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Infusing Evidence-Based Practices in Pre-service Preparation Program for Teachers of Culturally and Linguistically Diverse Students

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Infusing Evidence-Based Practices in Pre-Service Preparation Program for Teachers of Culturally and Linguistically Diverse Students

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This study evaluated the perceptions of graduates from a master's level teacher education program on the effectiveness of their program that incorporated evidence-based practices (EBPs). Specifically, the study explored how the newly revised teacher education curriculum assisted them in becoming qualified in their certification areas. Seventeen graduates participated in the study. Using a checklist graduates indicated their use of various EBPs in three categories in classrooms with culturally and linguistically diverse (CLD) students. They also engaged in a mini-focus group to discuss their perceptions of the educational experiences they participated in. The results revealed that the revised curriculum equipped graduates with necessary evidence-based tools to meet the learning needs of diverse learners, particularly CLD students. Results also indicated that their perceptions of the teacher education program were generally favorable and that the majority of graduates used various EBPs in their CLD classrooms regularly. Overall, the study provides insight into how the broad spectrum of EBPs can be systematically implemented into the curriculum and how such efforts can positively impact pre-service teachers who are prepared for urban diverse classrooms.

Culturally and linguistically diverse students (CLDs) refer to an individual or group of individuals whose culture or language differs from that of the dominant group (Herrera, Pérez, & Escamilla, 2010, p. 261). This term is used in the scholarly literature as it focuses on diversity, rather than on a deficit view of English learners, as the term emphasizes the strengths and lived reality of these students (Webster & Lu, 2012). According to Wang (2016), the population of CLD students includes those students who emigrated from other countries and students who were born in the United States and came from homes where English was not spoken, or where multiple languages were spoken among their family members (p. 3).

Relatedly, the numbers of CLD students in schools across the US continues to increase. The student population is diverse in terms of culture and language

background in addition to other demographic characteristics. For instance, 2014-2015 estimates indicated that 9.4% of public school students nationwide were English Learners (ELs). In contrast, 9.1% percent of public school students were ELs in 2004-2005 (National Center for Education Statistics, 2017). In New York State (NYS) alone, 2016 data revealed that 8.8% of students were ELs. The top three home languages in NYS were Spanish (64.9%), Chinese (9.5%), and Arabic (4.9%). Over half of all ELs were in elementary school (New York State Education Department, 2017).

The increasing numbers of CLD students expose the fact that teachers often do not possess the cultural and linguistic knowledge, and understanding about how best to work with them (de Jong, 2013; Leonard, 2017). Thus, the implementation of culturally and linguistically responsive teaching is a major challenge in education (Aceves & Orosco, 2014; Henn-Reinke & Yang, 2017). Teachers are a generally homogeneous group, where majority of educators remain fairly mono-racial; as reported by the U.S. Department of Education (2016) in 2012, 83% of full-time public school teachers were White, 7% were Black, 7% were Hispanic, and 1% were Asian. The cultural gap that emerges from differences between the backgrounds of teachers and CLD students, can limit educators' abilities to choose effective instructional practices or materials. Specifically, too often, instructional contexts are developed to benefit students from White middle and upper socioeconomic status (SES) backgrounds, more closely aligned with the backgrounds of teachers. This can exclude the cultural and linguistic characteristics of diverse learners (Orosco, 2010; Orosco & O'Connor, 2011). A large number of public-school teachers are under-prepared (e.g., with relevant language development, cultural and content awareness) to teach CLD students (de Jong, Harper, & Coady, 2013; Olson, Scarcella, & Matuchniak, 2015). To reduce this gap, more research should be conducted to explore which culturally and linguistically responsive approaches are most effective and how best to support teachers in bridging CLD background and experiences in their classrooms (Bunch, 2013; Jiménez et al., 2015; Li, 2011; Orosco & Abdulrahim, 2017).

The authors of this article describe a study that evaluated the perceptions of graduates from a master's level teacher education program on the effectiveness of their program to incorporate evidence-based practices (EBPs). Specifically, we explored how the newly revised teacher education curriculum assisted them in becoming qualified in their certification areas and more versed in using different EBPs to work with CLD students.

In this paper, we initially discuss the nature and benefits in using EBPs and identify two issues of concern in the scholarly literature: the lack of studies that explore EBPs use by teachers in CLD classrooms and the scarcity of descriptions of teacher education programs that focus on developing skill in the use of EBPs. A description of the study's design, followed by a discussion of findings, is then presented. In the final section, we identify some limitations of the study, suggests areas for further research, and ascertain main conclusions.

Issues with the Implementation of Evidence Based Practices

EBPs ensure that students, particularly those who are struggling due to learning English as an additional language while receiving academic content in English, are

exposed to evidence-based interventions and practices, resulting in overall improved student outcomes (e.g., Hughes, Witzel, Riccomini, Fries, & Kanyongo, 2014; Knight & Sartini, 2015; Roberts, Torgesen, Boardman, & Scammacca, 2008). The term EBP is used to delineate an intervention that is based in research and supported by science (Council for Exceptional Children, 2018). It has become a catch phrase across a range of disciplines, and has been used in education since the 1990s when researchers began the push to bridge the gap between research and practice in schools (i.e., Carnine, 1997; Peters & Heron, 1993). Thereafter, federal, state, and local governments have acted to mandate the use of EBP in classrooms (Burkhardt, Schröter, Magura, & Means, 2015).

Education and its related fields have witnessed an increasing trend over the last decade in applying EBPs in the development and delivery of curriculum. Teachers' use of effective practices grounded in research has been identified as key to the optimal learning outcomes of CLD learners (Kretlow & Blatz, 2011; Richards-Tutor, Aceves, & Reese, 2016). In addition to targeting student performance, the EBP trend serves to elevate the accountability of educators, calling on professionals to infuse EBPs in their instruction (Russo-Campisi, 2017). Despite the promising potential of EBPs, relatively few have been identified for teachers to use in classrooms for CLD students (Foster, 2014).

The gap between research and practice with CLD population calls into question whether EBPs are being used in ways that are genuinely responsive to individual differences in classroom settings. This gap continues to persist despite researchers' efforts to reduce it by identifying and implementing EBPs that show promising results, and points to the need to prepare pre-service teachers with the knowledge and skills required to deploy the research-based practices (Bain, Lancaster, Zundans, & Parkes, 2009; Cook, Cook, & Landrum, 2013; Mitchell, 2008; Richards-Tutor, Aceves, & Reese, 2016). For example, the fidelity of implementation of research-supported approaches in the classroom (e.g., cooperative learning) has been inconsistent (Cook, Cook, & Landrum, 2013). Teachers are not using EBPs that promote outcomes of achievement and learning (Echevarria, Richards, Tutor, Chinn, & Ratleff, 2011). This may be due to research that fails to take into account the differences between individual classrooms and deficits in pre-service teacher training (Scheeler, Budin, & Markelz, 2016).

Information about EBPs must be made widely available and easily accessible to practitioners in the field of education; the information must also be relevant to the challenges of practice. As such, practitioners must be prepared to become skilled consumers of research, which requires accessing and appropriately interpreting research results, and recognizing their practical application (Buysse, Wesley, Snyder, & Winton, 2006). A review of EBPs offers excellent guidelines for identification, advantages to implementation, and limitations of use (Russo-Campisi, 2017). This researcher elaborates by explaining that through such reviews educators can easily access EBPs to make more informed decisions in selecting interventions for individual learners (2017).

Although empirical data supporting the use of EPBs in the classroom is lacking, educators may be able to implement them readily once they recognize the practicality and effectiveness of EBPs in addressing various issues that many students experience

day to day (Cook, Buysse et al., 2014; McLeskey, Billingsley, & Ziegler, 2018). For example, Explicit Direct Instruction (EDI) is an EBP proven to help teachers create and deliver effective lessons that can significantly improve achievement for all learners including CLD populations (Hollingsworth & Ybarra, 2013). While much progress has been made in recent years to identify promising EBPs, successful use of EBPs in the classroom remain limited (Detrich & Lewis, 2012; Scheeler, Budin. & Markelz, 2016).

To respond to this need, many teacher education programs in institutions of higher education have undergone course revisions and program improvements to include EBPs in their curriculum (Darling-Hammond, 2016; Howard, Himle, Jenson, & Vaughn, 2009). This process requires high levels of collaboration among various stakeholders and feedback from consumers. However, research shows little evidence on what EBPs have been infused in the curriculum and how stakeholders perceive the program improvements (Groccia & Buskist, 2011). Recent reforms in the design of pre-service teacher education programs have focused on enabling pre-service educators to build a deeper and more coherent understanding of teaching practice (Kitchen & Stevens, 2008; Mäkinen, Linden, Annala, & Wiseman, 2018).

Current Study

The exploratory study aimed to investigate: (1) the extent to which graduates from a master's level teacher education program perceived the effectiveness of a program that systematically incorporated EBPs in their curriculum, (2) how their training assisted them in becoming qualified in their certification areas, and (3) identification of the types and extent of EBPs program that graduates have used in their teaching in CLD classrooms of urban schools.

Background to the Current Study: Revision of a Teacher Education Graduate Program

The initial phase of the study included an exploration of a process to restructure a graduate teacher education program in dual childhood and childhood special education at a private university located in an urban area of the Northeast U.S. As part of restructuring efforts to improve the quality of the graduate program, nine full- and part-time faculty members participated in a series of professional development meetings and retreats in fall 2012 to spring 2014. In an initial 6-hour retreat, the faculty was charged to identify EBPs in their respective field (e.g., Literacy, Math, or Special Education). To identify EBPs they were encouraged to consult resources such as scholarly articles from peer-reviewed journals; *What Works Clearinghouse* (Kratochwill et al., 2013); The IRIS Center Online Tools (2018); *A User Friendly Guide* (Baron, 2004); *Technical Assistance and Dissemination Network* (U.S. Department of Education, Office of Special Education Programs, 2018); and the National Center for Culturally Responsive Educational Systems (2018).

We provided the faculty with five categories, including (a) *Assessment*, (b) *Inclusive Practices*, (c) *Instructional Strategies*, (d) *Literacy*, and (e) *Behavior*, to organize the strategies they had selected. The categories emerged from the scholarly literature as important to infuse into teacher preparation programs (see Appendix A for a checklist of EBPs a partial list of scholarly sources used). The faculty then placed the

selected EBPs into the five categories. In addition, they located the appropriate courses in which to infuse the EBPs. Eleven courses of the 19 required courses that include fieldwork and student teaching experiences in the dual certification program (total 45 credits organized in 13 3-credit and 6 1-credit courses) were selected.

Upon the completion of the EBP list, the faculty received professional development workshops on the newly adopted EBPs they chose, through a variety of consultation methods (e.g., direct observation, remote consultation). Expert speakers were invited to present on topics including CAST for Universal Design for Learning, Culturally Responsive Instruction, Inclusive Practices, Assistive Technologies, and Behavioral Management. Several faculty members, especially those who were teaching subject methods courses requested training in order to infuse the newly identified EBPs into their courses. Five consultants who had expertise in the respective EBPs coached the faculty until they were comfortable teaching the EBPs. For example, the social studies methods professor desired to incorporate basic classroom management skills (i.e., setting up classroom rules and structure) in her course. A consultant assessed her knowledge and skills in the identified EBPs, discussed her expectations, and integrated information on the EBPs in the syllabus, assignments, rubrics, and course calendar. Each consultant worked with the faculty member for eight hours on average.

When the faculty began using the revised course in fall 2014, they worked with another faculty member to conduct peer observation of each other's instruction. The peer observer rated the host faculty member on four categories including: (a) organization, (b) course content (e.g., EBP curriculum use), (c) presentation (e.g., EBP teaching strategies), and (d) rapport with students. The data collected from the faculty are being analyzed as part of a different manuscript currently in preparation. The preliminary findings are favorable. After the PD was offered, several host faculty members did not require any further change or guidance in their instruction when implementing EBPs. Those who did were offered some suggestions for improvement including more scaffolding for difficult content and more hands-on activities (Cho, Rittenhouse-Cea, & Doyle, in preparation).

The first phase of the study described above, a documentation of efforts to restructure a graduate teacher education program in dual childhood and childhood special education, provides a background to a second inquiry described in this article. The second phase of the study involved working with the graduate students, who were part of the revised courses in the restructured graduate teacher education program. Specifically, we were interested in exploring if the graduate students, once they completed the program, integrated EBP into their own classroom instruction. This second phase of the study is described in the rest of the article.

Method

Informants

Informants graduated from the restructured dual childhood and childhood special education program and successfully obtained their initial certifications in both childhood and childhood special education. Of the 45-credit program, one required

course (3 credits) focused on working with CLD students. The revised curriculum of this course introduced them to about 45 EBPs.

One year after graduation, 17 out of 26 graduates, who completed their degree in 2015 or 2016, participated in the study (65% response rate). They were the first and second cohorts who completed their degree using the restructured program. All informants were females, and identified themselves as White (77%), African-American (18%), Latina (2.5%), and Multiracial (2.5%). When the study was conducted in 2015-2016, graduates were certified teachers of students with diverse backgrounds in urban elementary schools including seven public, six charter, and four private schools. The percentage of English Language Learners within their respective schools were available for nine of the 17 schools. The percentage ranged from 1.8% to 24.8% of English Language Learners within the school (New York City Department of Education, 2017). All were employed as full-time teachers.

Measures

Data was collected through the use of two methods, a checklist and an interview. Both are described below.

Implementation of Evidence-Based Practices (IEBP) Checklist. The IEBP checklist provided a list of 45 EBPs (see Appendix A). The EBPs were grouped in five different categories: (a) *Assessment*, (b) *Inclusive Practices*, (c) *Instructional Strategies*, (d) *Literacy*, and (e) *Behavior*. There were 6 to 13 EBPs listed in each category. Graduates were provided the checklist and then asked to mark the EBPs they currently use in practice on a daily or as needed, using a dichotomous "yes" or "no" response. The EBPs that were not marked were identified as used infrequently or not at all in the graduates' classroom.

Interview Protocol. A protocol consisting of seven guiding questions was used to conduct open ended interviews with informants organized into four focus groups (see Appendix B). These questions were designed to gather graduates' perceptions about the EBPs infused in the curriculum, the extent to which they utilized the EBPs in their teaching, and how the use of the EBPs has improved the learning of their students.

Data Collection Procedure

Each graduate granted consent to participate in the study. After completing the checklist, the graduates participated in a focus group where they discussed their practice using the seven-question protocol. The protocol was provided to them in advance, so that they could have some time to reflect on their responses before the interview. In addition, during the focus groups interviews they were encouraged to elaborate on their answers given in the checklist.

After answering the checklist, four mini-focus groups were conducted. Each group comprised of four graduates on average, with a range of two to six. Mini-focus groups, termed by Krueger (1994), are recommended when informants have specialized knowledge and experiences to discuss in the group. In the current study, because the graduates were to discuss their unique experience being in the program and the use of EBPs in their teaching, a mini-focus group was the appropriate format. The focus groups were moderated by Dr. Cho who facilitated the discussions, promoted

the informants to speak, and encouraged them to actively and equally participate in the group discussions. Each focus group interview lasted two hours on average.

Data Analysis

All of the mini-focus groups were audio-recorded and transcribed verbatim. A numeric code was assigned to each participant and then their name was removed from the checklists and transcripts. We employed simple descriptive and content analysis methods of analysis. Descriptive analyses (Mann, 2007) were employed for demographic information and the EBP checklist. Focus group data were analyzed using a classical content analysis which includes: (a) creating smaller chunks of the data, (b) placing a code with each chunk, and (c) placing chunks in similar groupings (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). These qualitative data were organized under each of the five EBP categories.

Results

In this article, we report the results related only to three EBP categories, as presented in the checklist including *Assessment*, *Inclusive Practices*, and *Literacy* that for us aligned more closely to the process of educating CLD students (see Table 1). The two other categories consist of the items specifically relevant to special education (e. g., Functional Behavior Assessment). Prior research has highlighted the EBP use of assessment (Rhodes, Ochoa & Ortíz, 2005), literacy (Dion, Brodeur, Gosselin, Campeau, & Fuchs, 2010; Shealey & Callins, 2007), and inclusive practices (Brown, 2007) among the CLD population. Table 1 reveals the types and percent of the EBPs that the graduates used in their instruction. On average, 79% of the informants reported utilizing all of the EBPs in these categories in their daily instruction.

Assessment

The *Assessment* category was comprised of six EBPs (see Table 1). Gotlieb (2016) argues for the integration of assessment to the implementation of effective culturally responsive teaching. The results indicated that on average, 87% of the graduates used the six EBPs daily or as needed. While 100% of the graduates used formative assessment, others reported using the rest of the EBPs at rates between 76% and 94%. Focus group data further provided specific examples of how the EBPs were infused in their instruction.

Table 1

Percentage of Teachers' Classroom Use of 45 EBPs - Assessment

EBP	Percent
Formative assessment	100
Curriculum-based measurement	77
Summative assessment	94
Progress monitoring	88
Data for decision making	88
Technology to support assessment	77
Average	87

The following excerpts illustrate their responses.

My population is very international. While students do know English, it's not their first language, so in terms of mathematical word problems, the assessments that I've been given from the mathematical curriculum the language was not . . . The kids weren't able to decipher what they needed to solve even if they knew the mathematical concepts, so one thing that I had to change for the

formative assessment, rewriting it so the language is a little more direct so the students are able to do that tasks that they need to do. (Graduate 6)

For progress monitoring, the school that I'm currently working in is very big on data . . . They do something where the students have to go on to a computer system, start reading and start math, they also have to do assessments called i-Ready and i-Math, um... We progress the student's math and their reading according to their test scores on there. (Graduate 16)

Although all graduates described how well they were prepared in the *Assessment* category of their program, some raised concerns and suggested ideas to improve teacher preparation in this category area. For example, Graduate 12 stated not learning how to modify assessments, even just simple worksheets, was a concern. Thus, she had to learn to modify assessments by herself after becoming a teacher. Graduate 8 similarly expressed that, "*we didn't focus so much on how to integrate technology, especially technology to support assessment . . . One of my peers in the Social Studies program had a specific class that was devoted to technology. And in the future it would be helpful for us.*" Graduate 7's excerpt below echoed Graduate 8's comment.

I felt pretty prepared, I definitely got an overall picture of what is going to be like to be a teacher . . . The only that I want more of is definitely more training in using technology. I use a lot of technology and I felt like doing that [one credit technology] over the summer was not helpful.

Overall, graduates reported the use of the six assessment EBPs in the list at a high rate (87%). Focus group data echoed survey trends with formative assessment and progress monitoring described as used in an efficacious manner. Graduates also described the program's need for more pre-service training in technology to support assessments. Although informants indicated the use of curriculum based measurement (76%) in the checklist, there were no comments provided on their use across the focus groups.

Inclusive Practices

The inclusive practices category has seven EBPs (see Table 2). Fairbairn and Jones-Vo (2010) explain that, instruction using specific strategies that meet the linguistic and cultural needs of the students in one's classrooms is neither optional nor supplemental; it is imperative (p. vi).

Regarding this contention, 72% of the graduates on average reported the use of the EBPs on a daily basis or as needed in this study. All graduates (100%) reported incorporating accommodation and modification strategies on a daily basis for their students who need them. However, less than 60% of the graduates reported the daily use of learning strategy instruction and assistive technology in their teaching. They offered various perspectives on inclusion strategies. The following two excerpts illustrate how these EBPs were utilized in their instruction.

Table 2

Percentage of Teachers' Classroom Use of 45 EBPs – Inclusive Practices

EBP	Percent
Culturally responsive instruction	71
Accommodations and modifications	100
Learning strategy instruction	53
Assistive technology	59
Standards based IEP goal monitoring	82
Co-teaching	76
Working with para-educators	65
Average	72

Sometimes work that is too challenging will affect the student's confidence, so by being able to use the data to drive instruction and tailor the instruction to meet the needs of the individuals. You help them reach little milestones in the classroom and then they start to feel more confident about themselves and I can think of one student in particular who is a language learner . . . He can read in English, but he processes it a lot slower, he writes a lot slower, he's timid to speak up when I may call on him. But being able to scaffold differently the instruction to meet him where he is and then when I go to a whole class or even a small group setting like to see his hand go up or answer a question with confidence, shy, but quite proud it's amazing. So, I know that I'm reaching the students and that is something that I've noticed with a particular student to use one example, um... as a result of using these evidence-based practices. (Graduate 16)

I loved the action research project [on culturally responsive instruction] . . . I received a lot of feedback on it. It was eye-opening in terms of getting access to different resources. I conduct my own research in the classroom and use it too, as a way to make modifications as I continue teaching. (Graduate 10)

Among the suggestions made by the graduates, the need to increase training for working with other school professionals was raised. Graduate 3 discussed the importance of leadership training related to working with paraprofessionals, "*it's really difficult, and it takes just a lot, sometimes they are more difficult than dealing with the kids. Just making sure that they do their job, they get into arguments with each other.*"

More training in culturally responsive instruction for the intersectionality of diverse populations was also discussed. Graduate 15 explained, "*I think it would be cool if there was some sort of course where we could learn about just modifications of these strategies for ELL students.*"

Overall, the results showed that 72% of the graduates used the EBPs in the *Inclusive Practices* category daily or as needed. Focus groups provided further explanation for the EBPs used within the informants' school contexts.

Literacy

The program has three courses in reading and literacy instruction where 13 EBPs were infused (see Table 3).

Table 3

Percentage of Teachers' Classroom Use of 45
EBPs - Literacy

EBP	Percent
Comprehension monitoring	71
Listening actively	88
Graphic organizer	88
Question answering	77
Question generation	88
Summarization	88
Mental imagery	77
Cooperative learning	77
Story structure	65
Multiple strategy instruction	65
Prior knowledge	82
Vocabulary-comprehension relationship	82
Literacy across the curriculum	65
Average	78

The *Literacy* category had the greatest number of EBPs totaling 13. Instruction of meaning-based literacy is important for all students, including CLD students (Herrera, Pérez, & Escamilla, 2010; Wagner & King, 2012). On an average, graduates used 78% of these EBPs. Three literacy strategies: story structure, multiple strategy instruction, and literacy across the curriculum, were least used by the graduates (65%). The data from the mini-focus groups supported the checklist results.

I truly appreciate what she [literacy professor] gave us, like learning those vocabulary, and the comprehension lesson plans . . . She kind of gave the third lesson to us and said do what you want with it. She really took the time to evaluate us and marked them up and gave them back to us. I use what I learned from the class in my teaching every day. (Graduate 10)

The one I can relate to the most is the whole literacy section because I teach literacy to English Language Learners and students with disabilities in an inclusive classroom . . . Within each book, we're pretty much hitting all of these skills [in my classroom] . . . We use graphic organizer, we summarize, we use mental imagery and we also use the cooperative learning, which have been through, we do the gradual release of responsibility, you know, I start with modeling, then we do it collaboratively, then the students pair up either they read together or they answer questions together . . . So, that's something that we definitely use every day. (Graduate 11)

We use graphic organizers, so that I see, I see a difference from the beginning of the year, we just presented a student today to see if he can get an IEP or not and we're looking over his writing and introducing him to use scaffolds has helped him stay more organized and stay focused in his writing. Or in his picture storytelling, he's not really writing but beginning of the year, his story did not carry across the three pages and now it does, so that it's nice to see. (Graduate 4)

Some of the graduates' suggestions were worth considering in further improving the curriculum. For example, Graduate 8 expressed that a literacy course that focused on writing the Educative Teacher Performance Assessment (EdTPA) [standard acronym] commentaries was helpful. The Graduate Program offered orientation on how to prepare for the EdTPA through a course. This Graduate student felt that the

Literacy course should not be the one used to provide the presentation, rather this course should integrate more information about instructional strategies to support CLD students. She suggested that the program consider moving the EdTPA preparation from the literacy course to another course (e. g., student teaching seminars) and have the literacy course infuse more literacy instructional skills.

> *I have a large ELL population at my school. So with the literacy EBPs, I find them extremely helpful . . . In terms of like, I would like to see more support in what to do with student voice, like how to approach student voice in ELLs and IEP students . . . Although I do try to use a lot of these strategies because my students struggle with English writing and reading in general, I do have a difficult time with them like following through . . . If there was some sort of a course where we could learn about just modifications of these strategies for ELL students and special education students.* (Graduate 15)

Overall, the results of the checklist and focus groups indicated that the EBPs, when infused into the revised curriculum of the program effectively, informed the instruction of the graduates who participated in this study.

Discussion

The current study investigated the perceptions of graduates from a teacher education program on the courses taken which systematically incorporated EBPs in the curriculum. Ways in which their education helped them become qualified teachers were also explored. The results revealed that the revised curriculum equipped them with necessary evidence-based tools to meet the learning needs of diverse learners, including English learners. Our findings are inconsistent with prior research. For example, in a survey conducted by Begeny and Martens (2006), a sample of 110 pre-service general and special education teachers reported receiving very little training in behavioral practices, academic assessment strategies, and instructional programs (e.g., Curriculum-Based Assessment, Direct Instruction).

The positive results of the present study may be attributed to program faculty closely collaborating on identifying and implementing the identified EBPs, and then taking part in necessary instruction. The faculty received additional consultation on EBPs, and this may have allowed them to become more proficient in both grasping the benefits to be derived from EBPs and then implementing them in their teaching. The relevant literature has documented the need for preparing pre-service teachers with EBPs to deploy evidence-based assessment and instruction, as well as for reducing the gap between research and practice in teachers' use of EBPs (Bain, Lancaster, Zundans, & Parkes, 2009; Cook, Buysee et al., 2014; Mitchell, 2008). The current study helps reduce the gap in the literature by presenting empirical data from those who utilized various EBPs in the classroom after becoming more familiar with the EBPs.

Previous studies reported the effects of subject specific EBPs in isolation. Some examples are studies in literacy (Dion, Brodeur, Gosselin, Campeau, & Fuchs, 2010), assessment (Rhodes, Ochoa, & Ortiz, 2005), and technology use (Tondeur, van Braak, Ertmer, & Ottenbreit-Leftwich, 2017). While these studies have their own merits, they do not offer much guidance or direction for infusing various EBPs into the entire curriculum of a program. The current study provides insight into how the broad

spectrum of EBPs can be systematically implemented into the curriculum and how such efforts can positively impact the preparation of pre-service teachers for all learners, including CLD students.

Data revealed that a relatively low percent of the informants utilized certain EBPs in their daily instruction such as assistive technology and story structure. These EBPs are critical for teachers to develop in order to effectively teach CLD learners. Although relatively fewer informants used these EBPs in practice, no assumption should be made as to the their acquisition level of knowledge and skills on these EBPs. It is possible that their students, during the implementation of the study, did not require the informants to use these strategies. Nevertheless, the least used EBPs should be more clearly addressed in the curriculum and emphasize how best to use them through instruction.

Limitations and Suggestions for Future Research

We must acknowledge some limitations of this study. As a preliminary study, the sample size was small. A relatively bigger and diverse sample in terms of gender, ethnicity, grade levels, types of students, and school location may offer a broader perspective of graduates on the use of EBPs.

Two issues related to the checklist need to be considered. First, the checklist was self-report, which, when used as a sole source of data, may limit the validity of the data analysis. Although the current study added focus group data to increase validity, future research should consider observing instruction provided by the graduates in their classrooms to document their use of the EBPs they identified in the checklist. Second, because no similar research is available in the literature, the current study developed the checklist. However, due to the small sample size, obtaining the psychometrics of the checklist was not attainable. A factor analysis of the EBPs on the list with a large sample is highly recommended.

Finally, data were collected from the program graduates who may have felt pressured to respond to the checklist and focus groups in a specific or more favorable way. This possibility needs to be explored particularly since some of the researchers were their professors while in the program.

Conclusion

The use of evidence-based practices (EBP) has been suggested as an effective way of increasing the quality of teacher education in serving the needs of CLD students. The current research sheds lights on how stakeholders perceive various EBPs infused in their preparation program. This study is timely since many institutions of higher education in the nation have undergone program improvements by infusing EBPs in the curriculum as a way to respond to the Every Student Succeeds Act (2015). The act encourages state educational agencies (SEAs), local educational agencies (LEAs), and schools to prioritize and include evidence-based interventions, strategies, or approaches. The list that this study created can be seen as a starting point for faculty in other teacher education programs that are looking to infuse necessary EBPs into their curriculum, especially the programs that prepare teachers of various types of students in urban schools, such as CLD students.

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Appendix A

Evidence-Based Practices Checklist

Category	EBPs	Leading Researchers	Yes	No
Assessment	1. Formative assessment	Black & Wiliam (1998)		
	2. Curriculum-based measurement	Deno (2003)		
	3. Summative assessment	Harlen (2005); Moss (2013)		
	4. Progress monitoring	Stecker, Fuchs, & Fuchs (2017); Thompson, Lazarus, Clapper, & Thurlow (2006)		
	5. Data for decision making	Hamilton et al. (2009)		
	6. Technology to support assessment	Wissick & Gardner (2008)		
Inclusive Practices	1. Culturally responsive instruction	Trumbull & Pacheco (2005); Krasnoff (2016)		
	2. Accommodations and modifications	Christensen, Thurlow, & Wang (2009)		
	3. Learning strategy instruction	Reid & Lienemann (2006); Brown, Campione & Day (1981)		
	4. Assistive technology	Bausch & Ault (2008); Edyburn (2003).		
	5. Standards based IEP goal monitoring	Hauser (2017)		
	6. Co-teaching	Conderman, Bresnahan, Teacher, & Pedersen (2008)		
	7. Working with paraeducators	Biggs, Gilson, & Carter (2016)		
Literacy	1. Comprehension monitoring	Chan & Cole (1986)		
	2. Listening actively	Palincsar & Klenk (1992)		
	3. Graphic organizer	Englert & Mariage (1991)		
	4. Question answering	Simmonds (1992)		
	5. Question generation	Singer & Donlan (1992)		
	6. Summarization	Gajria & Salvia (1992)		
	7. Mental imagery	Bishop & Adams (1992); Botting & Adams (2005); Norbury & Bishop (2002)		
	8. Cooperative learning	O'Connor & Jenkins (1996)		
	9. Story structure	Idol & Croll (1987)		
	10. Multiple strategy instruction	Wixon & Lipson (1991)		
	11. Prior knowledge	Afflerbach (1986); Dochy, Segers, & Buehl (1999)		
	12. Vocabulary comprehension relationship	Swanson, Vaughn, & Wexler (2017)		
	13. Across the curriculum	Englert, Garmon, Mariage, Rozendal, Tarrant, & Urba (1995)		
Instructional Strategies	1. Curriculum alignment (CCLS)	Squires (2009)		
	2. Authentic tasks	Brophy & Alleman (1991)		
	3. Family engagement	Epstein & Salinas (2004)		
	4. Meta-cognitive strategies	Wenden (1998)		
	5. Constructive conversation	Dallimore, Hertenstein & Platt (2004)		
	6. Cooperative learning	Palmer, Peters & Streetman (2003)		

Category	EBPs	Leading Researchers	Yes	No
	7. Peer-assisted learning	Fuchs, Fuchs, Mathes, & Simmons (1997)		
	8. Direct instruction	Sawyer, Graham, & Harris (1992)		
	9. Differentiated instruction	Bender (2002)		
	10. Goal setting	Graham, Harris, & Reid (1992)		
	11. Self-monitoring	Graham, Harris, & Reid (1992)		
Behavior	1. Behavioral Expectations Defined & Taught	McKevitt & Braaksma (2008)		
	2. Reward system for appropriate behavior	McKevitt & Braaksma (2008)		
	3. Continuum of consequences for problem behavior	McKevitt & Braaksma (2008)		
	4. Universal screening	Walker, Cheney, Stage, & Blum (2005)		
	5. Progress monitoring	Brooks, Todd, Tofflemoyer, & Horner (2003)		
	6. Functional Behavioral Assessment	McConnell, Cox, Thomas & Hilvitz (2001)		
	7. Linking of academic and behavior supports	Brooks, Todd, Tofflemoyer, & Horner (2003)		
	8. Positive Behavioral Interventions and Supports	Carr et al. (2002)		

Appendix B

Focus Group Protocol: Use of Evidence-based Practices

Thank you for participating in the focus group to share with me your feedback and ideas regarding the use of Evidence-based Practices within your teaching as a result of Project XXX. Your answers will be kept confidential and there will be no personally identifying comments related to your statements. You have the right to not answer any question(s) that you don't want to answer. Do I have your permission to audiotape this interview? If so, please write your name, sign, and date the form provided.

_____   _____ _____

Name (Please Print)   Signature   Date

Before asking questions about EBPs, please tell me what kinds of educational setting you are currently working at. Please let me know if you are working with children from culturally, linguistically diverse backgrounds and/or children who have high-incidence disabilities including Learning Disabilities, Emotional and Behavioral Disorders, CD, and ID.

Evidence-based Practices

1. Please take a look at the EBP list. Tell me which EBP(s) you have used in your teaching. If the EBPs you have used, but not listed in the list, you should indicate what they are. Describe how you decided to use those EBPs you identified and how you have taught them to your students. If all possible, describe them with specific examples.

2. What kinds of changes have you made in your use of the EBP within your teaching? What factors influence these decisions?

3. What do you think of your training at Fordham? Overall, did Fordham prepare you for what you need day-to-day in the school or classroom in regard to the EBPs?

4. Can you identify some EBPs and other practices that you wish to learn during your training at Fordham because you found them so critical for your teaching? Please describe them specifically with some examples.

5. Now that you have taught for some years. What do you think of our field experience/ student teaching model? Was it effective? Why? If it was ineffective, please describe and offer you thoughts and opinions on how we can change.

6. What impact on your students have you noticed by using the EBPs? Please describe your answer with specific examples.

7. Any other comments on the EBPs and field experience model Fordham is currently implementing?