowledge should be instrumental in developing culturally appropriate teaching materials (Spina, 2019; Tripp, 2017). The effort and time invested in learning about their CLDS' cultures will help teachers to better assess their students' learning profiles, struggles, and strengths and eventually create rewarding learning experiences. As Tomlinson (2001) noted, when we expand our vision beyond the parameters of our private universes, we become more welcoming and effective teachers to students who inevitably inhabit private universes different from our own.

Method

This study assessed preservice teachers' perceptions of their practices in differentiating instruction for culturally and linguistically diverse students in the secondary classroom through analysis of their self-reported journals and instructional videos.

Participants and Context of the Study

A group of preservice teachers (n=25) participated in this study. They belonged to a cohort that took the same teacher education classes at a large university in the Southwest United States and did their field placements in the same k-12 schools. The teachers included 21 females and four males, aged between 21 and 26. All were white except for one male and two female preservice teachers from Latinx backgrounds. This group was purposefully selected because they received differentiated instruction preparation within the same program. The preservice teachers spent four days per week in their field placement teaching content areas to 6th through 12th-grade students. During this field placement, they were responsible for teaching the entire lesson under

the supervision of a mentor teacher.

Data Collection

Self-reported journals and instructional videos were collected over one academic semester. As part of their course assessment, preservice teachers were instructed to implement differentiated instruction for CLDS during their student teaching field placement. Their teacher preparation curriculum included a full-semester portfolio of rigorous applications of best classroom practices, including culturally responsive teaching (Gay, 2018). During this training period, preservice teachers practiced and applied an array of high-leverage, effective instructional practices in real classrooms with CLDS (such as using multiple sources of information to develop a comprehensive understanding of CLD students' strengths and weaknesses; systematically designing instruction toward a learning goal; providing scaffolding; and providing positive and constructive feedback to guide learning and behavior). Their portfolios included a selection of interactive activities promoting high-level engagement, including practices such as Socratic seminars, philosophical chair, jigsaw, Cornel notes, learning logs, and the use of visual organizers like the Frayer model and four corners. It also included reflective activities, such as reflective journaling, quick writes, case studies, and service-learning contracts and logs (Pillow, 2015). Teachers were specifically trained on how to use these best practices to develop a comprehensive understanding of their diverse students' needs. These best practices are reflective classroom strategies primarily inspired by the conceptual framework of pedagogical reflexivity, a constructive practice for educators and students (Bondi, 2009; Hibbert, 2013; Rothman, 2014; Tchombe, 2017). According to Rothman (2014), when students are encouraged to practice reflexivity by writing journals and engaging in self-critique, they develop a deep self-awareness about their own thoughts, strengths, and weaknesses.

By the end of the academic year, both researchers, who are professors of color with expertise in culturally responsive teaching, asked preservice teachers to share three videos showing evidence of differentiation. Before and after each recorded teaching session, the preservice teachers were required to create a log documenting their successes and any difficulties they experienced while implementing differentiated strategies. Each differentiated strategy was also expected to be documented and explained in four self-reported journals. These reflective journals followed a template with guided questions to ignite thorough reflexivity and evaluation of their performance with the differentiated strategies. Each self-report described at least one strategy learned from either the course, textbook, field practice, or peers. The format of the self-reported journals was as follows: 1) a brief description of the strategy chosen by the preservice teacher; 2) the reason this strategy was chosen, such as to reach a specific student or group of students or to benefit the entire class; 3) an explanation of what worked and why and what did not work and why; and 4) a discussion of whether they would do anything differently the next time they used the same strategy. At the end of the course, each of the 25 preservice teachers uploaded four self-reported journals, along with corresponding videos to the Teachscape platform, an online video environment to which the institution subscribed for evaluation purposes. We researchers downloaded and organized this data set for analysis, including 100 self-reported journals and 75 instructional videos.

Data Analysis

We used thematic analysis as an approach to make sense of the gathered data (Johnson & Christensen, 2019). We separately analyzed the self-reported journals by dividing them into two categories. The first category was "strategies that worked well" and the second category was "strategies that did not work well." During analysis, the same three sub-questions were taken into consideration for each category: (1) "Why was the strategy chosen?" (2) "What worked or did not work?" and (3) "How was it differentiated?" Each of the 25 preservice teachers was assigned a case number, and their four strategies were entered into an Excel spreadsheet. After missing and redundant data were eliminated, we analyzed the 80 remaining instructional practices included in the self-reported journals.

We compared preservice teachers' self-reports with their video recordings. We also reviewed and analyzed additional data sources, including lesson plans and class activities. Even though these additional sources were not the focus of our study, they allowed us to triangulate our analysis and helped us validate our conclusions by providing valuable supplementary evidence. Self-reports were the product of self-assessment. Preservice teachers had to document evidence of their own implementation of differentiated strategies and evaluate their own performance. We were particularly interested in understanding how preservice teachers reflected and processed self-evaluations. The self-reported journals were not evaluated as evidence of achievements, but rather, as individual best practices of reflexivity. This decision was taken keeping in mind that inconsistency between what teachers preach to teach and how they actually teach is a common phenomenon widely documented in the literature. Therefore, students reporting only their successes was somewhat expected as a finding.

Preservice teachers were instructed to tag their videos with all evidence of differentiation. In the tagging process, they used textual tags, which required them to stop the video when the differentiated strategy started and insert a written description about differentiation every time they did something different. These textual tags marked the start time and the duration of the act of differentiation, followed by a script explaining what specific strategy they differentiated, why it was selected, and how the learners reacted to it. We used the video textual tags to track the frequencies of differentiation. The process of video analysis involved scoring a series of short, differentiated instruction segments (e.g., two to five minutes), and extended segments (e.g., 20-30 minutes) that included examples of differentiated strategies and high-leverage practices. Once coding and scoring accuracy were set, coders measured the frequency and duration of contextual evidence of differentiation and academic feedback included in the videos.

Open and Axial Coding

The instructional videos were initially coded using open coding of emergent themes guided by Strauss and Corbin (1990). We read through the textual tags and separately created tentative labels for each chunk of data that corresponded to either

differentiation of content, process, product, or environment. We recorded examples of participants' textual tags to establish properties for each code. In a second phase, we jointly used axial coding to identify relationships among the open codes. By axial coding, we investigated the relationships between the emerging concepts and categories that were developed in the open coding process (Corbin & Strauss, 2014; Scott & Medaugh, 2017; Vollstedt & Rezat, 2019).

Results

Overall, the data analysis revealed a mismatch between preservice teachers' perceptions of their differentiated instruction (as documented in self-reports) and their actual implementation of differentiated instruction (as observed in the videos). More specifically, the following general themes emerged: 1) surface level differentiation, 2) limited use of best practices, 3) need for more practice to master differentiation, 4) lack of academic feedback, and 5) inaccurate self-assessment of differentiation.

Surface Level Differentiation

The analysis of self-reported journals revealed a common theme of satisfaction expressed by all preservice teachers. They talked about how they were able to differentiate their instruction at the four levels of content, process, product, and environment. Some of them even boasted about their successful lesson plan differentiation to meet the needs of their diverse students. One said, "After a few missed attempts, I learned how to tweak my weekly lesson plans and insert extra activities for those who might need them with side notes to myself on how to use them when needed." They also talked about their willingness to modify instruction whenever needed. "Since I see them four days a week, I learned when I need to sometimes slow down, go back, and reteach." As evidenced in these testimonies, the analysis of the self-reported journals revealed a pattern of general agreement among preservice teachers confirming their readiness to modify the delivery of content. However, analysis of their recorded instructional videos revealed a different reality.

Limited Use of Best Practices

Because preservice teachers generally had a surface-level understanding of differentiation, their use of best practices for CLDS were limited in the portfolio. The limited use of the high-leverage practices reinforced the disconnect between their perceptions and implementation of the four areas of differentiated instruction as detailed below:

Content

Preservice teachers were expected to teach their content area, including

English, Math, History, and Biology, by covering the learning standards set by school district or state. Twenty participants said they had at least a few CLDS who were completely unfamiliar with the concepts they were teaching because they were either new to the school culture or lacked English proficiency. Other classroom students, however, were able to achieve partial mastery of the content due to their prerequisite background knowledge. In general, diverse students with varied levels of abilities needed tiered content differentiation to meet their skills where they were. This practice required implementing lower-order thinking skills (LOTS), such as simply using translation or extrapolation, and higher-order thinking skills (HOTS), such as making inferences and using inductive and deductive reasoning (Tikhonova & Kudinova, 2015). However, only a few of these best practices were used in the instructional videos.

Process

Preservice teachers shared a common understanding that CLDS have different learning preferences and styles. However, the few documented best practices meant to meet these differences included delivering the curricular material either verbally, visually, aurally, or kinesthetically (Gardner, 1991). We researchers found that the grouping of students affected the degree of success many preservice teachers had in differentiating their strategies. Some strategies were reported to work well when the students were working in small groups (Park & Datnow, 2017). Other strategies, such as the Socratic seminar and the philosophical chair, were reported to work well as a whole class. Still, other strategies worked well with "shoulder" partners (children who sit next to one another), as in think-pair-share, or when children worked individually, as in quick writes.

Product

Products can take the forms of tests, projects, reports, and other similar activities or assignments. Preservice teachers advocated for designing meaningful tasks that would demonstrate mastery of educational concepts and equally align with the preferences and learning styles of CLDS. Preservice teachers shared a reasonable understanding of their students' learning preferences, strengths, and weaknesses. However, only a few implemented the best practices of differentiated instruction. One preservice teacher demonstrated her flexibility in adjusting her instruction by giving her CLDS options. She explained that, instead of requiring all of her students to read a book and write a summary report, she allowed kinesthetic learners to perform or role-play, visual learners to create graphic organizers of the story, and auditory learners to give oral presentations.

Learning Environment

Best practices such as allowing students to rotate between different stations, permitting individualized learning experiences, providing accessibility for special

needs, and effectively managing the learning space, were rarely tagged in the instructional videos. Even though the teaching portfolio included strategies for differentiating the learning environment, only a few preservice teachers tagged and reflected on the learning environment. One of them wrote, "When I used the 'four-corner' activity, students' motivation rose as soon as they started moving around and discussing with their groups. It suddenly changed the environment from quiet to interactive." Another preservice teacher wrote, "The Gallery-walk activity was a game changer for my classroom environment. Students like to see their work displayed and being discussed by their peers."

Need for More Practice to Master Differentiation

When we compared the teaching moments of differentiated instruction with the lesson plans and self-reported journals, it became clear that there was a gap between the perception and the real application of the knowledge of differentiation. In their lesson plans and self-reported journals, the participants expressed a breadth of knowledge about how to differentiate. However, participants did not show evidence of mastery during their practice nor many expected applications of best practices. This mismatch between what they planned to do (lesson plans) and what they did (recorded lessons) was tangible evidence of the lack of readiness to effectively transfer knowledge about differentiation from theory into practice. In the self-report analysis, only four preservice teachers acknowledged the need for more practice and exposure to master differentiation for CLDS. These four participants justified their inability to effectively differentiate by referring to their limited teaching experience of one semester of observation followed by another semester of student teaching practicum. In their self-reported journals, these participants expressed anxiety when trying to differentiate instruction for CLDS who needed additional assistance. They described the process of differentiation as a "double burden," "stressful," "sometimes discouraging," and "exhausting." One wrote, "It makes me feel anxious and sometimes useless." One participant stated:

> In my honest moments, I wish I did not have to deal with differentiation at all. I was thinking I am already doing it, but in reality it is not easy. It requires more work and energy during lesson planning and implementation than what I expected. Knowing that so many other teachers think the same but probably are afraid of saying it makes me feel O.K. I honestly prefer not to differentiate. It is a real struggle to find the extra time in an already busy schedule.

Another participant shared that she would be more willing later in her career to differentiate her instruction to meet the needs of diverse students: "We need a few years to get our feet wet first, and then we can slowly start the process of differentiation. We need time to adjust to our new lives as novice teachers."

Lack of Academic Feedback

Academic feedback was measured by tracking the time frame on the videos. We found out that participants spent on average less than one-minute providing specific feedback to the CLDS. Most participants did not provide high-quality, oral

feedback to their students about the writing products, which were also to be followed by detailed written feedback. Participants focused exclusively on meeting the immediate needs of their CLDS by highlighting misconceptions about content knowledge. For instance, participants would indicate surface errors (e.g., grammatical errors and typos), suggest more elaborate phrases to improve writing tasks, or provide correct responses as academic feedback. This resulted in missed opportunities to differentiate instruction when it was needed. The observed participants generally repeated the same assertive phrases, such as: "This is great!" "Good job!" "Way to go!" "I like that!" "That's a good point." "This is not correct." "Here is the right answer," and so on, without taking the time to develop more explicit and focused academic feedback specific to what the learners did well. Overall, the feedback offered to CLDS during instruction was academically ineffective.

Inaccurate Self-assessment of Success in Differentiation

As part of the data analysis, we looked at how preservice teachers assessed their differentiation; how they evaluated their own practices; and what evidence they provided to support their justification of a successful differentiated instruction. The self-reported data provided by preservice teachers was overwhelmingly positive and claimed mastery of the process of differentiation. This outcome, however, revealed a clear hesitancy among preservice teachers to share their struggles and only report what they thought was successful differentiated instruction. Since this practice was initially created as a graded assignment, this might justify their decisions to report only what they assumed to be successful differentiation. Of the 25 participants, 21 reported successful differentiation. They believed their success was the outcome of: (1) the effort and time invested in planning their lessons; (2) the deep thinking involved in designing the content and process; (3) flexibility, which allowed students to produce varied products; and (4) teacher creativity and flexibility in adjusting the learning environment. Most of the self-reports were overwhelmingly positive; we researchers interpreted them as having an inflated sense of success. This was expected since this practice is a graded assignment, which might explain their decision to report only the successful practices. In addition, they are still novice teachers who just started building their competence with differentiation. The instructional videos of those who praised their performances and mentioned no challenges were closely analyzed and then compared with self-reported journals. The results revealed two deficiencies. First, the textual tags were often inaccurate, incomplete, or missing. The raters flagged various missed occasions that could have been used for differentiation. Second, the duration and process of differentiation (when tagged) were considerably short and missing elaboration.

Overall, most participants were unable to explain what did not work well during differentiation. Additionally, most of their self-reported journals included only a few sentences or a single paragraph about difficulties. When asked about factors that prevented effective differentiation, participants mentioned lack of motivation and absenteeism. Preservice teacher comments included, "They [students] seem uninterested in what I teach. They don't care." Others identified time constraints as a limiting factor. As one participant explained, "It is very hard to allocate time in every lesson period for differentiation." Others referred to lack of resources, support, or language barriers; they also mentioned external variables related to socioeconomic

status, such as poverty and lack of parental support. Only four of the 25 preservice teachers mentioned factors related to their own teaching approach, such as time management. For example, one participant wrote, "I miscalculated the time needed for the follow-up activity." Another of the four participants admitted that she needed to rehearse prior to real classroom implementation, saying,

> I guess I did not plan long enough for it, and I did not practice it. I had a hard time with classroom management, and it was challenging for me to maintain CLDS' interest. I believe I did use the wrong materials for this strategy with ESL learners.

Preservice teachers generally pointed to external factors instead of personal factors (e.g., lack of adequate preparation or experience) when they were unable to successfully differentiate instruction for their diverse students. Among these external factors, the following were frequently mentioned: lack of motivation, time constraints, low abilities, disruptive behavior, absenteeism, and disinterest in the content area. Other external factors included lack of resources, disconnection with administration, and poorly equipped classrooms. When participants were asked to explain why they picked specific differentiated strategies, they generally mentioned three reasons: to challenge and motivate students, to do formative and summative assessments, and to create a better learning environment. In contrast, the self-reported journals revealed high levels of self-efficacy. Participants also shared their enthusiasm for creating their own materials, games, and activities. As one participant wrote, "It is fun to modify and observe my high performers assisting their peers."

Discussion

This study looked at how preservice teachers differentiated their instruction to meet the needs of culturally and linguistically diverse students. Results showed that participants recognized the importance of differentiation and made efforts to integrate it while teaching CLDS. However, despite the confidence, they also expressed their abilities to differentiate instruction remained immature.

For the Implementation of best practices, with no exception, all the differentiated strategies were carefully presented and perfectly planned. The lesson plans had a section where all participants went into detail, explaining what best practices they planned to use while differentiating their instruction. All lesson plans went through multiple rounds of feedback and revision from the instructor and the mentor teacher prior to video recording to ensure strategies of differentiation and best practices were included in the lesson plans.

In general, preservice teachers were still in their initial steps toward building mastery of differentiated instruction. They needed more exposure and extended practice with the portfolio of high-leverage practices in order to develop mastery of the best practices and become effective teachers for CLDS. Even though they often focused on meeting the immediate needs of their students and missed opportunities to differentiate effectively, they did demonstrate an undeniable interest in helping their CLDS. They equally expressed their eagerness and enthusiasm to keep learning to become more competent teachers.

Overall, these anticipated findings raise a flag about the overall efficacy of

current teacher education programs and how well they are preparing culturally and linguistically responsive teachers. Therefore, teacher education programs are urged to question how they are preparing the new generations of teachers who are expected to serve culturally and linguistically diverse students. It is necessary to reevaluate the quality of training by conducting a systemic assessment of the training approaches in order to remediate the situation.

Limitations of the Study

The data for this study were provided by 25 preservice teachers in a one-year placement in a 6th–12th-grade setting. Since the participants were university students at the time, they submitted their self-reported journals and recorded teaching sessions as part of their final grades; it is possible that they exaggerated their accomplishments in differentiating instruction out of fear of receiving a lower grade. The sample was also small and convenient. Data were collected mainly from one cohort group. It is likely that the participants were motivated to repeat what they had learned in class and during the training to avoid reprisal from their teacher. We, therefore, interpret the findings with caution.

Conclusion

Despite the limited sample size in this study, our preservice teachers' experience with differentiation confirmed the need for improved teacher training protocols. We concluded that spending only a few months in field practice is not enough to gain mastery over differentiation. Our preservice teachers likely could have had a better implementation of differentiated instruction if they were given more time for the field practice. Teacher education programs can learn from this study by increasing the hours of student teaching. Preservice teachers would benefit if their field practice included three different stages of exposure starting with observation, followed by shadowing, and then student teaching. Participants in our study went through two stages of observing for one semester and then teaching in the second semester. By adding the shadowing stage, preservice teachers may be better prepared to differentiate given the extended period of field practice they would have, in addition to working with experienced teachers. The mediating stage of shadowing might serve as a bridge to ease the transition from the observational stage into the teaching stage. Equally, effective implementation of differentiated instruction might also be achieved through rigorous pedagogical approaches that require field practice with CLDS in real classrooms. Therefore, it is essential that teacher education programs provide high quality training focused on differentiated instruction. Preservice teachers need to strengthen their knowledge and skills about the four domains of differentiation (content, process, product, and learning environment) through extended exposure and targeted field practice. It is equally important to dedicate part of the training to learning about the learner profiles and cultures of all diverse students.

One noteworthy recommendation by the preservice teachers in our study was to have more practice differentiating instruction for CLDS. They called for focused training targeting five domains instead of the current four domains of content, process,

product, and learning environment. The fifth domain they proposed related to student learning profiles and acknowledged the importance of getting to know CLDS, such as learning more about their backgrounds and cultural knowledge. Clearly, there were various personal and cultural variables that needed to be presented to teachers prior to asking them to differentiate. Better understanding learners' profiles would be a powerful tool to build trust and effective communication between CLDS and their instructors (Tomlinson et al., 2003). By suggesting more exposure and additional practice in these five domains, our participants admitted that, contrary to what they shared in their self-reported journals, they struggled to differentiate their instruction.

Our findings have informed our practice in regard to improving our ability to prepare preservice teachers to differentiate instruction, especially for CLDS. Teacher preparation programs have the challenge and responsibility of adequately equipping teachers with skills, knowledge, and resources to effectively differentiate for CLDS in their K-12 settings. Further studies with larger samples in multiple disciplines at the K-12 level are still needed.

Preservice teachers should be coached on how to handle expected challenges such as variability in degrees of readiness, interest, and learning styles of diverse students. Teacher educators should model best practices of differentiated instruction so that preservice teachers understand what is expected of them. Educators need to be thorough in explaining how to make specific instructional practices work and how to differentiate instruction in the areas of content, process, product, and learning environment to match the different learning profiles of CLDS. When preservice teachers are adequately prepared to deal with challenges related to educating CLDS and equipped with an array of effective practices to meet diverse needs, they may become more open to embracing inclusive practices that reflect values of diversity and openness.

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Author Contact

Amani Zaier, amanizaier@gmail.com

Faith Maina, faith.maina@ttu.edu