A Synergistic Planning Process for Course Design

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Abstract
Teaching in today's diverse classrooms requires as much attention to pedagogy as to content. This article describes a strategic effort to improve student learning through an integrated framework for designing college courses that synthesizes components of several curriculum models. We describe our synergistic planning process, including the four steps we used to create a meaningful learning experience for every student. We offer this inclusive approach to course design as a productive starting point for course planning and teaching improvement efforts across disciplines and institutions.

Introduction
As teacher educators with collective experience teaching learners in grade levels that span from preschool through graduate school, we feel an important aspect of our work with our teacher candidates is to support their efforts to understand components essential to quality planning and teaching, components that we see as critical in supporting meaningful learning for students of all ages and grade levels. As part of our own curriculum work as faculty members of an education department at a public state university, we have collaborated with one another to engage in course design within our own undergraduate teacher education program. Our collaboration has been enriched by our varied experiences as educators. The first author has worked extensively with curriculum design as a teacher and a school leader, and our work reflects an extension of this individual's previous design work as principal and director of special education. The second author was immersed in curriculum design as a teacher, but as a doctoral student, she shifted her focus to language and literacy research. Within this context, she acquired a skill set grounded in content understandings and research methodologies that continues to influence her curricular decisions. Working in tandem to redesign one of our teacher education courses afforded us both the opportunity to draw upon our varied background experiences and consider the challenges encountered by other faculty as they work to incorporate both discipline-specific goals and sound pedagogical practices. By engaging in dialogue and sharing perspectives, we developed an innovative, integrated framework for course planning that can be used within any academic discipline.

Our course design planning framework draws upon current theory and practice within the field of curriculum design and learning in PreK-12 general education (Marzano, 2007, 2009; Wiggins & McTighe, 2012), and extends this work by integrating research associated with best practices in special education (Armstrong, 2012; Coyne, Pisha, Dalton, Zeph, & Cook-Smith, 2010; Hehir, 2008; Rose & Meyer, 2009). Incorporating ideas and practices from both these fields was critical to our efforts to intentionally plan in ways that would support all our learners. We recognize that today's college students represent a diverse range of racial, ethnic, cultural and linguistic backgrounds, and present a range of disabilities and learning profiles (National Center for Education Statistics, 2012). Students also join our classrooms with varied socio-economic backgrounds and sexual or gender orientations (Burgstahler, 2009; Pliner & Johnson, 2004). To effectively create learning opportunities for all of these individuals, we knew that our course planning framework needed to be explicitly learner-centered. In the first section of this article, we
summarize several models that address different considerations in the design of learning experiences. Building on this summary, we then describe our integrated design process and the four steps we employed as we developed and then launched our course.

**Creating a More Comprehensive Framework for Course Design**

Our design collaboration began when we were both teaching a section of an introductory course on special education and decided to jointly redesign the course. Individually, we had both been dissatisfied with the way in which the course had been previously taught—the philosophical underpinnings that reflected a traditional deficit model of disability, the structure of the syllabus that was aligned with the “disability a week” sequence represented within most introductory special education textbooks (e.g. Smith & Tyler, 2009; Turnbull, Turnbull, Wehmeyer & Shogren, 2014), and mismatched course assignments and assessments. Our work initially focused on the goal of aligning our teaching practices with the content we were teaching. We began assessing the design of this course by examining its fidelity to the Universal Design for Learning (UDL) framework. UDL, which provides a scaffold for planning and teaching that focuses on making curriculum accessible to all learners (Meyer, Rose, & Gordon, 2014), was a major component of the course content, and its representation of disability as co-located within individual and context (Rose & Vue, 2010) was one that meshed with our own beliefs. We initially worked to ensure that the course was grounded in the UDL principles that foreground the provision of multiple means of representation, expression, and engagement (CAST, 2011), yet we realized that although this frame can be empowering to curriculum designers and instructors, it is not, in and of itself, sufficient for supporting deep and meaningful learning on the part of students. Theoretically, if one relies only on the provision of multiple formats for representation, expression, and engagement, ‘weak’ curriculum can be rendered more accessible just as easily as ‘strong’ curriculum (Ofiesh, Rojas, & Ward, 2006). While the UDL framework continues to evolve, with iterations that address this concern more directly (e.g. UDL-IRN, 2011b), we felt we needed to step back and make explicit an overarching frame for curriculum planning and teaching.

Our focus on the larger goals of this introductory course in special education aligned more closely with the design frame of Understanding by Design (UbD), a highly regarded model for curriculum design frequently adopted by K-12 schools (McTighe & Wiggins, 2013), including those in which our first author was involved. Our efforts to clarify course conceptual underpinnings mirrored the UbD practice of identifying the “Big Ideas” and “Essential Questions” for a unit of study (Wiggin & McTighe, 2011). While Understanding by Design and the complementary lesson design work of the Marzano Research Laboratory (Marzano, 2009) are widely explored in K-12 school literature, and constitute the design frames used within many K-12 schools across the country, these design models are not commonly addressed within the field of Special Education, nor are they familiar to many college teachers, although components of these frameworks are frequently addressed in the literature (e.g. Brown, Eaton, Jacobson, Ofiesh et al., 2006; Roy & Friesen, 2013) and these models align in many respects with other design approaches known in higher education (e.g. Blumberg, 2009; Fink, 2013).

By considering Universal Design for Learning and Understanding by Design simultaneously, as well as the work of Robert Marzano, we were able to build a comprehensive frame for course design, one that synthesized complementary perspectives in a meaningful way. Our integration of these design frames supported our ability to create a more challenging introductory special education course, one that was organized around key concepts and intentionally tailored to address variability in learner needs. While our course planning process incorporates ideas from several curriculum design models, the four steps that follow present our integrated planning process as one that both builds on earlier models and provides support for faculty in their effort to create courses that offer meaningful learning experiences for all students.

**First Step in the Planning Process: Understanding by Design**

Drawing from the work of Wiggins and McTighe (2012), we argue that all courses should be anchored in ideas, or “big ideas,” that are fundamental to the course of study, yet also relevant beyond the specific discipline in which a course is situated. One such idea frequently highlighted in biology courses, for example, is that “Form and function are integrally related” (Wiggins and McTighe, 2005). This idea, or concept, however, holds relevance in other disciplines as well, including architecture, literature, and art. As we began to redesign our course using an Understanding by Design, or UbD, lens, we began to identify
and make explicit the big ideas of our course that could serve as the anchor for both our teaching and student learning. For guidance and direction around these ideas, we turned to the conceptual framework of our university’s education department. This framework articulates four powerful themes related to social justice, diversity, community, and reflection that anchor our teacher education programs.

We appropriated those themes and explored how they could offer structure and focus to the big ideas of our course. We shaped them into ideas that were relevant to our introductory course in special education. These ideas, in turn, became the “True North” of our newly designed course. They provided direction, and by “looking” at them as we planned and then taught the course, we were able to “get our bearings” and determine whether or not we were “on track”. The big idea in social justice for this class, for example, is that “Special Education has a social justice/civil rights origin and mission”. This big idea, and the others we developed, framed both the work of the semester and the structure of the syllabus by foregrounding the thinking and learning experiences required to support student understanding of the field and practice of special education.

After articulating the course “Big ideas,” we developed our inquiry questions, which are referred by McTighe and Wiggins (2013) as “essential questions.” In our introductory special education course, for example, our essential question: “Do the laws related to special education provide a standard for equity and social justice?” followed from our social justice related big idea. We explicitly raised this question and our other essential questions with students at the beginning of the semester to provide focus and guide their engagement. Students understood that they were expected to grapple with course essential questions and formulate responses to them by the end of semester.

The Second Step in Planning: Articulating Clear and Relevant Learning Goals

Drawing upon the work of Robert Marzano and colleagues, as well as the framework of Understanding by Design once again (Marzano, 2007, 2009; Wiggins & McTigue, 2011), we found it helpful to ask ourselves the following question after articulating course big ideas and essential questions: “In order to successfully engage with the essential questions of our course, what must our students need to understand, know, and be able to do?” To answer this question, we constructed a visual chart depicting these expectations. This process helped us clarify what it was that our students actually needed to understand, know, and do in order to make progress in answering course essential questions, and building an understanding of course big ideas. A table depicting this chart is presented in Figure 1.

The three columns in Figure 1 specify the deep understandings (“Understand”), the declarative knowledge (“Know”), and the procedural knowledge (“Do”) required for successful engagement with the big ideas of our course (Marzano, 2009). In other words, this table suggests that our introductory special education students must make sense and construct understandings of the items in the first column, and in order to do so, they must learn what is in the “know” column, and practice many times that which is specified in the “do” column. The difference between what students need to know as information and what they must understand deeply is made explicit. The items in each column are distinct from one another, and those placed in the “Do” column are not class activities, but rather practices or skills with which we want students to be facile, and eventually automatize. This process of specifying each “Understand”, “Know”, and “Do” for a course of study serves to clarify the learning goals that will direct the planning of that course (Tomlinson & Moon, 2013; Wiggins & McTigue, 2012). Moreover, while this design step necessarily highlights the “relevant,” in terms of course content and process, it also serves as a reminder as to content or processes that are “irrelevant” to student learning. Once we set up our “Understand, Know, Do” (U/K/D) chart, we were focused and able to design assessments and begin course lesson planning.
The Third Design Step: Assessment Planning

Assessment is a critical component of course planning (Blumberg, 2014; Fink, 2013; Ofiesh et al., 2006; Wiggins and McTighe, 2012). Within our planning process, we consider two types of assessments that we refer to as our “Big A” and “Little a” assessments (Baker & Griffin, 2012). The “Big A” assessment is the assessment that considers the extent to which students have demonstrated an understanding of the course “big ideas” as they answer essential questions in relation to an assessment prompt. Wiggins and McTighe (2012) often refer to this as the performance assessment. The “Big A” assessment for a course, which must be written before the lesson planning process begins, asks students to explicitly reflect on their understanding of the course big ideas. This assessment guides the choices made in content and skills of the course and is related to the essential questions as well (McTighe & Wiggins, 2013). It often requires that students synthesize their learning as they apply it to new or current situations. For our course, we designed an assessment task in which students were required to create a portfolio at the end of term that demonstrated their ability to answer course essential questions using documentation and exposition. One section of the task, for example, requires students to give a clear picture of the current state of special education in their response to the following prompt: "What is the state of special education now? If the purpose of special education is to provide equal access to a quality education for all students who have disabilities, how are we doing? What contributes to this, what interferes? What changes will you work
toward and why? Please give detailed support to all areas.” This part of the portfolio directly relates to our course’s big idea in social justice. Students must use course materials, case studies, and the research in which they have engaged during the semester to produce a complex response supported by clear evidence with additional suggestions for changes to policy. Anticipating learner variability, we offer students choice as to the format they use to demonstrate their understanding, provided it is one that facilitates the clarity and depth of response required.

Our “Little a” assessment, on the other hand, is an assessment that we use to gather information regarding student progress towards mastery of learning goals and can manifest as observation or activity. All formative assessments fall into this category. For example, since it is our goal (“Do”; see Figure 1) to have students use graphic organizers when they present material, they are taught to use a variety of graphic organizer tools, such as Inspiration, and practice using them in assignments. We assess student skill at succinctly putting information into an organized and clear format, as well as their use of the medium. We also teach students how to create learning profiles, constructing them together with case studies of children, then asking students to create them independently for subsequently introduced case studies. These learning profiles are also examples of a “Little a” assessment. They provide us with information about student learning related to items specified in our “Understand, Know and Do” chart, such as identifying student strengths, as well as needs. Many commonly used summative assessments are “Little a” assessments as well (e.g. quizzes, traditional “final exams”, such as a multiple choice exam on content from semester). While such assessments typically span a fair amount of material, they often target mastery of knowledge and skills rather than “Big Ideas” (Wiggins & McTighe, 2005).

We use our “Little a” assessments to determine what knowledge and skills have been learned and what needs to be re-taught or extended. The “Little a” assessments are not planned in detail at the beginning of the course, but rather when lessons for the class are developed. The “Little a” assessments inform daily instruction and constitute the assessment most commonly addressed in curriculum design (Fink, 2007; Wiggins & McTighe, 2005). Other “Little a” assessments in our introductory special education course include group discussions, written responses to readings, and student co-teaching activities. We use this type of assessment throughout our course, and try to design both “Little a” and “Big A” assessments so that they incorporate principles of Universal Design for Learning, both in how they are assigned (representation) and how students are encouraged to respond (expression; Meyer, et al., 2014; Ofiesh et al., 2006).

The Fourth Step: Planning for Learner Variability with Universal Design for Learning
We believe that each individual, whether a preschooler or a college student, enters the classroom with distinct learning strengths and needs that can be supported by teachers who are passionate about creating pathways to learning for all students. We embrace the notion of neurodiversity and the practice of using strength-based strategies to support learners (Armstrong, 2012; Schelly, Davies & Spooner, 2011; Smith, 2012). We were drawn to David Rose and colleagues’ work on Universal Design for Learning (UDL) because of its focus on learner variability and the powerful role well-designed curricula can play in supporting student learning (Hall, Meyer, & Rose, 2012; Henderson, 2011). We incorporated the UDL framework into our planning process as a means for intentionally addressing learner variability within our course design and teaching practices (Burgstahler, & Cory 2009; CAST, 2011; Rose & Meyer, 2006; Smith, 2012). While we recognize the value of other frameworks that address learner variability, such as Differentiated Instruction (Tomlinson, 2014; Tomlinson & McTighe, 2006), we believe that a Universal Design for Learning approach offers the most robust context for proactively addressing learner variance, and one in which teachers can embed varied instructional practices such as differentiation in meaningful ways.

After considering our course from an Understanding by Design perspective by articulating its Big Ideas, Essential Questions, Learning Objectives, and “Big A” Assessment, we looked through our UDL “lens” and carefully considered options for providing multiple means of representing course content, multiple means of engaging students, and multiple formats through which students could build competencies in the identified course understandings, such as ‘thinking like a teacher’ and recognizing ‘students as people first’ (see Figure 1). In considering course materials and the UDL principle of Multiple Means of Representation,
we varied formats to include traditional academic readings (in print and digital formats), picture books, juvenile and adult fiction, popular culture films, music, documentaries, and web based media (CAST, 2011). While these alternative formats provided for heightened engagement, we further supported student engagement by consistently having students involved in collaborative work groups. In addition, we provided differentiated assignments based upon student interest, including, for example, preferred grade level or licensure sought.

In order to provide options for student action and expression, we designed lessons that incorporated active participation structures and the arts (CAST, 2011; Glass, Meyer & Rose, 2013). As we designed assignments using a UDL lens, we also became more intentional in our use of instructional language. We carefully chose how we framed student tasks, for example, making sure we foregrounded the goal of an assignment and built flexibility around the means by which that goal could be achieved (Rose & Meyer, 2006; UDL-IRN, 2011a). If, for example, we wanted students to share their understanding of a concept or course reading, we anticipated that students would vary in their preferred mode of expressing that understanding, and would thus use a word such as “demonstrate” rather than “write,” if writing itself was not an essential component of the goal for the assignment. We also began to change the title of assignments from “papers” to “projects” whenever varied formats would equally address assignment goals. The following excerpt from an assignment in our introductory special education course represents one of our first efforts to incorporate UDL principles into course planning in an explicit way (see Figure 2).

Figure 2: Synopsis from a course assignment description

Within this assignment description, we attended to all of the UDL principles: multiple means of representation, expression, and engagement. We offered, for example, varied material formats, including film, early adolescent literature, newspapers and the web (multiple means of representation), as well as the provision of topic choice, models and rubrics (multiple means of representation and engagement), and flexible options for product format (multiple means of expression). This set of guidelines for one of our assignments illustrates how teachers can honor and support variable learning profiles by proactively incorporating flexibility in the curriculum (Meyer et al., 2014; UDL-IRN, 2011a). Such flexibility ensures that all students have an opportunity to successfully demonstrate their engagement with course big ideas.
Launching the Course: The Design Path Meets the Teaching Pavement

Our planning process is summarized in a graphic representation found in Appendix A. This visual chart aptly suggests that there is no mandated "starting point" for designing a course. Just as we began with Universal Design for Learning and then grounded our initial work within the Understanding by Design framework (e.g. the Big Ideas and Essential Questions), before moving forward, this process offers multiple entry points (McTighe, 2013; Wiggins & McTighe, 2005). Teachers may start with a lesson or a material they know is really important, for example, or a set of standards deemed critical for their program, and then they can move from that context to their big ideas or UDL planning and teaching considerations. What is critical, however, is that one carefully attends to all components during the planning process. The process, itself, is recursive, and with time and thought, engaging in this type of intentional planning builds coherence and on-going refinement to one's course.

After we developed our curriculum design frame, we created a template to support our actual planning (See Appendix B). This template is a representation of our eclectic framework, and it supported our planning efforts in a concrete way. We used the form to draft the elements of our newly revised course. We also used this template to modify our course syllabus, which was revised to include course big ideas and essential questions, an Understand/Know/Do (U/K/D) chart, and a description of the course "Big A assessment." Crafting a syllabus with this template in mind helped us provide our students a clear picture of the 'landscape' they would be exploring with us throughout the semester. The template also served as our “touchstone” throughout the semester, helping us teach with focus and intention.

In teaching the course, we have both learned, and continue to do so. Our focus on Big Ideas anchored both our teaching and student learning. Planning class experiences using the U/K/D chart focused our teaching. This overarching scaffolding helped us create a course that became a strategic event, rather than a collection of activities. We make this scaffolding visible to our students, too. Providing our students with the "Big A" assessment at the beginning of the course, for example, helped them explicitly build the knowledge, skills, and understandings necessary to complete the assessment independently at the end of term. Designing assessments that truly tap into student understandings related to course big ideas is challenging, as is creating learning opportunities that provide for multiple means of representation and expression. We continue to reflect upon these challenges, and note that faculty acculturated within academic settings that value traditional lecture and assessment experiences may have to revise their prior working model of college teaching. Such revisions require considerable thought, effort, and ongoing reflection.

In terms of classroom learning opportunities, daily lessons have become cases for students to deconstruct based upon the concepts under study. In our introductory special education course, for example, students explore course themes by engaging with children and families encountered within the content of the course. This contextualized approach to the study of special education offers opportunities for authentic teaching of strategies and interventions, as well as supporting deeper understanding of students as being "people first", and how teachers can engage in supportive relationships with children and families. In our efforts to teach from a UDL perspective, we continue to explore nontraditional formats as tools for teaching and learning. One of us, for example, has offered students opportunities for movement and artistic representation for years, but we both now incorporate more technology into our teaching. We teach students, for example, to use Inspiration, a software tool for graphic representation, Dragon Dictation as an alternative to writing, and Alpha Smart devices for note taking. We also teach students to create Glogs and utilize web resources such as My Little Story Bird and Pixton for creating 'social stories', a commonly used K-12 intervention. Students are additionally encouraged to create Prezis and use VoiceThread and IPadio as options for expression. We also work to heighten engagement through collaborative learning exercises, and by providing students opportunities to reflect upon their learning on a regular basis. Teaching this newly designed course is both exciting and challenging. Our intentional design work, however, supports our efforts and helped us "hit" the "teaching pavement" with focused energy. We each continue to move forward on this path of teaching and learning with a sense of integrity and purpose.
Final Thoughts and Next Steps

Our integrated course planning framework was incredibly helpful in redesigning our course, and we consider it applicable for use at all levels, and across disciplines. We see the framework as meta-cognitive in nature and a synthesis of best practice in curriculum design from both general and special education fields. This design frame is anchored by core beliefs regarding the value of inclusive learning communities, empowering students to be engaged and inquiring learners, and acknowledging teachers as critically thinking professionals. While this type of planning discourse may be more common in K-12 education, college classrooms are becoming more diverse and more challenged to clearly articulate learning goals and outcomes, as well as demonstrate an ability to act on their purported missions (Saltmarsh & Hartley, 2011). We believe this planning tool, and the conversation it represents, is thus highly relevant to teaching in higher education. Within our own university, we initially used the frame with our one course, but since then we’ve used this planning tool for all our courses and we’ve shared it with colleagues. We’ve also incorporated components of the design process it represents into our teacher education program’s lesson plan template.

The greatest impact of this work, however, may prove to be on a programmatic or school-wide level. Since we situated our discussion of this design framework within the context of one course, readers may conceptualize its use at only this micro level of engagement. However, because course big ideas can, and should, come from program-wide agreed upon foci, as do ours in their link to the four anchors of our department’s conceptual framework, this design model offers a department, program, or school, an opportunity to examine the coherence and integrity of its curriculum at large. We are currently experimenting with how to use this framework within our broader teacher education program, as well as within other programs at our university. Within our teacher education program, for example, this planning process challenges us to engage critically with our own department’s mission and its interface with the expectations and standards espoused by national and state accreditation organizations as we reconsider existing programs and plan new ones. Framing our teaching and programs around concepts that have enduring import and relevance empowers our faculty to make mindful and intentional choices about our offerings, including how we address external pressures and standards. Standards, for example, that best reflect our program mission and big ideas become those that merit our closest attention (Reeves, 2000; Voltz, Sims, & Nelson, 2010).

Within our university at large, this process offers a means for integrating and focusing new initiatives. Currently, for example, our university has been working on larger goals related to a collective interest in civic engagement (Saltmarsh & Hartley, 2011). As we define and articulate how we can support such engagement within, and across, student learning experiences at our university, this design frame holds promise in informing the shape and content of such programming. After all, we believe that the extent to which we, as faculty in colleges and universities, can connect our work within the smaller spheres of our courses and our programs to the larger spheres of our communities and our world, will determine the true relevance of our work, as well as that of our institutions. As stated by Ernest Boyer in a commentary regarding higher education nearly two decades ago, “…at a deeper level, I have this growing conviction that what’s also needed is not just more programs, but a larger purpose, a larger sense of mission, a larger clarity of direction in the nation’s life…” (p. 21, 1996). Boyer’s words ring true today, and the work we share here supports the efforts of those of us working for this larger sense of clarity and purpose.

Appendix A: Graphic Representation of Course Planning Process
Appendix B. Course planning template.

Course Planning Template/Worksheet

1. Big Idea(s): (Wiggins and McTighe)
2. EQ(s): (Wiggins and McTighe)
3. In order for students to engage successfully with the inquiry, what is it they need to understand, know and be able to do? (Marzano)

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4. Write the performance assessment. How will students show they understand, know and can do what you have chosen for this semester? How will you evaluate using Big A assessment? (Wiggins and McTighe) How are you allowing for multiple means of expression? (UDL, CAST)

5. What content (parts/times/incidents) must be taught? Give some insight into the understanding? What can be eliminated/simply read and touched upon?

6. What materials will you use? Really important areas must be taught with multiple means of representation and allow for multiple means of expression.

7. What strategies will you use? Strategies should match the goal (declarative or procedural). Strategies should utilize multiple means of engagement.

8. Lesson plans for each class should be student centered and inquiry based.

9. How will you assess student progress through instruction or little “a” assessment?

10. You have already developed your final assessment. Tweak as needed.

Complete this template considering the entire semester, and make sure that when you are done crafting the syllabus, all of the components of the BIG IDEA and the ESSENTIAL QUESTION and the UNDERSTAND, KNOW, DO grid are accomplished. Make adjustments as needed.
References


