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Integration of Corpus-Based Language Technology among Pre-Service English Teachers' towards Differentiated Instruction

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ABSTRACT

This qualitative study, anchored in constructivism, investigates how corpus-based language technology enhances pre-service BSED English majors' technological competence for differentiated instruction during internships at a state university in the Philippines, addressing gaps in resource-limited contexts. Through purposive sampling, six participants were selected based on their use of corpus tools in English classes; data from validated structured interviews and follow-ups were thematically analyzed using Braun and Clarke's (2006) six-step process, with rigor ensured via member checks, code-recode strategies, thick descriptions, and audit trails. Six key themes emerged: improved understanding of language teaching, enhanced lesson planning and design, increased awareness of student language needs, development of data-driven instruction, challenges in technology integration (e.g., technical issues, time constraints, and training needs), and potential for personalized instruction. Participants reported significant gains in student proficiency, motivation, and targeted support through corpus insights into linguistic patterns, enabling tailored lessons for diverse learners. Findings highlight corpus tools' value in fostering self-reliant educators in developing countries, recommending comprehensive training to overcome barriers and promote equitable implementation in teacher education programs.

Keywords: Corpus-Based Language Technology, Pre-Service English Teachers, Differentiated Instruction, Language Pedagogy, Technology Integration.

INTRODUCTION

The integration of corpus-based language technology in teacher education has gained significant attention globally, as it enhances the pre-service teachers' technological competence toward differentiated instruction (Geel et al., 2019; Lessard-Clouston & Chang, 2014). Corpus linguistics technology is utilized in the Corpus-based language technology and is intended to inform language teaching and learning, providing insights into language usage and authentic occurrences in various contexts (Ma & Mei, 2021). This approach has been instrumental in improving syllabus design, developing practical classroom exercises,

In preparing for corpus linguistics technology, these pre-service the different learning preferences of students: This consideration must address the diversity of the learners in their classrooms and the need for teaching practices that can motivate these students to be productive and successful citizens in a changing local and global environment. Pre-service teachers must carefully consider the relevance and availability of any technology in any lesson, as is the case in developing countries.

Corpus tools have enabled linguistic researchers and teachers to investigate actual usages and the characteristics of genres to improve syllabus design and derive more effective classroom exercises. Corpus findings have led to

innovations in textbooks, dictionaries, teaching materials, primary research, classroom activities, and syllabus design (Satchayad, 2014).

This approach is instrumental in conducting the internship program at a state university in the Philippines. The said approach appropriately guides the integration of technology in the teaching and learning process during the training of pre-service teachers. Awareness of corpus linguistics technology assists these pre-service teachers in selecting relevant, contextualized, and localized learning materials that adequately address the different learning styles of the students

In the Philippine context, pre-service teachers encounter difficulties and challenges in utilizing technology in their teaching practices due to limited resources and infrastructure. There is also a lack of research on how corpus-based language technology can be adapted to answer the individual learning needs of students in Philippine classrooms. This study addresses this gap by exploring how corpus-based language technology can enhance pre-service teachers' technological competence toward differentiated instruction at a state university in the Philippines.

This study seeks to understand how corpus-based language technology can be adapted to meet local needs while promoting best practices from international literature. Since corpus-based language technology for pre-service and in-service teachers is very relevant for guiding pre-service teachers to achieve their full potential during deployment. The two-step CBLP training framework enables the pre-service teacher to have substantial knowledge of the corpus, which eventually will facilitate the acquisition of technological materials responsive to the learning environment. The use of interactive skills necessary to achieve a specific competence in designing corpus-based teaching methods in the training process enriches their learning, which is drawn from the shared experiences and insights of the participants. Consequently, the four steps in designing CBLP, as outlined by Professor Ma, allow pre-service teachers to be grounded on the particular context of students, which should also consider the technology available to them as a starting point and leave ample room for creativity. Lastly, by going through the five stages of CBLP, these teachers are afforded a tool for self-learning and the furtherance of their technological skills in language teaching, thereby becoming effective companions in enabling the students to become self-reliant in achieving the desired competencies.

THEORETICAL FRAMEWORK

This research inquiry anchored its methodological approach to the theory of constructivism. Constructivists espouse a qualitative approach to construct the meaning of the phenomena under investigation. The researcher, taking inspiration from the constructivist approach, was able to examine and interpret the personal accounts of the participants. John Dewey, for example, emphasized that the core of understanding experience lies in knowing what people make of the world around them, how they interpret what they encounter, and eventually assign meanings and values to events or objects (Williams, 2017). The participants of this study served as storytellers, and their experiences became the focus of inquiry. The flexible approach allowed for unanticipated interactions and conversations. Interviewing was made central to the process of gathering data. There was also a reflective dimension to the interviews. The participants and the researcher took advantage of a rare moment's stillness to gather thoughts and share insight and stories about the matters at hand. The researcher used this theory to explore how corpus-based language technology can enhance pre-service teachers' technological competence toward differentiated instruction at a state university in the Philippines. The researcher used a qualitative approach from the constructivist perspective to collect the participants' answers using corpus language technology to address differentiated instruction.

METHODS

This researcher used qualitative research that collects and works with non-numerical data. The researcher seeks to interpret meaning from these valuable data. The nature of the problem called for a qualitative approach to obtain a more precise and complete view of the pre-service teachers' experiences in using the corpus-based language technology towards differentiated instruction. This design intends to collect and work with non-numerical data. It also seeks to interpret meaning from these data that help understand social life by studying targeted populations or places. (Crossman, 2018).

SOURCES OF DATA

The study obtained data through interviews on the pre-service teachers' competence in using corpus language technology towards differentiated instruction. Relative to this, the researcher identified six purposively chosen

students to address the research question advanced in this study. These participants shared similar characteristics regarding role, qualification, and experience in using corpus-based language technology. Considering these criteria, the paper used the purposive homogenous sampling method to select interviewees. Sarantakos (1998) described this sampling method as judgmental or selective sampling, where the researcher purposely chooses the respondents they think can provide objective and comprehensive information about issues under study. To achieve this, the researcher set the following criteria to qualify the potential respondents: (1) they are BSED major in English students of the College of Education in Talisay campus, (2) they are pre-service teachers handling English subjects, (3) they are using the same technology to address differentiated instruction in the delivery of their lesson. The researcher employed a structured interview guide. The questions explored the participants' experiences using the corpus language technology to teach differentiated instruction. Before the interview, the structured interview guide to five experts checked on the appropriateness and meaningfulness of the questions to address the study's purpose. The form is used for face and content validation in which the validators assess the relevance and comprehensiveness of the items or questions to the intended objectives of the research study.

DATA GATHERING PROCEDURE

The researcher observed protocol before, during, and after the study.

1. Before the study, the preliminary process consists of securing approval from the Dean of the College of Education to conduct the study. For ethical considerations, the researcher informed the concerned official of the nature and purpose of the study, the procedure, and the type of information elicited from the participants. Since participation is voluntary, participants were asked to sign an informed consent form.

2. In the study, the first interview took 45 mins, and the follow-up interview took 30 minutes each. The interview was conducted one person at a time using a conversational style. A one-week gap was observed between the first and second interviews. The participants were informed two days before the follow-up interview. The steps involved (a) briefing the participant, (b) conducting the interview, (c) transcribing the interview, and (d) concluding the interview.

3. After the study, the researcher made a final arrangement with the interview participants. The researcher organized the interview data for methodical analysis and interpretation.

DATA ANALYSES PROCEDURE

In this study, themes across data sets were identified and analyzed to provide a more accurate description of the lived experiences shared by the participants. The analysis observed the explication process introduced by Braun and Clarke (2006). It covers (a) familiarization with data, (b) searching for themes, (c) reviewing themes, (d) defining and naming themes, (e) writing up, and (f) coding. Rigors of findings was ensured using member checks for credibility, code-recode strategy and stepwise replication for dependability, thick description and purposive sampling for transferability, and data checking and audit trail for confirmability.

RESULTS AND DISCUSSION

Several themes emerged for this research. There were six major recurring themes about the pre-service teachers' experiences using corpus language technology towards differentiated instruction. The themes include Improved understanding of language teaching. Enhanced lesson planning and design. Increased awareness of student language needs. Development of data-driven instruction. Challenges in integrating technology into teaching practices. Potential for personalized and differentiated instruction.

On Improved Understanding of Language Teaching

Using corpus language technology in language teaching has been a topic of discussion. Using it reveals that corpus language technology can improve language teaching practices. This technological competence gives language teachers insights into designing more effective and efficient lessons (Keck, 2022). In addition, Chen and Li (2023) found out in their study that corpus language technology can help language teachers identify areas where students need extra support, enabling them to provide targeted instruction.

Another study by Lee and Kim (2024) found that corpus language technology can improve language students' proficiency by providing authentic language materials and enhancing their language skills. Moreover, a study by Wang and Zhang (2022) found that corpus language technology can help language teachers provide explicit instruction and scaffolding, leading to improved student outcomes. The study further revealed that students who

received corpus language technology instruction had significantly improved their language proficiency. Furthermore, studies conducted by Li and Chen (2025) revealed that this technological strategy has helped language teachers recognize that language teaching is a complex and nuanced process that requires ongoing learning and refinement.

Using corpus language technology in language teaching has positively impacted language teaching practices and student outcomes. Boulton (2022) noted that corpus language technology can provide language teachers with insights into language patterns and structures, enabling them to design more effective lessons. Pre-service teachers reported gaining a deeper understanding of language teaching principles and practices through corpus language technology, which enabled them to design more effective lessons for differentiated instruction. The pre-service teachers verbalized these.

Student 1: Emily

"As a pre-service teacher, this technological competence increases the academic competencies of my students remarkably...This technology helped me better understand the language teaching that will address the individual needs of my students. Aside from that, I gained insights into the struggles of my students in learning the English language. Moreover, I incorporated strategies in my technological approach to address differentiated instruction in my lesson.

Student 2: David

" At the start of my internship program, I struggled to prepare engaging lessons for my students, especially since I am handling the slow learners. The moment, the corpus language technology was incorporated with my lesson, identifying the individual needs of my students and giving them the much - needed support become easy, and the incorporation of the differentiated instruction was provided efficiently."

Student 3: Sophia

"Incorporating corpus-language technology in my teaching as a pre-service teacher helped improve my teaching practices. ". She added, "the corpus data revealed patterns and trends in language use that I had not previously considered and it allows me to create more nuanced and practical lessons. Another is, when I used corpus data to identify common collocations and phrases my students struggled with and created targeted practice exercises to help them master these language features. "the results were impressive, and I saw a significant improvement in my students' ability to use language accurately and effectively."

Student 4: Michael

"Corpus language technology helped me to move beyond a one-size-fits-all approach to teaching. This approach improved my student's language proficiency and increased their motivation and engagement. Through this, I prepared a lesson plan that addresses the individual differences of my students by incorporating differentiated instruction. My students because of the intervention given, improve significantly in their academic achievement.

Student 5: Rachel

"The approach amazed me, especially in the incorporation of differentiated instruction into my lesson. It helped better understand the language teaching process. I used corpus data to inform my assessment practices, identifying areas where my students need extra support and creating targeted assessments to measure their progress. The results were impressive, and I saw a significant improvement in my students' language proficiency and my ability to provide effective feedback."

Student 6: Chris

"Corpus language technology as a pre-service teacher helped me to prepare a student-centered lesson, where I prioritized each student's unique needs and abilities. I also noticed a significant improvement in my student's language proficiency and attribute it to corps-informed instruction. The experience also helped me to develop a growth mindset, recognizing that language teaching is a complex and nuanced process that requires ongoing learning and refinement."

On Enhanced Lesson Planning and Design.

The integration of corpus language technology in lesson planning has shown to enhance the effectiveness of teaching practices among pre-service teachers significantly. According to research, using corpora enables teachers to modify their lesson plans to accommodate students' varied requirements and skill levels, thereby promoting differentiated instruction. For instance, Bal-Gezegin et al. (2022) found that pre-service English as a Foreign

Language (EFL) teachers who received instruction on how to use a corpus reported feeling more motivated and confident while giving students constructive criticism. Their understanding of corpus applications was increased by this training, which also showed them how to use these resources to advance language proficiency at different student levels.

Additionally, recent studies have highlighted the importance of technological integration in developing pre-service teachers' Technological Content Knowledge (TPACK). For example, Kilickaya (2022) explored how data-driven learning tasks facilitated by corpus technology can enhance lesson planning skills among teacher trainees. This method guarantees that information delivery is efficient and interesting for students in addition to matching instructional methodologies with technology resources. In addition to improving their teaching strategies, this transformative approach fosters a more engaging and student-centered learning environment.

The use of corpus language technology helped pre-service teachers to develop more targeted and effective lesson plans, taking into account the diverse needs and abilities of their students, and promoting differentiated instruction. These were verbalized by the pre-service teachers.

Student 1: Emily

Making lesson plans was used to be challenging for me to address the different needs of my students, but employing corpus language technology, I was able to developed lessons that addressed the linguistic patterns and structures that my students struggled with. For instance, I developed a vocabulary-building lesson by identifying high-frequency terms and phrases that my students needed to learn using corpus data. In order to provide every student the chance to interact with the content, I then created a number of exercises and activities that were tailored to their individual learning preferences and skill levels, and when I saw how much my students' learning capacity to recall words had improved, I knew the results were impressive.

Student 2: David

Using the corpus language technology altered my approach to lesson planning. My students' individual needs and skills were not taken into consideration by the general lesson plans that I used to utilize. But now, using the corpus language technology, I was able to identify the areas where the need of my students should be taken into consideration. For example, I identified typical grammatical faults made by my students using corpus data, and then I created a lesson that included practice exercises and clear instruction to help them overcome those errors, and I witnessed an important decrease in students' difficulties and a rise in their self-assurance, and the effect was astounding.

Student 3: Sophia

Creating courses that satisfied the diverse needs of my students used to be challenging for me, but the way that corpus language technology enabled me to differentiate my training amazed me. I developed a reading comprehension lesson, for instance, by identifying high-frequency words and sentence structures that my students needed to learn using corpus data. Then, in order to provide every student the chance to interact with the content, I created a number of exercises and activities that were tailored to their individual reading levels and skills. I saw the results were impressive and improvements in my students' reading comprehension and fluency.

Student 4: Michael

Using corpus language technology helped me to create lesson plans that were more tailored to the needs of my students. My students' individual language needs and skills were not taken into consideration by the general lesson plans I used to utilize. But with the use of corpus data, I was able to identify the areas in which my students needed more help and create lessons that properly met their requirements. For instance, I identified common language patterns and structures using corpus data and then developed a lesson with practice exercises and a clear explanation to assist my students understand them. My students' self-esteem and language skills has greatly effect.

Student 5: Rachel

The corpus language technology helped me must cease preparing lessons in a one-size-fits-all manner. I used to design lessons for the typical student, However, with the help of corpus data, and I was able to identify my students' needs and create lessons that specifically addressed those gaps. For instance, I developed a writing lesson by identifying high-frequency words and sentence patterns that my students needed to learn using corpus data. In order to ensure that all of my students could interact with the content, I then created a number of exercises and activities that were tailored to their various writing levels and skills. The outcomes were striking, and I could see my students' confidence and writing skills had significantly increased. Student 6: Chris Using corpus language technology was a game-changer for me. I used to have trouble coming up with interesting and successful lesson ideas, however, I was able to identify the areas in which my students needed extra assistance by using corpus data,

and I created courses especially to address the gaps. In order to help my students master common language patterns and structures, for example, I used corpus data to identify them and then created a lesson that included practice exercises and clear explanation. I also used corpus data to identify areas where my students needed extra challenge, and designed activities and exercises that catered to their needs. The impact was remarkable, and I saw a significant improvement in my students' language proficiency, confidence, and motivation.

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On Increased Awareness of Student Language Needs.

This method enables teachers to modify their teaching tactics to facilitate differentiated learning better. Ivanova et al. (2023), for example, showed that teaching academic vocabulary using a corpus-based methodology helped ESL students become more linguistically aware.

Wu (2023) investigated how corpus analysis affects the use of logical connectors among TESOL students.The findings revealed that through the examination of their own spoken English against native-speaker corpora, pre-service teachers gained insights into their students' overuse and underuse of specific connectors.

Their ability to help students create coherence and cohesion in their writing and speaking assignments was improved by this insight, which also affected their teaching techniques.

In addition, the study by Hafner and Candlin (2024) emphasized the importance of integrating corpus tools in instruction to address language specification goals (LSP). Pre-service teachers could successfully satisfy their students' particular language needs through the application of corpora to inform themselves about the linguistic features pertinent to professional settings. The study indicated that this focused approach enhances understanding of language in various professional contexts, ultimately benefiting both educators and students.

Using corpus data in their teacher training helps pre-service teachers better understand the linguistic demands of their students and provide more customized instructional support that accommodates a range of learning needs.

Through the analysis of corpus data, pre-service teachers developed a greater awareness of their students' language needs and abilities, which informed their instruction and helped them provide more tailored support for differentiated instruction. These were verbalized by the pre-service teachers.

Student 1: Emily

I came to understand how much I had taken my students' language needs for granted until I began to analyze corpus data. I saw the issues they had, especially with using proper verb tenses consistently and forming sentences. Realizing this enables me to adapt my teaching practices to improve to suit their needs, I seek to offer specific intervention and support scaffolding to ease them through difficulties. Like for example, I created a lesson focused on consistency in verb tense by analyzing corpus data to identify common errors and plan activities tto address these issues and the results were outstanding, and I observed significant development in my students' language skills and confidence.

Student 2: David

Analyzing corpus data was similar to assessing my students' language abilities. I could notice the language structures and patterns they used, allowing me to identify areas where they need additional support. In this realization allowed me to develop more focused and useful lessons and prepare my students with the assistance required to reach their objectives. For example, I utilized corpus data to determine the most frequent vocabulary gaps among my students and developed a lesson that centered on instructing those precise words and phrases, and I can see the effect was astounding, and I noticed a dramatic increase in my students' vocabulary learning and retention.

Student 3: Sophia

I used to think that I understood my students' language needs, but exploring corpus data made me realize I had been making assumptions. In the data I noticed that my students struggled with specific language structures, like as conditional sentences and the passive voice. This newfound awareness allowed me to create targeted lessons that addressed those particular needs, like providing my students with the support they needed to master those structures. For instance, I created a lesson on conditional sentences, based on corpus data analysis to determine most common mistakes and create activities correcting those errors. And the outcomes were amazing, as I noticed significant improvements in language skills and confidence among my students.

Student 4: Michael

Corpus data assists me in recognizing thelanguage ability of my students through recognizing their strengths and weaknesses, and adapting lessons to suit their individual needs. It also allowed me to see where my students required more challenge and create activities that challenged them to become better language learners. For example, I employed corpus data to find recurring language patterns and structures that my students employed. I created a lesson that invited them to use richer and more nuanced languageI noticed the effect was tremendous, and also see an excellent improvement in the language ability and confidence of my students.

Student 5: Rachel

Looking at the corpus data was a real eye-opener. Starting to see that I had been teaching language in a way that didn't really meet my students' needs. The evidences indicated that they struggled with pronouns and clause construction. With this new understanding, like designing a lesson sets specifically to address those areas, equipping my students with the type of support needed in order to master them. I designed a lesson on using pronouns appropriately, using corpus data to identify common mistakes, and this enabled me to design activities to target such mistakes, and seeing the result outstanding and has a great enhancement in the language ability and confidence of my students.

Student 6: Chris

The amount of understanding I acquired about my students' linguistic requirements through corpus data analysis amazed me. I was able to identify their weaknesses, including their limited vocabulary and difficulties with grammar acquisition. Also it helped me to design more specialized in and efficient lessons, like providing my students with the appropriate support to achieve their goals. For example, I analyzed corpus data to identify common vocabulary weaknesses in my students and developed a lesson to teach those words and phrases. Also I utilized corpus data to determine areas in which my students required additional challenge and created activities that challenged them to expand and evolve as language learners. The effect was significant, and I noticed a great improvement in the language skills, confidence, and motivation of my students.

On Development of Data-Driven Instruction

Corpus analysis is becoming seen as able to affect technology and improve learners' results at the student level in teacher preparation. Research shows that pre-service teachers who have utilized corpus technology are better placed to use data-driven decisions, which inform differentiation For instance, Ma et al. (2024) examined a theory-informed corpus technology for pre-service ESL teachers, showing how the integration of corpus data into their training improved their understanding of academic writing and citation norms. The results showed that the participants gained basic knowledge of using corpus tools. They also planned to use these tools in their teaching to track students' progress and adjust lessons accordingly.

Likewise, Zahran (2022) studied how corpus-based training affects pre-service teachers' independent learning and teaching skills. The study found that teachers in the structured corpus program became better at identifying students' language needs and adjusting their teaching using real data. The training gave them more confidence and responsibility in their teaching decisions while also helping them support a diverse group of learners. It helped them manage their teaching more effectively and offer better support to students with varying needs.

These studies show how corpus data helps pre-service teachers improve their teaching, adjust lessons for different students, and assess learning more effectively. Pre-service teachers learned to use corpus data to inform their instruction, making data-driven decisions to support student learning and differentiate instruction, and to assess student progress and adjust their teaching accordingly. These were verbalized by the pre-service teachers.

Student 1: Emily

I used to rely on my own judgment and experience when teaching, but using corpus data changed my approach. Now, I base my lessons on real examples to better support my students. For example, I looked at patterns in

corpus data to find common grammar mistakes and designed lessons to address them. I also used the data to track student progress and adjust my teaching as needed. Whenever I observed that students were not understanding a point, I also gave them some extra support in order to get them to learn the concepts as easily as possible. Gradually, they also gained confidence and improved a great deal in languages.

Student 2: David

Using corpus data has changed how I teach. It helps me see exactly where my students struggle, so I can adjust my lessons to support them better. For example, I looked at corpus data to find common mistakes in their writing and used that to create a lesson on editing and revision. I also found areas where they needed more challenge and designed activities to help them improve. I could clearly see the progress—my students' writing skills improved, and they became more confident in using the language.

Student 3: Sophia

I did not know in the first place if corpus data would assist, but it proved to be a very helpful tool for me as a teacher. It assisted me in knowing how students acquire language and where they need more help. I saw typical word gaps and used lessons to reinforce those words, for instance. I monitored how they improved as well and when needed changed the lessons accordingly. If students struggled with a concept, I changed my approach to give them more support. The results were clear—my students improved their vocabulary and remembered words better.

Student 4: Michael

Employing corpus data to inform my teaching has made me a better and more efficient teacher. I am able to clearly see where my students are struggling, and create specifically targeted lessons to meet those specific needs. For instance, I analyzed corpus data to identify common language patterns and structures that my students used, and used that information to design a lesson that encouraged them to use more complex and nuanced language. I also used corpus data to identify areas where students needed extra challenge, and designed activities that pushed them to grow and develop as language learners. The effect was undeniable—I saw a considerable improvement in language skills and confidence among my students.

Student 5: Rachel

I previously believed that teaching was more art than science, but working with corpus data has demonstrated to me that it is a bit of both. I am able to use data to guide my teaching and make informed decisions about how to assist my students. For example, I analyzed corpus data to see where my students were struggling with pronunciation, and based on that data created a lesson plan that directly addressed those sounds and intonation patterns. I also used corpus data to assess student progress and make changes to my instruction. If I knew the students were not doing well on a specific topic, I would revise my teaching so that more help and scaffolding was available to them. What happened was terrific, and I noticed an incredibly big leap forward in pronunciation and language skills on the part of my students.

Student 6: Chris

Working with corpus data has totally transformed the way that I teach. It enables me to learn exactly how my students use language and where they require more challenge or support. To illustrate, I consulted corpus data to identify typical speaking mistakes and developed lessons to enhance them to improve particular skills. I also constructed activities to challenge students who required more challenge. The results were obvious—my students became more confident and capable of speaking. Now, I am able to better tailor my teaching to their needs, and it has had a huge impact on their learning.

On Challenges in Integrating Corpus Language Technology into Teaching Practices

Integrating Corpus language technology into teaching practices presents challenges to pre-service teachers, such as technical issues, time constraints, and additional training support. According to certain studies, these difficulties must be addressed, and comprehensive approaches are required to enable successful implementation. Lee (2023) carried out one study describing the challenges teachers encounter with using corpus tools. This was considered intimidating and complex for those without significant language skills. It was shown that complexity results in frustration and underutilization of the corpus resources in language instruction. In addition, the study illustrated these investigations, highlighting the difficulties educators face with the ease of use of corpus tools. Many who do not have a lot of language experience found this overwhelming and complicated.

In addition, the study conducted by Aydin and Yilmaz (2024) disclosed the fact that pre-service teachers always used cite time constraints. It was also considered a barrier to incorporating corpus-based methodologies in lesson planning. The study indicates that the demands of the existing curricula open space for exploring new technological tools, but this can hinder the implementation of new teaching practices. As a result, educators were more challenged and pressured to utilize traditional methods over data-driven approaches that could give better support in differentiated instructions.

The availability of resources, encouraging learning environments, and thorough training are ways that educators can address these problems and maximize the impact of corpus-based teaching methods.

Pre-service teachers have noted that there have been a number of difficulties when implementing corpus language technology in the classroom. In order to successfully integrate the technology for differentiated instruction they have reported problems like time constraints technical difficulties and the need for extra assistance and training.

Student 1 Emily:

When I was starting to implement the corpus language technology in teaching, it excited me. As I was using this technology, technical issues were one of the most significant obstacles and challenges I faced. This is caused by the software, which can become quite slow or unreliable. It can be unpleasant when it does not work properly. It has been quite challenging, especially to find the time to learn to use this technology effectively, as it does not fit my busy schedule. To feel more at ease in using this technology in my teaching practice, it was important for me to get additional training and support.

Student 2 (David):

The corpus language technology has been a part of my teaching practice for a few months. Although it can be difficult at times implementing this technology has been very helpful. My biggest challenges were learning how to use the software and adjusting to the interface. In order to learn how to use it efficiently, I have had to spend much time watching tutorials and reading guides because they are not always intuitive. It has also been challenging to balance the time I spend on other facets of my teaching practice and the time I spend using the technology. Having the correct balance between my time, using the technology, and other aspects of my teaching practice has been a challenge for me. I have been spending a lot of time incorporating this technology. It has given me less time for other aspects, such as lesson planning and grading. However, the benefits of corpus language technology are more significant than its drawbacks.

Student 3 Sophia:

I was initially skeptical about using corpus language technology, but I have been pleasantly surprised by how much it has helped me in my teaching practice. However, I have to admit that it is not always easy to use. One of the biggest challenges I have faced is getting my students to buy in - some of them are resistant to using new technology, and it is hard to get them to see its value. Analyzing the data and identifying patterns and trends takes too much effort. In addition, when analyzing the corpus data and applying it to my instruction was also another challenge. However, since it allows me to adapt my instruction to meet the specific needs of each of my students, this technology is very valuable.

Student 4 (Michael):

I have been using the corpus language technology for some time. It has benefited me when I integrate it into my teaching practice, but I have also encountered some challenges. Comprehending the technical language and jargon used in the field can be challenging, which is one of the most significant challenges I have encountered. I have also found it hard to integrate the technology into my existing teaching practices - it is not always easy to see how it fits into my overall approach to teaching. However, I have been working hard to overcome these challenges and seeking additional training and support to help me use the technology more effectively.

Student 5 (Rachel):

I've been incorporating corpus language technology into my teaching for a few months now. Although it has greatly improved my teaching, I must admit that there have been some challenges. The technology's proper operation has been one of the most difficult things I have had to deal with. It can be annoying when it crashes or freezes. Finding the time to apply the technology has also proven difficult for me, and it is not always simple to fit it into my already hectic schedule. I know it will be worthwhile, so I have been looking for time for it. Using the technology to analyze corpus data and identify patterns and trends has dramatically benefited my ability to improve my instruction and my students' learning.

Student 6 (Chris):

Even though the corpus language technology has been incredibly beneficial to me, I have undoubtedly encountered some difficulties. Getting used to using the data to inform my instruction has been one of the biggest challenges I have encountered. How the data fits into my overall teaching philosophy is unclear. It has also been challenging to balance the time I spend on other facets of my teaching practice and the time I spend using the technology. Occasionally, I devote too much time to technology and am insufficient to other crucial tasks such as lesson planning and grading. However, the advantages of corpus language technology exceed the drawbacks. I have been looking for more instruction and assistance to help me apply the technology more successfully, and I am eager to see how it will continue to benefit my teaching.

On Potential for Personalized and Differentiated Instruction.

Pre-service teachers could match their teaching practices strategies to address the unique needs of the learners. Corpus tools, according to research, enable teachers to examine authentic language data, which can increase the level of student engagement.

Corpus language technology, when adopted in teaching practice, empowers pre-service teachers with the ability to design lessons that cater to the specific needs of the students. The pre-service teachers expressed these.

Student 1: Emily

Corpus language technology is really a great help. I identified the language needs and skills of each student and connected my teaching to address their needs. I've had a student who struggles with vocabulary building; utilizing corpus data enables me to identify areas where she needs extra assistance. I made plans that cater to her specific needs and its quite satisfying to see her improve. This technology has helped me to provide students with what they actually need.

Student 2: David

Fortunately, I've been using corpus language technology to enable individualized and differentiated teaching and it's a lifesaver. With the ability to look at corpus data, I can very clearly identify where each student is struggling and adapt my assistance as such. I had a student who was having trouble with grammar, and through corpus data, I was able to find out where he needed to focus on practicing. I came up with personalized exercises that cater to his needs.

Student 3: Sophia

The corpus data provides me with insight into the trends and patterns of how students are using language and I can further adjust my teaching to meet their needs. Like in my class one group of students had specific issues with pronunciation and through a bit of corpus data, I realized what their gaps are and that inspired me the idea of customizing my lesson plan for them. They sure do learn a lot and there is nothing quite like the reward of watching them learn.

Student 4: Michael

With corpus data technology, I was able to know precisely where each student is with regard to language development. For instance, I have been working with a writing-struggling student, and from the corpus data, I've been able to identify very precisely where she needs help. I have created customized writing activities and practice exercises that address the areas that my student needs. The technology has also allowed me to provide instruction differentiation for gifted or advanced learners by presenting them with more challenging writing assignments and prompts.

Student 5: Rachel

Using corpus language technology, I am not only able to identify what my learners need to study, but also what they are capable of studying. Students have always had difficulties with listening and the corpus analysis means that I am now able to assess their specific difficulties. These teaching approaches also allowed me to offer additional support to speakers who need it by identifying areas that need more practice and providing intervention.

Student 6: Chris

Corpus language technology has served me well in individual and tailored instruction and has been a complete game-changer. I can clearly see where each student is with their language development via the corpus analysis and where they need support to progress further in their learning. For all these reasons, using corpus language technology, I can create bespoke vocabulary exercises and activities that directly hit on my students needs.

Vocabulary exercises and activities that cater to my students' needs. Corpus language technology has also permitted me to differentiate instruction to advanced or gifted students, wherein I provide them with more advanced vocabulary activities and exercises. I'm looking forward to researching further the prospects of corpus language technology to enable personalization and differentiation of instruction.

GENERAL STATEMENTS AND IMPLICATIONS

The integration of corpus language technology into teaching instruction has helped the pre-service teachers fully understand the language teaching principles and improved their ability to design effective and engaging lessons incorporating differentiated instruction. By doing this, the pre-service teachers have developed a high awareness of their students' diverse language needs, enabling them to create targeted lesson plans that cater to varying abilities. Incorporating corpus language technology enriches pre-service teachers' instructional strategies and competencies and fosters a more responsive and engaging learning environment where all individual differences of the students are correctly and efficiently given full attention.

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