Building Collaborative Teacher Education: Integrating UDL through a Faculty Learning Community

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Abstract*: Teacher educators have focused reform efforts on preparing graduates to address increasingly diverse K-12 students. Collaboration among general and special education faculty is seen as beneficial for preparing teacher candidates who can teach diverse learners, yet it is not the norm. This practitioner research explored a curriculum reform effort that used a faculty learning community (FLC) to engage general and special education faculty in the process of integrating Universal Design for Learning (UDL) into a teacher education program. Faculty perceptions of the collaborative reform process and resulting curriculum enhancements are presented. Findings indicated the process was valued by our faculty, promoted a stronger culture of collaboration, and resulted in program improvements. This study offers guidance to other teacher education faculty interested in collaborative reform.*

More than 60% of students with disabilities receive at least 80% of their instruction in general education classrooms (U.S. Department of Education, National Center for Education Statistics, 2016). This trend toward inclusion has promoted increased collaboration between general and special education faculty to develop new and revise existing teacher education programs that truly prepare candidates to teach all learners (Pugach et al., 2011). However, early attempts to collaboratively redesign teacher education programs have had limited success due to barriers such as unsupportive administration, lack of leadership, and differences in faculty members' knowledge and views (Little et al., 2015). Pugach et al. (2011) suggested that building a shared learning community is one way to address the challenges of the deeply embedded separation between general and special education. To overcome common barriers to collaboration, we employed a faculty learning community (FLC) to guide cross-disciplinary curriculum reform with special and general education faculty. FLCs are collaborative groups of faculty, often from different disciplines, who use discourse and reflection to develop new understandings to enhance teaching and learning (Ward & Selvester, 2012). In this study, faculty worked together to develop a common understanding of Universal Design for Learning (UDL) and created a coordinated plan to infuse UDL content into teacher education curricula. UDL is a framework intended to make learning more accessible for all students by enhancing instructional design with evidence-based teaching practices focusing on the science of learning (CAST, 2018). The framework can be used by K-12 educators, curriculum developers, parents, and others to reduce learning barriers so that all learners can access and engage in meaningful learning opportunities (CAST, 2018). We used practitioner research to explore the use of a FLC to integrate UDL into initial

certification programs to more effectively prepare all graduates to teach diverse students. Additionally, we aimed to develop a curriculum enhancement model that describes a collaborative, cross-disciplinary process that could be replicated by other teacher education programs interested in collaborative program reform.

Collaborative Teacher Education

Collaborative teacher education commonly refers to the integration of special and general education allowing teacher candidates to obtain credentials in both areas (Pugach et al., 2011). The need for these collaborative efforts is driven by the movement toward educating students with disabilities within the general education environment, which was one of the cornerstones of the Individuals with Disabilities Education Act (IDEA, 2004). This U.S. law has been a driving force behind reform efforts in teacher education aimed at better preparing all teachers to address the needs of diverse learners (Blanton & Pugach, 2011). Truly integrated teacher education programs require intensive collaborative efforts between general and special education faculty to redesign program curriculum (Blanton & Pugach, 2011). Ball et al. (2008) stated that special educators should be grounded in the general education curriculum, and general educators need more than one course to be adequately prepared to teach diverse learners.

Early attempts at merging general and special education programs have had limited success due to differing understandings of collaborative teacher education, the need to respond to discipline-specific professional standards, and integration of programs in name only (Blanton & Pugach, 2011). A historical analysis of teacher education reform that focused on collaboration across general and special education described factors that limited an intersection of the two disciplines (Blanton et al., 2018). These included policy and funding that sustained the historical separation, differences in the timing of policy-driven initiatives for general and special education, and norms of separation (e.g., discipline-specific standards). Additionally, higher education environments that tend to favor discipline-specific cultures may make collaboration across specialties challenging and unsuccessful (Sadao et al., 2004; Ward & Selvester, 2012). In a review of research on collaborative teacher education, Brownell et al. (2018) found that common barriers to faculty teaming included: "(a) limited time and incentives for collaboration, (b) unsupportive administrative structures, (c) differences in faculty members' knowledge and views on collaboration, (d) lack of leadership, (e) lack of commitment to collaborative teacher education, and (f) poor cooperation across departments" (p. 243).

Despite these challenges, many teacher education programs have continued to explore solutions to increase collaboration between general and special education. Blanton and Pugach (2011) explained that most efforts have targeted specific program components such as combined methods courses or field experiences. While these approaches have had some success, they have failed to provide comprehensive and systematic solutions to fragmented teacher education (Blanton & Pugach, 2011). This pattern of narrowly focused efforts indicates that our current attempts to increase collaboration in teacher education programs are still insufficient (Blanton et al., 2016). Blanton et al. (2018) advocated for the use of teacher educator learning communities that provide a mechanism for shared discourse in order to overcome the structural and historical divide that has existed between general and special education and to prepare all graduates to teach diverse students in pre-K-12 classrooms.

Faculty Learning Communities

Faculty Learning Communities (FLCs) are based on the communities of practice (CoP) model that recognizes learning as a process and product of participation and social interactions in a group (Engin & Atkinson, 2015). Grounded in social learning theory, CoPs incorporate three dimensions of working together (Wenger, 2000). The first dimension, enterprise, is the level of learning energy that moves the community towards joint inquiry. Second, mutuality involves mutual engagement, both giving and receiving help, built on trust of members and their ability to contribute to the common enterprise. The third dimension, repertoire, encompasses reflection enabling the community to understand its own development from multiple perspectives and to see itself in new ways.

Incorporating the dimensions of learning, mutual engagement, and reflection, an FLC is a model for supporting curriculum change in higher education in which faculty engage in cross-disciplinary learning, discourse, and problem solving to promote teaching and learning (Cox, 2004; Engin & Atkinson, 2015; Glowacki-Dudka & Brown, 2007). According to proponents of FLCs (Cox, 2004; Glowacki-Dudka & Brown, 2007), these faculty-focused communities rose in popularity with Boyer's *Scholarship Reconsidered* (1990), which advocated for "making connections across the disciplines" in higher education (p. 18). Specifically, Boyer encouraged interdisciplinary information sharing and opportunities for application and evaluation by the larger community. Because higher education typically promotes individualistic and competitive environments, collaborative endeavors can be challenging and frequently are not rewarded (Sadao et al., 2004). FLCs provide a mechanism for the interdisciplinary

exchange of ideas and a forum for reflection in a supportive environment (Cummins et al., 2008).

FLCs have facilitated faculty professional development (PD) that is meaningful and perceived as immediately relevant to faculty (Cummins et al., 2008; Engin & Atkinson, 2015; Ward & Selvester, 2012). The structure of FLCs allows for continuous learning and ongoing support in an environment in which members can try out new knowledge and skills as they reflect upon their own practice while engaging with colleagues in a safe environment (Bouwma-Gearhart, 2012; Ward & Selvester, 2012).

In addition to PD, FLCs have been used to solve common problems and develop program innovations (Glowacki-Dudka & Brown, 2007; Gordon & Foutz, 2015). New practices and program developments are generated through social interactions in a non-competitive environment where members are focused on a commitment to shared understanding and engagement with colleagues from different disciplines (Cummins et al., 2008; Engin & Atkinson, 2015; Ward & Selvester, 2012). Common benefits of FLCs include the opportunity to participate in collegial communities, the interdisciplinary exchange of ideas, improvements to personal pedagogy, and the development of program innovations (Cummins et al., 2008; Engin & Atkinson, 2015; Glowacki-Dudka & Brown, 2007; Ward & Selvester, 2012).

Research supports the belief that professional communities can result in instructional improvement, but they require focus and leadership that is connected and responsive to the needs of both the members and the organization (Hadar & Brody, 2010). Additionally, "managing a learning community requires coordination, scheduling, funding, and information gathering and resource provisions for participants" (Cummins, et al., 2008, p. 50). Cox (2016) argued that not enough attention has been given to the importance of FLC leadership as a means of raising interest, ensuring a connection to institutional needs, planning and coordinating activities, and providing resources to participants. He purported that well-organized leadership will support the success of FLC efforts to investigate and find solutions to problems or opportunities in higher education.

Integration of Universal Design for Learning

Universal Design for Learning (UDL) is an instructional design framework for embedding evidence-based practices that can facilitate inclusion and improve learning outcomes for students with and without disabilities (Capp, 2017; Katz, 2015; Ok et al., 2017). The UDL framework is based on three

instructional principles which include: (a) varied ways of presenting information, (b) multiple options for students to interact with information, and (c) flexible methods for motivating students to engage in the learning process (Meyer et al., 2014). By incorporating flexibility in the use of materials, technology, and classroom structure, educators can reduce learning barriers and increase student engagement in their educational programs (Benton-Borghi, 2013).

Research suggests that the infusion of UDL into teacher education programs improves teacher candidates' selection of strategies to promote engagement and learning for diverse student populations when planning instruction (Frey et al., 2012; Kahn et al., 2017; Spooner et al., 2007; Williams et al., 2012). Edyburn (2000) argued that integrating UDL into instruction is not an intuitive task and can be very challenging. Teacher candidates thus require training in UDL to use it effectively. Yet there is little research on the preparation that preservice teachers are receiving related to UDL (Moore et al., 2018).

Vitelli (2015) reported that few teacher education programs have attempted to integrate UDL instruction into their curricula. This limited incorporation of UDL into teacher education may be due to teacher education faculty not understanding the UDL framework (Vitelli, 2015). Additionally, general education faculty may be more focused on methods of teaching content than strategies to accommodate diverse learners (O'Brien et al., 2009), concerned with time needed to present UDL, and misinformed that UDL is relevant only to special education (Maryland Universal Design Learning Task Force, 2011).

Purpose of the Study

Despite the increase in inclusive education and the need to reform teacher education programs to better prepare all candidates to teach diverse students, collaboration between general and special teacher education faculty is not common practice. The purpose of this practitioner inquiry was to explore the impact of a faculty-led curriculum reform effort on collaboration across general and special education faculty and systematic curriculum enhancements. Using a FLC to support cross-disciplinary discourse and problem-solving, faculty members collaborated to strengthen their understandings of UDL concepts, develop a process for collaborative course reviews, and integrate UDL concepts and strategies into program curricula. This practitioner research study specifically explored the following questions: (a) what are the impacts of a cross-disciplinary FLC on curriculum reform in teacher education programs, and (b) how do faculty describe their experiences participating in a collaborative curriculum reform process?

Methods

Context

This study spanned one academic year and targeted two undergraduate teacher education programs at a mid-sized university in the Southeast U.S. The teacher education department houses programs in elementary, special, and secondary education as well as educational leadership. Although the elementary education and dual-certification (elementary/special education) initial certification programs have included coursework from both elementary and special education for over a decade, faculty had expressed the desire to move beyond simply offering courses in both specialties to intentionally integrating content across the disciplines. Because of this desire to create more collaborative programs, the teacher education department joined a partnership with the state department of education (DOE) and the national Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center (nd) which is focused on reforming teacher education to better prepare all graduates to effectively teach students with disabilities. The CEEDAR Center provides technical assistance to states and institutions of higher education (IHEs) in their efforts to develop teachers and leaders who can successfully prepare students with disabilities to achieve college and career-ready standards. Our partnership efforts with the state DOE and CEEDAR Center were focused on providing guidance for IHEs within the context of supporting teacher education reform.

Through the state DOE/CEEDAR partnership, the teacher education department applied for and was awarded a grant to enhance their teacher education programs to support all graduates to effectively teach students with disabilities. The state DOE/CEEDAR leadership team identified two priorities for the grant: (a) develop a model of collaborative cross-disciplinary curriculum reform, and (b) use this model to integrate UDL into teacher education curriculum. The program faculty at our university decided to integrate UDL into common courses and clinical experiences across the elementary education and dual certification (elementary/special education) teacher education curricula.

Participants

This initiative was led by a project team consisting of three special education faculty (two professors and one assistant professor with recent district administrative experience) and one science education faculty (assistant professor) who all participated in the FLC. These individuals also served as practitioner researchers. As suggested by Dana (2016), practitioner research can allow teacher educators to systematically study and improve their practice. Eight additional

teacher education faculty from the targeted programs (i.e., one male and seven females) who teach foundations, methods, and clinical courses volunteered to participate in the FLC (see Table 1). Content disciplines for these additional faculty included special education (one professor), ESOL (one instructor), reading (one associate professor and one instructor), math education (one assistant professor), social studies (one instructor), and clinical education (two instructors). Faculty perceptions describing experiences in the curriculum reform process were collected from the eight additional faculty.

Project Design and Activities

The project included faculty PD, curriculum review, and curriculum enhancement activities that spanned one academic year. Initially, the entire teacher education faculty was introduced to UDL from a visiting consultant well-versed in integrating UDL into teacher education. Next, the faculty were presented with the overarching goals of the initiative in order to solicit volunteers and identify programs/courses for enhancement. The faculty elected to focus on both the elementary and dual (special/elementary) programs by integrating UDL into 14 upper-division courses (i.e., foundations, methods, and clinical) common across both programs.

Faculty Learning Community

This project employed a cross-disciplinary FLC for both professional development and collaborative curriculum reform. The project team participated as members and facilitators. The project team provided multiple PD workshops that were integrated across the academic year to encourage faculty to move from a general understanding of UDL to deeper comprehension while exploring strategies for application within teacher education courses. To promote shared engagement and ownership, FLC members were encouraged to define common project goals, expected outcomes, processes, and timelines. This shared decision-making was intended to support work that would be meaningful, relevant, and responsive to the needs of the FLC members.

Curriculum Analysis Process

The curriculum analysis included two phases: curriculum review and curriculum enhancement. During both phases, a critical friend model that employed cross-disciplinary groups of faculty members working on each targeted course was used to facilitate reflective discussions and collaborative planning. With the participation of the project leaders, all critical friend groups included

both special and general education faculty. The identified lead instructor for each targeted course provided information to all members of the FLC on the course learning outcomes and activities and worked with critical friends during the curriculum review and enhancement phases. The observations and recommendations of critical friend groups were shared with the full FLC to elicit additional perspectives and promote shared ownership of program courses. Additionally, project leaders provided support and coaching both within and outside of the scheduled workshops.

Common Understanding of UDL

FLC members elected to use the CEEDAR Innovation Configuration (IC) for UDL (Israel et al., 2014) as the common understanding of UDL. As shown in Figure 1, the CEEDAR IC for UDL defines nine Essential Components (ECs) of UDL (i.e., 1.1-1.4 = *General Understandings of UDL*, and 2.1-2.5 = *Planning Instruction Using the UDL Framework*). The IC tool is organized around two dimensions: (a) the nine ECs, and (b) four degrees of implementation (i.e., Level 0 = *no evidence of implementation*, Level 1 = *presentation/practice within university courses*, Level 2 = *planning instruction using UDL*, and Level 3 = *evidence of application in K-12 settings*).

Data Collection

Curriculum Analysis

Data collection for curriculum analysis included a pre/post review of the 14 targeted courses related to UDL content. Faculty worked in their cross-disciplinary, critical friend groups to identify coverage of the UDL ECs within syllabi, course materials, and/or course assignments as defined in the CEEDAR IC for UDL. During the curriculum review phase, faculty groups were asked to identify which, if any, of the UDL ECs were already being addressed in the course, and if so, at which level. Additionally, they were requested to provide course materials as documentation of coverage. To plan course enhancements, all members of the FLC participated in planning sessions to discuss how to address UDL ECs and implementation levels across the programs to ensure systematic coverage. After UDL course enhancements had been planned and developed, faculty were asked to provide descriptions and course materials illustrating alignment to the UDL ECs selected for integration into their courses. To facilitate course analyses, the research team developed review forms to document which UDL ECs were included in the course and at which level.

Faculty Perceptions

Following the course enhancement phase, both individual and group data related to faculty perceptions were collected. FLC members were asked to respond individually in writing to an open-ended questionnaire prior to participation in a focus group interview. Participants responded to a set of four identical questions for both the open-ended questionnaire and the semi-structured focus group interview describing their thoughts about the process itself and the value of the UDL course enhancements related to (a) knowledge gained about reducing learning barriers for diverse students, (b) comparisons between this PD experience and other PD experiences, (c) comparisons between this effort and other curriculum enhancement efforts, and (d) insights gained about how faculty can lead change. The questionnaire was intended to initiate individual perspectives about UDL and the collaborative curriculum enhancement experience and to eliminate group dynamics, while also allowing the research team to confirm or refute responses received in the focus group (Lune & Berg, 2017). The focus group interview provided participants the opportunity to add details and elaborations.

All members of the FLC were invited to participate in the study through an email that explained the process to be used. Faculty were informed that their participation would be strictly voluntary. An interviewer from another department within the college conducted the focus group interview to allow participants to speak freely and without concern for power dynamics (Lune & Berg, 2017). The interview was recorded and both questionnaire and interview data were transcribed by a graduate assistant. Faculty names and identities were not identified on the questionnaire or within the transcript to maintain anonymity.

Data Analysis

Curriculum Analysis

The FLC members reviewed the 14 courses common across the two programs. Both the pre- and post-integration analyses of UDL EC coverage included three levels of review. The first level was conducted by the critical friend groups (i.e., lead instructor and faculty from other disciplines). All observations and recommendations from the critical friend groups were presented to the full FLC for additional input (second level of review). Finally, an independent review of each course was conducted by the project leaders with follow-up conversations with critical friend groups for clarifications and/or additional documentation as needed (third level of review). In the case of differing results, additional reviews

of the UDL ECs were conducted and further discussions were held until consensus was reached.

Faculty Perceptions

Written responses to the faculty questionnaire and interview transcripts were analyzed through the iterative process of constant comparative analysis (Glaser, 1965). Initially a derivative of grounded theory and now used as a method of qualitative data analysis, constant comparative analysis requires researchers to compare each piece of data to all the other data (Leong et al., 2010) while inductively coding and recoding to allow descriptive categories to emerge and be refined. Data were analyzed using Dedoose Qualitative Data Analysis (QDA) software, a web-based qualitative and mixed methods data analysis program (SocioCultural Research Consultants, 2016). Research team members read the faculty responses in pairs using a multilevel process to identify general patterns and categories and assign mutually agreed upon codes. Alternative views were discussed among the entire project team until final consensus was reached on themes and sub-themes.

In order to maintain high measures of credibility and trustworthiness (Brantlinger et al., 2005), researchers employed various methodological actions. First, our data analysis method of constant comparative analysis provided a level of investigator triangulation through the use of multiple researchers reading, reflecting, re-reading, and conferring on emerging themes. We returned to the data when we had divergent opinions and discussed the evidence further. Once all researchers agreed upon the themes, we arranged to meet with an external auditor who was familiar with qualitative research and curriculum enhancement yet unfamiliar with the UDL course enhancement initiative. All members of the research team met with the auditor and provided an outline of the themes and sub-themes and supporting data evidence for each. The team discussed rationales for each theme, and the auditor asked clarifying questions and provided alternative views. Suggestions from the auditor led to the rewording of some themes, while the overarching idea of the themes remained. Following the external auditor process, the research team drafted a narrative of the results depicting the emerged themes with thick, rich, supporting descriptions. The narrative was provided to all FLC members who participated in the written questionnaire and focus group interview allowing them to check for any errors within the findings or misinterpretations. None suggested any changes and all expressed that the written narrative accurately represented their views of the curriculum reform process.

Results

Curriculum Analysis

During the curriculum review phase, the FLC developed a baseline curriculum map indicating alignment between existing course content in the 14 targeted courses and the UDL ECs (see Figure 2). The baseline review revealed that the UDL principles were not introduced in any of the targeted courses, and there were only three instances where UDL concepts were currently being explicitly taught as described in the UDL IC. These included instruction on data-based decision making and progress monitoring in the second Teaching English to Speakers of Other Languages (TESOL) course, the Reading Assessment and Differentiation course, and Practicum II. However, there was no coordination of content coverage across the courses.

While there were only a few instances of explicit coverage of UDL ECs (i.e., direct alignment to the descriptions within the UDL IC) during the curriculum review phase, it was noted that a number of the targeted courses taught underlying concepts and strategies related to UDL. For example, a number of courses addressed learner variability and the need to vary instructional approaches, but the UDL principles and guidelines, and their focus on reducing learning barriers, were not explicitly addressed. When course content addressed underlying concepts without direct alignment to the UDL ECs, the FLC decided to record these instances as *indirect* coverage of UDL. FLC members agreed that it was important to acknowledge both direct and indirect coverage of UDL ECs, and that identification of these closely aligned components could serve as a starting point for course enhancements.

Building on connections identified during the baseline curriculum review, FLC members collaborated to develop a plan to guide curriculum enhancements that would promote a systematic and coordinated integration of UDL content across the programs (see Figure 3). An agreed upon FLC goal for curriculum enhancement was to intentionally align UDL content across courses building from presentation of UDL concepts early in the program, to planning lessons using the UDL framework within methods courses, to application of UDL within K-12 settings in clinical courses. All course enhancement recommendations developed by the critical friend groups were presented to the full FLC for input and to inform other course enhancement decisions as a means of supporting coordination of UDL coverage across the programs.

To address the concern that the UDL framework was not introduced early in the programs, the faculty agreed to emphasize general understandings of UDL (Level 1 UDL ECs) in first year courses. For example, the UDL IRIS module (The IRIS Center, 2009) was integrated into Educational Foundations, a course taught early in the programs, to comprehensively introduce the UDL framework. Another first-year course, Methods of Inclusion and Collaboration, was used to provide additional instruction and practice related to the UDL principles and guidelines. Methods courses provided students with opportunities to practice planning instruction within different content areas (Level 2 UDL ECs). These planning opportunities allowed candidates to use UDL principles, guidelines, and checkpoints to design lessons including flexible goals, instruction, materials, and assessment. The practicum courses and student teaching allowed candidates to gain experience using UDL with K-12 learners (Level 3 UDL ECs). Additionally, faculty elected to revise the common lesson planning template to include explicit use of UDL principles and guidelines. Finally, a cross-disciplinary team of faculty developed a new UDL case study module to be used during student teaching that allowed additional practice of UDL planning to reduce learning barriers and promote student engagement within realistic K-12 lessons.

Faculty Perceptions

The findings described below represent input from an open-ended questionnaire and a semi-structured interview with a focus group of the eight members of the FLC who were not the project leaders. Data analysis revealed three themes related to faculty's initial interest in the effort, their continued participation, and their perceptions of the resulting impacts: Empowered Participation, Valued Process, and Improved Knowledge and Climate. We will discuss each theme and related sub-themes with supporting narratives and follow with discussion of the implications of our results.

Theme 1: Empowered Participation

Initial faculty interest in the curriculum enhancement process was generated by what our participants believed was a sense of empowered participation. Due to "accreditation fatigue" that commonly plagues teacher education programs, the project leaders acknowledged their colleagues' reticence to participate in "top-down" efforts that were not immediately relevant to their daily work. One participant expressed, "...in the past, what we have done was dictated by the state, NCATE, any other accrediting body…, we did it because 'You will do this!'" However, faculty recognized the need for continuous

improvement of teacher education programs and volunteered because "people felt like they wanted to be there …" "This was more of a choice for us to do it."

Non-threatening/Voluntary. Compared to previous mandated efforts within the department, participants appreciated the opportunity to join instead of being told to comply

> "...we all volunteered to join. It was not mandatory...we were all there because we wanted to learn more and do something. So that was a big difference too because other times we feel like we have to attend a professional development… we were excited about joining."

Another participant indicated that "approaching participants in a supportive and encouraging way makes faculty feel willing to devote the time and effort into adopting new ideas and making changes to courses." Faculty felt that they "were given choice … and our expertise was utilized." The interest of the participants was stimulated by the non-threatening ("soft sell") introduction to UDL and the project.

Faculty also chose to engage because of the relevance of the project goal, preparing graduates to effectively teach diverse learners. Participants described an appreciation for having a "specific applicable outcome and time committed to accomplish the task." This thought was also conveyed through the statement "a collaborative effort can be successful when operating within a framework that is organized and goal-oriented." One participant expressed "we are passionate about what we do, and we're in it for the right reasons and because of that we were really able to make a big impact."

Trusting Relationships. Although relationships within the department were largely collegial when this project began, there was little history of systematic collaboration among the general and special education faculty. Project activities provided a space for faculty to develop more trusting relationships with each other, a necessary prerequisite for meaningful collaboration. One participant expressed that, **"**in order for we, as a faculty, to truly be collaborative, there has to be a certain amount of vulnerability and openness." Another stated, "you have to be willing to show your course, and we tend not to be that way. I think we were able to do that in this [situation] because we volunteered." Trust in the project leaders also supported participation and goal attainment. "… we trusted the people in the front [the project leaders] …and when we trust them, then we began to trust each other, then I think we're willing to be open and vulnerable."

The decision of the project leaders to be active participants in the process further supported trust in leadership.

> ... normally you sit in professional development, and … it's usually somebody talking at you … instead the leaders were actually collaborators. They led us through, but they didn't talk at us. They actually were a part of our discussion groups and even part of the building process.

This trust and willingness to be vulnerable resulted in faculty feeling that they could admit when they needed help and be open to suggestions for courses enhancements. "This process was very collegial and not typical 'talking at', but instead the leaders were a part of the collaborative group." The sharing and supporting across courses and disciplines likely would not have happened without this trust and openness.

Theme 2: Valued Process

Because this curriculum enhancement endeavor continuously engaged participants in FLC meetings across three semesters, the project leaders designed a structured process that was thoughtfully implemented and connected to the daily work of faculty. The process "took place over an extended period of time with several workshops," which faculty described as "well-organized with follow-up and support." In contrast to previous projects, "This time it was a coordinated effort with lots of discussion and thoughtfulness...it was collaborative and purposeful and rolled out in increments. This is the first successful effort I can remember in the past ten years." Faculty engagement was maintained by relevance, opportunities for collaboration, and structure and support.

Usefulness. Workshops provided participants with relevant experiences to learn about and identify connections between UDL concepts and the subject matter addressed in their courses. Faculty reflected, "We all got what we needed from the workshop, something that applies to our own discipline," and "The sessions were like working sessions…" "They weren't a waste of time. So, you started thinking of the process before you went off on your own to do it." Even though this process consisted of a series of ongoing workshops throughout the academic year, faculty felt that the workshops were meaningful, were an efficient use of their time, and were "extremely well-organized."

Collaborative Structure. Participants acknowledged the importance of working collaboratively with their colleagues when planning curriculum enhancements. "This was effective because it is a way to see your course with

new eyes." "It's shared responsibility and shared power, and we were able to listen to each other so that polarization didn't happen. We were able to really listen to each other and support each other through the process." Faculty found that the facilitated meetings and workshops provided a mechanism for faculty to hear other perspectives in a non-threatening setting and to work together to address a common outcome.

Another valued aspect of the FLC was the approach used by the project leaders to participate as members of the community and to serve as facilitators rather than leaders. "The leaders were actually collaborators...They led us through, but they didn't talk at us. They actually were a part of our discussion groups and even part of the building process." One participant appreciated the opportunity for "a great deal of faculty input about all aspects of implementation." This "allowed for developing a process that is tailored for our coursework and programs." Although the project leaders actively facilitated the process to achieve the overall goal of UDL curriculum enhancement, they ensured that participants had voice and choice in setting specific outcomes, defining the collaborative process, and identifying timelines.

Supportive conditions. Faculty recognized the value of sustained learning experiences throughout the academic year to deepen their understanding of UDL concepts. One faculty member in comparing this experience to previous professional development stated,

> So normal professional development is…you go in, you spend your four hours, you get your box checked off so you can get your certificate renewed. But you better have more than one sitting with this [UDL] and be able to understand it so you can implement it, so that you can do it in your classes, and then teach your students to do it as well.

Furthermore, faculty noted that the workshop series and the time in between workshops to make sense of UDL concepts were especially important since UDL was new subject matter for many of them. One participant reflected,

> I remember when we … did this the first time, I'm like totally lost...And then each time I go in, it was like I had to kind of relearn it … and as I got farther and farther it was like "Oh yeah, Ok I get it, I get it". So, it took more than a one-shot deal to understand the whole premise and how to implement that [UDL].

Although UDL can be a unifying framework in teacher education, as our faculty noted, they needed sufficient time "to think about the process both before and after the meeting" and "to process before any written work is completed." Such reflections highlight the importance of ensuring that faculty had adequate time and space to understand UDL well prior to attempting to integrate these concepts into their teacher education courses.

Our faculty also appreciated the scaffolding and resources made available to them. In particular, participants discussed the value of peer feedback and coaching from project leaders. "They were always there, too, as consultants. And you had other people to talk to about your course, which I think was helpful too." One faculty member remarked about how coaching by project leaders, "helped us stay in the road instead of in the ditches." Additionally, coaching by project leaders helped faculty to better identify course enhancements that ensured coherence with the collaboratively negotiated goals of the project. A faculty member recalled, "…we got feedback on what we submitted because I actually met with [a project leader] ...we went back and forth and talked about it a bit, and I made a few changes." Once faculty understood UDL well, they had a desire to introduce and develop multiple UDL components rather than focus on the one that best fit in their course. The coaching interactions helped participants identify the most appropriate and logical enhancements and supported coordinated integration of UDL concepts and resources across courses.

Theme 3: Value Added

Faculty expressed that the process and structures of the collaborative FLC resulted in increased knowledge of UDL strategies for teaching diverse learners, pedagogical reflection, and an increased climate for collaboration in the department. Related to pedagogical reflections, one faculty member reflected, "I am thinking about my curriculum …regardless who's in the room, how can I make it as broadly accessible as possible." Faculty realized the importance of the concept of "reducing barriers" both for their personal practice and for teaching diverse K-12 learners. "The most challenging idea is to learn how to teach them [UDL principles] to my own students so they can later apply it in their teaching." Furthermore, the FLC developed leaders among the faculty and an improved climate for collaboration. "This project led people to common goals. Once this occurred, there was a very nice collaboration and sharing of expertise. What resulted was the development of a host of leaders."

Pedagogical Reflections. The curriculum enhancement effort led to pedagogical reflections among that *host of leaders* as they not only learned about UDL and the guiding principles, but also considered their own teaching practices and the intersection with the learning differences of their own students, "You start to think give choices, 'How do we give them choices and still measure the same learning outcomes?'" Such conscious pedagogical decision-making was even noted as faculty came to realize through the process that they themselves needed to model UDL strategies for their university students. Some reflected on those practices on a grand scale, "I am becoming more self-aware and I am starting to think 'wow,' so I should be the model for this process, this way of approaching instruction" while others honed in on certain aspects which they believed would be immediately beneficial for their students, "I think in my own head I'm starting to think about choices for assignments." Consequently, the improvements extended beyond the initial curriculum reform goals of the project itself, "My course and presentation style are improved," as unforeseen shifts in thinking led faculty to be reflective and effective practitioners of UDL.

> The biggest switch for me is…, rather than looking at my students in my class and thinking how can I best serve their needs, flipping that so I am thinking about my curriculum and … how can I make it as broadly accessible as possible?

Gained Knowledge. In order to become effective teachers of UDL practices, faculty became consumers, recognizing the importance of building their knowledge of strategic planning to reduce barriers for diverse learners.

> When we reduce barriers for some, it supports all. Reducing barriers is proactive and applies to all of the curriculum. We anticipate ways in which students will be hindered in their learning. We also provide structure to consider options to prevent these difficulties.

Faculty were quick to identify the "myth of the average student" (Rose, 2013), an essential understanding of student variability as the norm. Therefore, they were able to connect the importance of UDL and its application to all K-12 students and all students in teacher education courses. "Implementation of these ideas is appropriate for all students, not just those who are diverse." They also noted how the nature of planning for diverse student populations could be more efficient than anticipated. "It almost simplifies differentiation because instead of thinking about the needs of 25 students, you are identifying those common barriers that are interfering with their learning and multiple kids may have the same or similar barriers."

Aside from the diverse nature of "planning to the edges" (Rose, 2013), rather than the middle a class, the one constant that faculty could isolate in their own learning process was the overarching theme of UDL, the elimination of learning barriers for students, "You start on the front end and you reduce barriers, regardless of who shows up in the room." Through the FLC, faculty gained knowledge of critical components of UDL that prepared them to guide teacher candidates in planning effective instruction for diverse K-12 learners.

Cooperative Power. A common sentiment expressed by participants was the importance of using a faculty-led rather than administrator-led effort for curriculum improvement. "Faculty can lead better than administrators in this type of process." They further expressed that faculty-led rather than top-down efforts were more effective and meaningful. "When motivated to make change, faculty are experts in and passionate about improving and enhancing student learning. More grassroots, bottom up efforts are needed to make significant changes in education." One individual shared, "we are passionate about what we do and were in it for the right reasons, and because of that, we were really able to make a big impact."

Participation in the collaborative FLC led faculty to "consider individual vs. cooperative power." A number of faculty members found this project to be quite different than other experiences they had working with colleagues from other disciplines. One participant commented, "We tend to gravitate towards lines, so there is a right or wrong answer. And then we stop listening to each other versus the way they [the project leaders] did this." Another stated, "It is important to create an open dialogue so there is not a right and wrong answer." Overall, faculty felt they "were able to listen to each other so that polarization didn't happen. We were able to really listen to each other and support each other through the process."

FLC meetings and workshops "were like working sessions" that provided an opportunity for faculty to receive input and ideas from other perspectives. "One unique approach was starting out with a partner. This was effective because it is a way to see your course with new eyes." Additionally, the project leaders "assisted in reviewing what we already do in our courses and offered individualized ideas and suggestions. This has not always been the case." As a result of the group problem-solving process, faculty collaboratively developed a curriculum map that was "very carefully planned in a sequential manner based on the [teacher education] students' proficiency" so that UDL was systematically integrated across courses and clinical experiences.

Improved Climate for Collaboration. Since there were faculty members from a variety of disciplines participating in the FLC, there was an emphasis on agreeing to a common language at the beginning of the initiative to support communication and collaboration. Faculty acknowledged that this strategy supported communication, "With this we have a common language. We are all saying it in the same way so even if we are teaching it in different ways, the students are still hearing the same words." This common language supported the group collaboration and problem-solving process. Another participant stated, "Now as we start to integrate things, we are all calling it the same thing."

A review of reflections highlighted the importance of collaboration that is facilitated rather than dictated and in which faculty feel empowered. "The leadership should be seen as facilitators who assist with keeping focus, but who do not prescribe the details of the outcome of the effort." Another faculty member endorsed the importance of facilitated collaboration and highlighted the value of faculty empowerment. "The best approach is collaborative with continuous support and consultation. When faculty make decisions about how to implement information into their own courses, it is more effective, more motivating, and better quality."

An awareness of an improved climate for collaboration beyond the initial project was revealed. "There is a positive impact on the faculty who participated in this project insofar as they came away with a greater sense of collaboration and common goals." Another participant stated, "... I would like to see us use this same model for other kinds of curriculum integration ..." Involvement in the collaborative FLC was a positive experience for faculty for both professional development and curriculum planning. These experiences resulted in improved collaboration and a desire to replicate this approach with other initiatives.

Discussion

This study explored a cross-disciplinary FLC with a common goal of enhancing teacher education curricula by integrating UDL. Research questions focused on the impact of the collaborative process used within the FLC on teacher education curricula and an exploration of faculty perceptions of the process. Understanding that collaboration among faculty from disparate disciplines who are typically balancing multiple obligations may be challenging, we intentionally planned strategies to promote engagement of faculty and structures to maintain ongoing participation. Our findings supported the notion that these efforts were valued by our faculty, enabled significant program improvements, and supported a stronger culture of collaboration. Specifically, participants reflected upon their

motivations for participation and the facilitated process that was employed. This project offers insights to other teacher education faculties interested in collaborative curriculum reform.

Collaborative Curriculum Reform

Cross-disciplinary faculty collaboration is a low priority in higher education due to the common practice of universities encouraging discipline-specific over cooperative efforts (Engin & Atkinson, 2015; Patton & Parker, 2017; Ward & Selvester, 2012). Although our department had been offering a dual certification program that included both general and special education courses, we recognized that courses were taught in disciplinary-specific isolation. There was a lack of intentional coordination to promote progressive and deeper understandings of strategies to teach content to diverse learners. The researchers and faculty participants discovered that the previous practice of informal collaboration did not necessarily lead to integrated programs. We needed a formalized process to help us move beyond collegiality to true cross-disciplinary collaboration. This finding supports concerns expressed by Blanton and Pugach (2011) that many collaborative teacher education programs need to critically analyze the degree of true collaboration and the results of their efforts.

Considering that collaborative curriculum reform is not typical in higher education, we felt it was important to determine why our faculty would choose to participate in a FLC to achieve collaborative curriculum reform. Our faculty expressed that they participated because they had a desire to enhance programs to improve outcomes for diverse learners. They felt empowered to participate because they were passionate about the project goals and weren't just responding to external requirements. Faculty expressed "… we wanted to change our courses", and they "felt willing to devote the time and effort into adopting new ideas …" to support continuous improvement. This aligns with other findings that highlight improved teaching and learning as a primary reason for faculty participation in collaborative communities (Blanton & Stylianou, 2009; Glowacki-Dudka & Brown, 2007; Patton & Parker, 2017).

Although other studies on FLCs have not highlighted the voluntary aspect, our faculty repeatedly indicated that *choice* and *voice* highly influenced their decision to participate. This may have been due to what the project leaders identified as "accreditation fatigue" being experienced by the faculty at the time. This notion was reinforced by comments such as "… in the past, what we have done was dictated by [external organizations] …" and, "It was not mandatory; … we were all there because we wanted to learn more."

While not evident from our findings, others studying collaborative faculty communities have identified opportunities to collaborate rather than work in isolation as an important reason for participating (Gordon & Foutz, 2015; Hadar & Brody, 2010; Patton & Parker, 2017). Hadar and Brody (2010) introduced the concept of "breaking of isolation", and Patton and Parker (2017) used the phrase "feeling insular in their positions" to describe a common frustration that motivates faculty to commit the time and effort necessary to participate in collaborative communities.

We found it interesting that our faculty did not express a concern about isolation when asked about reasons for participating. One explanation for this may be that while our faculty come from various disciplinary backgrounds, we are all housed within the same department and building. Faculty interact frequently in department meetings and tend to collaborate informally. However, it was interesting to note that as our faculty began interacting in the FLC, some began to realize that they had not truly been working intentionally across disciplines. This was evidenced by comments like, "This project led people to common goals. Once this occurred, there was a very nice collaboration and sharing of expertise," and "We were able listen to each other so that polarization didn't happen."

Structure and Supportive Conditions

An important consideration when undertaking curriculum improvement efforts is the use of a process that includes both internal leaders to provide structure and support as well as participant empowerment to stimulate meaningful and sustainable change. Hadar and Brody (2010) explained that professional development communities for teacher educators can foster collaborative over individual learning which fosters growth and change. They suggested that for these communities to be successful, they should be intentionally initiated and include leaders who are connected and responsive to the needs of the members. FLCs have been used successfully in higher education for both professional development and program innovations (Cummins et al., 2008; Engin & Atkinson, 2015; Gordon & Foutz, 2015; Ward & Selvester, 2012). However, this approach requires coordination and an intentional structure to move beyond discussions about common problems to the development of solutions and innovations (Cummins et al., 2008; Engin & Atkinson, 2015). When developing the structure for our FLC, we considered common challenges of participating in curriculum reform that were expressed by our faculty including concerns about their own differing levels of UDL knowledge, limited time to devote to new initiatives, and a lack of a coordinated system for communicating across disciplines to support collaborative decision making.

Based on the apprehensions of our faculty, we incorporated specific structures and resources to advance this curriculum enhancement effort. To address concerns about limited UDL knowledge, we used a common language to facilitate discussions that would enable all members, regardless of discipline or prior knowledge, to participate based on a common understanding of UDL. While the project leaders presented the CEEDAR IC for UDL during PD to support learning, open dialogue was encouraged to explore this tool further with the goal of identifying and adopting a common language endorsed by the group for use during the curriculum review and enhancement phases. Throughout the process, the FLC members regularly referred back to our common language to guide discussions and decision making. Further, this shared understanding across different disciplines facilitated broad participation in discussions and decision-making.

Considering that faculty joined the effort with different experiences and varying levels of UDL knowledge, meetings included opportunities for discussion of concepts and idea sharing from multiple perspectives. Project leaders scheduled FLC meetings over an extended period to include adequate time between work sessions for reflection. This schedule allowed time for further exploration of concepts and reflection of FLC discussions. Faculty expressed an appreciation for this time "to think about the process both before and after the meeting."

Purposeful use of faculty time was an important consideration for project leaders based on faculty concerns about multiple commitments and full schedules. FLC meetings were highly coordinated to eliminate down time and ensure sufficient opportunities for working collaboratively on specific tasks related to the curriculum enhancement. After each meeting, FLC members provided input about the process and suggested ideas for additional support and resources. FLC participants overwhelmingly expressed an appreciation for the coordination of the process and efficient use of time during meetings.

Although faculty had previously shared a desire to increase coordination across disciplines and courses, there was not a formalized system in place to address this. The use of a FLC allowed us to include structures to support cross-disciplinary discussions that extended beyond idea sharing to collaborative decision making for program improvements. The *critical friend* activities in which faculty from different disciplines worked together to explore new concepts, review current course content, and develop course enhancements included specific activities and outcomes that provided this needed structure.

Leadership Within a FLC

Our findings support that leadership from the UDL project team that was responsive to the project goals as well as FLC members was a critical factor in supporting curriculum change and promoting positive faculty perceptions. Fatigued from influences that impose change and create workloads unassociated with the act of teaching, our participants felt empowered in this effort, valued the process, and were willing to expand their knowledge across disciplines through this collaborative community. "This project led people to common goals. Once this occurred, there was a very nice collaboration and sharing of expertise. What resulted was the development of a host of leaders." Building a FLC from within an existing organization can bring teacher educators together and away from operating in isolation, if guided with sound leadership and focus (Hadar & Brody, 2010). Based on participant responses, we believe it was the leadership approach that provided the glue throughout the UDL enhancement process.

Our participants validated the importance of leaders serving multiple roles as coordinators, facilitators, coaches, and participants. They valued the organization and coordination provided by the project team, but also expressed appreciation for our role as "collaborators." Faculty voiced appreciation for the opportunity to give "a great deal of faculty input about all aspects of implementation," and expressed that trust in the FLC leaders encouraged them to participate and stay engaged. This aligns with Cox's (2016) proposition that effective FLCs need leaders who are trusted members of the institution, who can encourage colleagues to get involved, and who can serve in multiple roles to support the success of the learning community.

Understanding that trust is an important component of FLCs (Cox, 2004; Ward & Selvester, 2012), we intentionally attempted to create a balance between our roles as internal leaders (facilitators) and as participants. FLC members expressed that because they trusted the leaders, they were willing to be "vulnerable" when discussing their own practice in front of colleagues. The leaders of the FLC participated in critical friend dialogues by modeling a review process using our own course content (internal leadership) and soliciting input from FLC members to plan course enhancements (participants). This aligns with other studies of FLCs that identified the value of sharing ideas and co-constructing knowledge to break down discipline-specific boundaries and promote learning and program developments (Engin & Atkinson, 2015; Glowacki-Dudka & Brown, 2007; Patton & Parker, 2017).

Leaders must come from within the community and remain responsive to both the organization and its members (Hadar & Brody, 2010). Leadership is central to maintaining learning within the community (Wenger, 2000). Building trusting relationships, as demonstrated in our FLC approach, is an effective leadership practice and is central to improving working conditions (Day et al., 2011). In the face of uncertainty such as curriculum reform, it is easy to resort to top-down, assigned approaches rather than use models of effective change, as expressed by our FLC members. "When motivated to make change, faculty are experts in and passionate about improving and enhancing student learning. More grassroots, bottom up efforts are needed to make significant changes in education." Therefore, it is apparent from our experience that promoting change in higher education is most effective when conducted from the *inside-out* rather than *top-down*. Our results strongly suggest significant change requires a more powerful approach with participant leaders who are trusted and able to lead among and within.

Implications and Conclusion

Within our cross-disciplinary FLC, building a common language and understanding of UDL was essential for the group to engage in the shared decision-making process resulting in meaningful curriculum reform. This common language afforded rich dialogue among the critical friends and the group as a whole, regardless of the disciplinary expertise of faculty, and reduced possible miscommunication. This dialogue not only enabled all FLC members to make connections to UDL in their unique contexts (e.g. mathematics methods, TESOL methods), but also to develop a shared vision of how UDL could be infused systematically throughout the programs. Acting upon this vision and leveraging the knowledge they gained, FLC members identified substantial changes across program coursework that would introduce UDL content in a coordinated manner and provide preservice teachers with ample opportunities to practice implementation within different instructional contexts (Israel et al., 2014).

Our faculty believe the program enhancements resulting from this effort have improved the quality of our programs by integrating strategies to address diverse learners in multiple courses and at varying levels of application. While program improvement is a first step, it should not be the only metric used to explore the impact of this work. It is important to investigate whether these curriculum enhancements will lead to knowledge and skill gains for our teacher candidates. Therefore, in addition to this study, the research team currently is

investigating the impact of the UDL enhancement on our preservice teachers' knowledge and skills related to applying the UDL framework in K-12 settings.

Although professional development for teacher educators should actively engage participants in purposeful learning experiences, research suggests that this is the exception rather than the rule (Loughran, 2014). FLCs have been proposed as a model of engaging faculty in effective professional development and program innovation. However, it is important to recognize that initiating a FLC requires much forethought and planning. Specifically, we recommend that FLC facilitators fulfill multiple leadership roles as proposed by Cox (2016). It is not enough for FLC leaders to inspire their group; they have to be goal-oriented, organized, communicate well, and devise processes to keep the group moving forward. These leaders also must understand that the FLC serves not only to educate members, but also to empower them to make collaborative decisions about their courses and programs. Like others (e.g., Hadar & Brody, 2010; Patton & Parker, 2017; Ward & Selvester, 2012), we found that a well-facilitated FLC benefited our programs and faculty and fostered a more collaborative culture that we posit will smooth the way for future curriculum reform efforts.

Limitations

The design of this study describes one teacher education department's efforts and experiences with curriculum reform and may not generalize to other programs. The organizational structure of the department that includes both special and general education faculty may further limit this as an illustrative example for programs where these disciplines are not housed in the same department. Although the project included intentional activities and supports to increase cross-disciplinary collaboration, it did not include cross-departmental collaboration due to the nature of the department. Nevertheless, this example provides a description of a faculty-led process to integrate UDL across content and clinical courses in a coordinated manner as well as faculty perceptions related to cross-disciplinary collaboration through a FLC. Descriptions of the implementation process and faculty perceptions from this effort have contributed to the planning framework in the CEEDAR Roadmap for Educator Preparation Reform (Collaboration for Effective Educator Development, Accountability and Reform, 2020) and may provide teacher education faculty and administrators insight to support their own efforts with collaborative programmatic teacher education curriculum enhancement.

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Table 1
Demographics of Participating Faculty

	Participants							
Demographic	1	2	3	4	5	6	7	8

Note. TESOL = Teaching English as a Second or Other Language; ESE = Special Education

Rank	Instructor	Instructor	Instructor	Assistant Professor	Instructor	Associate Professor	Instructor	Professor
Years in Higher Ed.	15	24	21	11	5	20	12	34
Years in Department	15	24	21	5	5	14	12	34
Discipline	TESOL	Reading	Clinical	Math Education	Social Studies	Reading	Clinical	ESE
Gender	F	F	F	F	F	F	F	M

Figure 1

CEEDAR Innovation Configuration for UDL.

CEEDAR Innovation Configuration - Universal Design for Learning	
1.0 General Understanding of UDL	**2.0 Planning Instruction Using the UDL Framework**
Essential Understandings	
1.1 Understand how the UDL framework can reduce barriers to learning and support high expectations for learning.	2.1 Proactively plan instruction using the UDL principles, guidelines, and accompanying checkpoints.
1.2 Understand how the four curricular pillars of UDL implementation (i.e., goals, instruction, materials, and assessment) are applied in different instructional contexts.	2.2 Create and evaluate learning environments that align with the UDL framework.
1.3 Understand the three principles of the UDL framework and how they apply to instructional planning, instruction, and the environment.	2.3 Identify and strategically use materials, curricula, and technologies to align instruction with the UDL framework.
1.4 Understand how the nine UDL guidelines and accompanying checkpoints can be used to create instructional environments that support learning.	2.4 Use progress monitoring and databased decision making to inform instruction and student learning in order to provide timely mastery-oriented feedback.
	2.5 Strategically integrate evidence-based practices (EBPs) into UDL planning and teaching.

Figure 2

UDL Curriculum Review Baseline Map

Common Courses Across Programs	UDL Innovation Configuration Essential Components (ECs)								
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5
Educational Foundations									
TESOL I	L 2	L 2	L 2						
TESOL II	L 2	L 2	L 1					L 1	
Inclusion and Collaboration			L 1						
Assessment									
Management									
Teaching Elementary Science	L 2	L 2	L 2						
Teaching Elementary Social Studies									
Emergent Literacy		L 2							
Reading Assessment & Differentiation	L 3	L 3						L 3	
Teaching Elementary Math			L 1						
Practicum I									
Practicum II					L 3			L 3	
Student Teaching									

Blue box = explicitly teaches UDL ECs
Green box = teaches underlying concepts without explicitly addressing UDL framework
Level of EC Implementation: L 1 = level 1; L 2 = Level 2; L 3= Level 3 (Level 2 coverage includes Level 1; Level 3 coverage includes Levels 1 & 2)

Figure 3

UDL Curriculum Enhancement Map

Common Courses Across Programs	UDL Innovation Configuration Essential Components (ECs)								
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5
Educational Foundations	L 1	L 1	L 1						
TESOL I	L 2	L 2	L 2		L 2				
TESOL II	L 2	L 2	L 1		L 2	L 1	L2		
Inclusion and Collaboration	L 2		L 2				L2	L 1	
Assessment		L 1			L 2	L 2		L 2	
Management			L 2	L 2		L 2			L 1
Teaching Elementary Science		L 2	L 2	L 2	L 2		L2		L 1
Teaching Elementary Social Studies	L 2	L 2	L 2		L 2		L2		L 1
Emergent Literacy	L2	L1	L1			L1		L2	L1
Reading Assessment & Differentiation	L3	L3	L3	L3	L3		L3	L3	L3
Teaching Elementary Math		L 2	L 2		L 2		L2	L 2	
Practicum I	L 2	L 2	L 2	L 2	L 3	L 2	L2		L 2
Practicum II	L 3	L 3	L 3		L 3	L 2	L3	L 3	L 3
Student Teaching	L3	L3	L3	L3	L3	L2	L3	L3	L 3

Blue box = explicitly teaches UDL ECs

Level of EC Implementation: L 1 = level 1; L 2 = Level 2; L 3= Level 3 (Level 2 coverage includes Level 1; Level 3 coverage includes Levels 1 & 2)