

Teacher Education and Professional Development on UDL

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Abstract

The UDL framework presents an array of options for teachers to use in the classroom when designing inclusive instruction. Using UDL, teachers can integrate options that make lessons flexible and engaging for all learners, including students with disabilities and English language learners. Pre- and in-service teachers can benefit from examples of UDL application to their lessons to address learner variability. This paper provides a brief summary of the existing UDL literature related to teacher education. We also present a design-focused approach that teacher educators can use for UDL training, including a step-by-step process to support teachers to meaningfully apply UDL to their lesson planning.

INTRODUCTION

“So, what am I supposed to do with these nine guidelines, and thirty-one checkpoints?” When teachers first encounter the Universal Design for Learning (UDL) framework, this is a reasonable question to ask. UDL presents an array of options that teachers can use as part of their instructional planning to address learner variability in the classroom but does not prescribe how they should be used. The UDL framework presents three main principles along with nine guidelines and thirty-one checkpoints that teachers can apply in a variety of ways, as relevant to their instruction and their learners. Using UDL, teachers can design instruction that reduces barriers to learning and integrates engaging and flexible options for all learners (Meyer, Rose, & Gordon, 2014). UDL provides a structured format for considering why and how options and supports can be integrated into instruction

Teacher educators can use varied approaches to teaching pre- and in-service teachers about UDL. We often model UDL through instructional activities that demonstrate how multiple means of representation and expression can be integrated into activities. We also discuss classroom scenarios and consider how lessons can be made more flexible and engaging for students in alignment with UDL guidelines. UDL can be intuitively appealing to people as they first learn what it is; the framework presents many recommendations for making instruction accessible and inclusive. To some, UDL looks familiar, because many of the checkpoints of UDL are similar to differentiated strategies that teachers have learned about and may use on a daily basis.

Although the guidelines and checkpoints may appear familiar to teachers, there are some essential and defining

elements of UDL that are important for teacher educators to emphasize. A common misconception is that UDL is the same thing as differentiation. Distinguishing UDL from differentiation and highlighting essential elements are key to teacher education on UDL. When the UDL framework was in its early stages of development by CAST, Dr. David Rose and Dr. Anne Meyer posited that the curriculum, rather than the student, is disabled. This became an essential premise of UDL, emphasizing the need to modify the curriculum proactively rather than to attribute the problem to the student. With UDL, teachers can reduce barriers and increase access to curriculum by designing lessons that integrate flexible and engaging supports from the outset. For teachers encountering UDL for the first time, an understanding of these essential tenets of UDL can help set the foundation for “why” UDL is useful.

In this paper, we briefly summarize the literature on teacher education on UDL. We then present an approach for teaching pre- and in-service teachers about UDL in courses and professional development workshops. We recommend emphasizing three essential elements of UDL that can provide a context for using UDL as part of instructional planning for both general and special education teachers: (1) UDL is about design; (2) UDL should be applied proactively; and (3) UDL provides an intentional and systematic way to address learner variability.

TEACHER EDUCATION LITERATURE

To learn more about how UDL is being taught to prospective and practicing teachers, we conducted a literature review. We began with a search in two major online educational databases (ERIC and EBSCOhost) using the keywords Universal Design for Learning *or* UDL *and* teacher education *or* teacher preparation. We limited the search to papers published between 2000 and 2017 in peer-reviewed journals. As a secondary search, we also examined a database of 288 peer-reviewed papers about UDL located by Okolo and Diedrich (in preparation). From these sources, we identified 32 papers that explicitly addressed the preparation of teachers to use UDL with K-12 learners. Many other papers had implications for teacher education, or specified recommendations for teacher education in a Discussion or Conclusions section. However, we focused this review on those papers in which a specific model, program, or set of activities were provided to adults who worked with K-12 students in school settings, or who were preparing to do so.

Twenty-one of the 32 papers were classified as research, determined by the authors' articulation, within the body of paper, of a systematic plan for collecting and analyzing data, as well as a presentation of data that went beyond anecdotal observations or selective comments. We excluded 12 papers based on these criteria. One of the 20 remaining papers was a survey of teacher education programs' inclusion of UDL content, and we also excluded this paper from further analysis. Three papers each reported two studies, and therefore, the data we present below are based on 22 separate studies. We read and analyzed these studies to determine the characteristics of participants, the nature and duration of the intervention, the variables investigated and measures used, and the study design.

Some of the highlights of this analysis include the finding that professional learning experiences purported to teach about UDL have been directed to a variety of audiences, with the highest concentration of studies focused on undergraduate students (9 studies) and practicing teachers (8 studies). Other participants include graduate students, paraprofessionals, administrators, and teacher educators. The number of participants across these studies varied widely, from 3 to 98, with a median of 31 participants. Training duration ranged from one one-hour session to multiple sessions over 18 months, with over one-third (8 studies) spread over one semester or longer. Over 75% of the studies were delivered in face-to-face sessions or courses, but about 25% were offered through hybrid formats. No study used an online-only intervention. Two studies involved coaching in addition to face-to-face instruction.

A variety of variables were measured in these studies. Ten studies assessed knowledge and skills and nine studies assessed lesson design. Other variables of interest to researchers were attitudes, contextual variables associated with the implementation or success of the intervention, participants' opinions of or satisfaction with the training, and K-12 student performance (assessed in 2 studies by the same set of researchers). The most commonly used methods for measuring these variables (used in over two-thirds of the studies), were surveys or questionnaires (some of which included open-ended questions), participant products (such as reflections or presentations), lesson plans, and interviews. Three studies reported collecting classroom observational data, but no paper presented a systematic report of the results of observations.

Three studies were descriptive only, making no comparisons over time or among participants, but rather explaining variables or events of interest associated with the UDL training. Twelve studies used a post-test only design. Ten of these twelve were conducted with one group and two made comparisons among multiple groups (e.g., general educators, special educators). Five studies used a one-group pretest/post-test design. Only two studies made comparisons between treatment and control groups; one of

these was a true experimental design with random assignment to condition.

What are the implications of this brief review? Compared to the extensive literature about UDL available in peer-reviewed journals (e.g., the 288 papers located by Okolo and Diedrich), there is minimal scholarship about how to prepare teachers to use UDL practices with K-12 students. A variety of different approaches have been used with a diverse audience of participants but there is no consensus about features of professional learning experiences that are most effective or feasible to implement. In fact, among the 22 studies we analyzed, 5 reported training activities in which UDL was used as a framework for other evidence-based practices and for technology use, with little direct attention to UDL principles or implementation. The quality of research is limited and most of the data collected in these studies is based on self-report measures. Perhaps the most promising research has been centered around lesson design. In this set of papers, studies with a strong focus on lesson planning produced the most convincing evidence that participants were able design instruction that incorporated UDL principles.

LESSON PLANNING WITH UDL

Perhaps it is not surprising that lesson design has been employed so frequently in studies of teacher education and UDL. A logical next step after teachers learn about the premise behind UDL and understand how it can be applied, is to ask them to apply it in their own setting. To that end, there is ample guidance in the literature about how to teach UDL lesson design. Israel, Ribuffo, & Smith (2014) present an Innovation Configuration matrix to guide teacher educators. Meo (2008) describes a 4-step process for designing and implementing curriculum that can be used by general and special education teachers. Rao & Meo (2016) present a system for applying UDL while designing standards-based lessons.

To move from the initial overview and exploration, to integration of UDL into the individual practice of teachers, we recommend emphasizing the "design" aspect of UDL and making connections to lesson planning. Although many teachers do not think of themselves as instructional designers, they engage in tasks daily that require instructional design. Teachers can use a systematic instructional design process when they plan lessons and make decisions about strategies, activities, resources, and assessments. By considering UDL as part of this design process, teachers can build-in supports from the outset and intentionally develop lessons that can engage and support all learners. With UDL, teachers can consider the barriers in a lesson curriculum, the needs and preferences of all learners, and the specific support needs of individual students as they design each lesson component (Rao & Meo, 2016).

The UDL Design Cycle (See Figure 1) provides a systematic way to apply UDL, making the complex process of how to provide varied supports into a step-by-step process

(Rao & Meo, 2016). When people first think about how they can use UDL, it is appealing to pick a UDL guideline or checkpoint and try to figure out how to apply it. It also makes sense to think of strategies they already use and consider how they align with UDL guidelines. The UDL Design Cycle presents a way to do both in an intentional and proactive way that starts with an essential element of UDL – reducing barriers and reaching all students (Meo, 2008). The first step of the process, then, is to be aware of learner variability, including the barriers, needs and preferences of students. Variability can be systematic and predictable, allowing teachers to consider some common barriers in curriculum and instruction and some common preferences of their students.

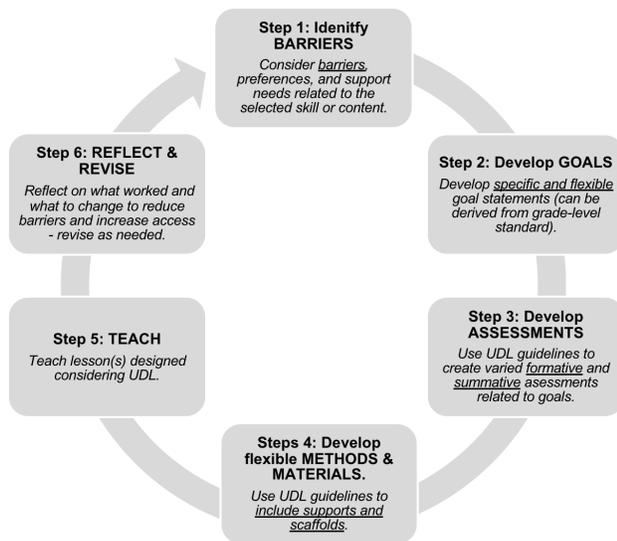


Figure 1. The UDL Design Cycle provides a systematic way to develop lesson components (Rao & Meo, 2016)

As they begin designing a lesson, teachers can first identify and state the goals for a lesson or instructional unit. These goals may relate to grade-level standards or other objectives the teacher is working on. The next step of the process is to develop assessments for each identified goal. By considering assessment at this point in the cycle, teachers can ensure that the means to evaluate student understanding is closely linked with the goals and then develop instructional methods to support students towards mastery of the goals. Assessments can be formative and/or summative. Formative assessments allow teachers to assess students’ understanding of concepts during the learning process. Summative assessments allow the teacher to evaluate whether a student has mastered the concepts.

For both types of assessments, teachers can consider how to apply UDL to reduce barriers, address student preferences, and take into account specific learning needs. Formative assessments allow teachers to integrate many UDL guidelines by providing opportunities for practice, varied means of expression, supports for executive function, and mastery-oriented feedback. Summative assessments can vary in format if appropriate. For example, in

some cases it may be useful to allow students to have a choice of how to express what they know (written, multi-modal, oral). In other cases, the summative assessment may be in another format (e.g., a written essay), but students can be given varied supports to succeed in that format. For example, the teacher may integrate scaffolds to help students successfully develop a written essay.

The next step of the UDL Design Cycle is to make determinations about Methods and Materials used in a lesson. In this step, the teacher can develop instructional strategies and select resources that help students master the goals, as evidenced by the assessments identified. Teachers can refer to the UDL guidelines to ensure that they provide various supports and scaffolds for learning. “Methods” refers to the instructional strategies that teachers use. Using UDL, teachers can consider which activities may include choice, when to use varied formats, and how to support goal-setting and self-assessment. They may also consider how to enhance comprehension through a variety of strategies, how to help students persist with learning and how to recruit interest and engage students in the lesson. Teachers can select materials and resources that provide choice and flexibility to students as they undertake instructional activities, such as technology-based environments or hands-on learning activities.

Using the step-by-step process of The UDL Design Cycle, teachers can make intentional decisions about how to present content, support comprehension, facilitate expression, support student learning processes, and foster engagement in alignment with UDL. The UDL Design Cycle provides a systematic way for teachers to think about all components of a lesson and to ensure that assessments align with goals and that the instructional methods and materials include flexible and engaging options to support mastery of knowledge and skills. The UDL Design Cycle can also be used by co-teachers as they plan together. For example, general and special education teachers working in an inclusive setting, may plan together to integrate supports for all students in a classroom (Rao & Berquist, 2017).

CONCLUSION

Although the steps described above will be familiar to teachers who have been differentiating lessons for years, one distinction related to the use of UDL is the proactive nature of this process, and the intentional planning around the integration of supports that specifically target barriers within the curriculum, student preferences, and student support needs. The UDL Design Cycle provides teachers a way to reflect on specific issues within a given lesson – e.g., the cognitive load related to writing or comprehension in a lesson – and to integrate strategies from the outset that address those barriers. The systematic process also allows teachers to think through student preferences and to integrate specific supports as needed for students with disabilities. For some student needs, teachers may have to integrate additional supports. With UDL-based planning,

the general curriculum can support the needs of a broader range of students.

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