

Our Story: The Development of a Framework for Collaborative Course Design

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Preservice teachers must be afforded authentic opportunities to make necessary connections between courses. Integrative pedagogy provides a theoretical lens collaboratively and intentionally aligning courses. The integration of coursework has the potential to eradicate the silos that permeate the skyline of teacher preparation programs. This case study focused on the practices used in the implementation and facilitation of integrative pedagogy to collaboratively redesign two teacher preparation program courses. Findings revealed recommendations and considerations for the development of the Framework for Collaborative Course Design to guide course revisions where preservice teachers make critical connections between theory and practice across courses.

Keywords: course design, integrative pedagogy, course connections, silo

INTRODUCTION

To the young mind everything is individual, stands by itself. By and by, it finds how to join two things and see in them one nature, then three, then a thousand . . . discovering roots running underground whereby contrary and remote things cohere and flower out from one stem.
- Ralph Waldo Emerson

University professors in teacher-prep programs teach their courses in “silos” or isolation. They seldom collaborate around course work with other faculty members to understand how the courses intersect. Thus, preservice teachers often take courses in isolation of one another or as a “collection of courses.” Even though courses are placed in a sequential manner, preservice teachers do not always make the necessary connections from course to course as they advance through their program (Riley & Sakimura, 2018). Therefore, students are unable to navigate the path between theory and practice.

High quality pedagogical content is the bedrock of a teacher preparation program (AACTE, 2018). The pedagogy should be intentionally integrated into educator preparation programs through practical experience which guides the development of clinical practice (NCATE, 2010). Preservice teachers need a repertoire of pedagogical content to plan quality instruction that facilitates student learning. Pedagogical content knowledge includes understanding strategies and other curricular tools that can be used to teach a lesson. Therefore, preservice teachers must be able to design and orchestrate effective instructional

practices (Grossman, P., Schoenfeld, A., & Lee, C., 2005). Additionally, they must possess a deep understanding of the assessment process and its relationship to instruction, as well as use the insights gained through assessment to plan instruction and provide feedback to their students. The assessment process is an integral part of teaching. Therefore, preservice teachers must be given opportunities to both learn the theory and to put it into practice through practical experiences (Shepard, et al, 2005).

Common knowledge, connections to the content across courses, and how interrelated subjects affect each other are often confusing especially when these preservice teachers are attempting to assimilate and synthesize the information for their practice in the classroom. Linda Darling-Hammond (2014) cites “strong relationships, common knowledge, and shared beliefs among school and university-based faculty jointly engaged in transforming teaching, schooling and teacher education” as one of the key features of a program that produces teachers who are “extraordinarily well prepared for their first days in the classroom” (p. 548). Hammerness, et al (2005) submits that preservice teachers must have opportunities to explore the relationship between teacher learning and development and the context of teacher learning. Therefore, one strategy for beginning to build a foundation of common knowledge and shared beliefs is through collaboration among the university faculty.

Integrative Pedagogy: A Theoretical Perspective

Fogarty (1991) posits that educators can support preservice teachers in making connections by integrating curriculum. Thus, integrative pedagogy is not a new strategy (Huber & Hutchings, 2004). Integrative pedagogy is defined as the ability to make connections between concepts, experiences, new learning and old learning such that information and skills can be applied to novel and complex situations (“What is Integrative Learning?” n.d.). It requires intentional approaches on behalf of the faculty to foster the students’ ability to make the connections for themselves (Huber & Hutchings, 2004), to make students more self-aware of their learning, and to ensure they are able to document, connect and reflect on the learning across courses (Huber & Hutchings, 2004).

Educators can utilize integrative pedagogy in course development so that courses and curriculum have meaning and value. Darling-Hammond (2006) posits course work in successful teacher education programs are intentionally designed to intersect with one another to create “an almost seamless experience of learning to teach” (p. 306). Moreover, integrated courses provide a wide range of outcomes for students that include (1) enhanced affective and cognitive abilities; (2) increased understanding from multiple perspectives; (3) opportunities to explore connections across the curriculum; and (4) synthesis of knowledge at higher levels of Bloom’s Taxonomy. Outcomes from the integration of courses and coursework are directly related to skills identified for teaching and learning in the 21st century, most notably making content knowledge and skills more relevant to students’ lives and encouraging the transfer of learning to new situations (Saavedra and Opfer, 2012).

If preservice teachers are going to become high quality educators, it is imperative that they are provided the support to bridge the gap between theory and practice and are afforded opportunities to apply that knowledge in authentic classroom settings. The question then arises, “What is the best way to support the preservice teachers as they integrate their learning across the courses in their program?” In an attempt to understand integration, Leonard (2007) identified application, comparison, understanding content and synthesis as an integrative continuum in terms of cognitive complexity that students experience as they integrate knowledge within their learning experiences. The integrative learning process takes place when practitioners intentionally design the learning environment to include active engagement (Leonard, 2012), better opportunities to make connections among their courses, and a thoughtful approach to learning that they want students to develop (Huber and Hutchings, 2004).

This paper examines the use of integrative pedagogy to intentionally blend the content and course work of two teacher preparation courses to better understand how to support preservice teachers in making critical connections related to their future practice. Through the lens of integrative pedagogy, researchers strategically enculturated preservice teachers on the tenets and connections between instruction and assessment. Emerson’s quote, as stated above, so eloquently portrays the development and progression of the content and ideas that are embedded in the work of teacher education. Facilitation of the connections

between pedagogical content from course to course is imperative to the growth and development of preservice teachers (Darling-Hammond, 2006). The integration of coursework serves to potentially eradicate the silos that permeate the skyline of higher education, and more specifically, teacher preparation programs. Thus, integrative pedagogy affords faculty a strategy to collaboratively and intentionally align courses that provide preservice teachers opportunities for real-world applications of content and opportunities to understand how interrelated subjects affect and impact each other. This project aimed to focus on the use of strategic and intentional integrated course work to enhance preservice teachers' knowledge and understanding of the connections between instruction and assessment by examining the following research questions:

- *What practices and considerations are evident in using integrative pedagogy to engage in collaborative course redesign focused on supporting preservice teachers in making intentional connections between course content?*
- *What are the perceptions of preservice teachers on the use of integrated course work regarding the specific connections they are able to make between instruction and assessment?*

METHODOLOGY

Contextual Background of the Study

The backdrop for this case study was a large urban university in the southeastern area of the United States. The teacher preparation program at this university underwent an enormous transformation resulting in a year-long student teaching residency, stronger partnerships with P-12 stakeholders, and a focus on the alignment of course work. The goal of the program was to “redesign the preparation program to support the close coupling of practice, content, theory and pedagogy” (NCATE, 2010) and to graduate classroom ready teacher candidates. During the second semester of the junior year, preservice teachers within the program take two courses focusing on lesson planning and assessment, and are taught by the researchers. An examination of qualitative formal observation data, as well as discussions with student teaching supervisors and methods faculty, revealed that student teachers were not making critical connections within the instruction and assessment process and continued to struggle with the application of the content in their field placements. The instructors of the courses were puzzled because it appeared preservice teachers were grappling with concepts they had appeared to understand, evidenced by course assignments, in the previous semester. Thus, the researchers felt it necessary to collaboratively redesign their courses in an effort to negate the silo effect of university coursework and to intentionally focus on supporting preservice teachers to make critical connections within the instructional planning and assessment process.

Research Design

This study was a qualitative case study in which researchers strategically utilized integrative pedagogy to redesign two courses in an EC-6 teacher preparation program over the course of three years. During the first phase of the study, the two courses were collaboratively built upon a shared curriculum foundation with common content and blended assignments. Researchers purposely included opportunities for students to apply and compare the content learned in different contexts across the two courses which gave students the chance to understand the content through different perspectives (Leonard, 2007). Researchers specifically gathered data regarding integrative pedagogical practices that were utilized for course redesign, as well as preservice teachers' perceptions of the impact the integrated curriculum had on their emerging knowledge and skills regarding the connections between the two courses. The goal at the heart of the study was to support preservice teachers in making the critical connections targeting the idea that instruction and assessment are inextricably linked and must be intentionally and deliberately developed to facilitate the learning process (Shepard, et al, 2005).

Participants

Purposive sampling was used to select thirty participants for the study who were enrolled in the EC-6 teacher certification program at a large urban university. It was critical that participants had been enrolled in and completed the two courses that had been collaboratively and strategically blended and integrated. Researchers gathered reflection data based on preservice teachers' perspectives within the two courses, then followed the same group of students into the field as they entered their residency year.

Data Collection and Analysis

Qualitative data sources gathered for this study included researcher field notes, assignment reflection questions, course assignments, instructor lesson plans, and two focus group interviews. Researchers kept field notes of their journey regarding the process of using integrative pedagogy to redesign the two courses in an effort to facilitate preservice teachers' understanding of the connections between instruction and assessment. The field notes served as a log of the changes and revisions made to the two courses, as well as the successes, triumphs, and challenges involved in the implementation and facilitation of integrated courses. The assignment reflection questions were used to document connections preservice teachers had made during the time they were enrolled in the two integrated courses. They allowed researchers to gain insight regarding how preservice teachers synthesized and made connections within the content for their future practice. Assignments and instructor lesson plans were used to provide examples and verification of integrated pedagogy between the two courses. Finally, focus groups with the thirty preservice teachers were held to document the knowledge and skills they had gained within the two courses and how they extrapolated and synthesized that information in the residency practice in the field for learners in the Education Preparation Program's (EPP) partner schools. A focus group protocol was used to gather data from the preservice teachers during their residency.

The interviews and the focus group discussions were audiotaped and transcribed. Researchers then examined the transcripts of interviews, focus group, and course documents. Careful attention was paid to the indications of the timing associated with teacher candidates making critical connections between instruction and assessment as well as their ability to enact the crafting and evaluation of instruction and assessment for learners. Low-inference coding was utilized to determine critical data within each transcription and data document. Once the emergent findings were identified based on the coding procedures, they were then collapsed down to major themes. Through analysis of these data, findings were identified and correlated directly with the two research questions guiding the study.

FINDINGS AND DISCUSSION

Research Question 1

The first research question concentrated on the practices and considerations that are evident in using pedagogy to engage in collaborative course redesign focused on supporting preservice teachers in making intentional connections between course content. The field notes documenting instructors' journey through the integration process revealed specific themes regarding practices and considerations that could inform the use of integrative pedagogy. Instructors used the field notes to record challenges and successes they encountered throughout the implementation and facilitation of their work in collaborative course redesign that intentionally focused on supporting preservice teachers in making meaningful connections in their course work, and would ultimately impact their future practice as an educator. The themes from this work appeared to fall into four categories: develop, re-design, enact, and evaluate (See Figure 1).

FIGURE 1
THE FRAMEWORK FOR COLLABORATIVE DESIGN

Develop	Re-Design
<ul style="list-style-type: none"> ● Horizontal and vertical alignment ● Common knowledge and skills 	<ul style="list-style-type: none"> ● Common goals and course objectives ● Common vocabulary, content, and skills ● Intentional connections through coursework and assignments ● Revise through iterative cycles
Enact	Evaluate
<ul style="list-style-type: none"> ● Communication to students must be clear and aligned ● Teach cyclical iterations ● Frequent communication between instructors 	<ul style="list-style-type: none"> ● Aligned integrated course activities ● Aligned integrated assignments

Develop

The “develop” phase was critical to the process regarding the identification of necessary knowledge and skills related to the content of both courses. Instructors collaborated to identify commonalities between the two courses and align course content in consideration of the horizontal alignment of the courses, as well as programmatic vertical alignment. Common topics taught in both courses were identified: classroom norms, long/short term goals, state standards, objectives, and the need for preplanning. After realizing the common topics taught in each course, it was decided that the first two classes of the semester should be co-taught by both instructors from each course (lesson planning and assessment). The instructors identified this opportunity as a collaborative effort to discuss the critical connections between both courses and to further support preservice teachers as they experienced the integrative pedagogy. Other topics were found to be supportive of the content taught in each course. For example, checking understanding within lesson plans and interpreting student assessment results to plan differentiation in small groups.

One instructor noted, *“Discussing the common threads and objectives within our courses helped me to see how the courses could be integrated. We are going to have to be intentional when we start to develop the reflection questions for students. I want them to see how assessment and instruction are related. You just can’t have one without the other.”* They also took into consideration the knowledge and skills the preservice teachers would need to be a quality teacher. Found in the field notes was this comment, *“We had to determine what practices preservice teachers needed to learn to be able to teach. What practices would be considered ‘high-leverage’ and how do we address those within our courses?”*

Redesign

During the re-design phase of the integration process, instructors revised course content through iterative cycles by examining what worked or did not work when integrating courses and content over the course of multiple semesters. Communication was of utmost importance as instructors worked to collaboratively redesign and use integrative pedagogy across the two courses. The instructors’ field notes documented intentional decisions made on the integration of course goals, objectives, content, assignments, and assessments. Instructors collaborated on common goals and course objectives, as well as lexicon, content, and skills. One instructor had written this in the field notes: *“We discovered today that we have been saying the same thing, but using different vocabulary. It is going to be critical that we develop a common lexicon to be used across our courses so as not to confuse students. No wonder students are saying that we don’t say the same thing! This could be a big step towards students making connections.”*

There were several important changes made during the iterative cycles of the redesign that provided intentional pedagogical experiences in an authentic environment. One such change was that of an anchor lesson. One day after collaborating on commonalities between courses, one professor wrote, *“I find it interesting that we both use an anchor lesson to model what we are teaching. We discussed using the same lesson plan from the same objective. Our goal is to use the anchor lesson as we model the application of the skills we are teaching. I’m excited to see if integrating the same anchor lesson into both courses allows more connections to be made.”*

A backwards lesson design assignment was developed to support the vertical alignment with student teaching. The skills from both courses were combined into one assignment that supported the students’ ability to plan and assess the learning activities from the same state standard/objective. Both instructors graded the assignment which included reflection questions requiring students to make the connections between the interrelated subjects. The hope was for students to begin to synthesize the information and to make informed decisions as they link theory to the field in preparation for student teaching the following semester.

One of the last redesigns included in each assignment was students making videos of themselves teaching a part of the assignment. Students not only reflected on their work but also the work of a partner that they collaborated with throughout the whole semester. This intentionally integrated coursework, assignments, and reflections provided an experience that was vertically aligned with content from student teaching.

Enact

During the teaching and enactment of the integrated design, instructors taught cyclical iterations over the course of multiple semesters as they worked to build the two courses that were supportive of the intentional connections students needed to make between instruction and assessment. Communication was once again a critical factor in the collaborative work of course integration and the interdisciplinary study they were pursuing. First, the instructors had to intentionally communicate with one another regarding the integrated course content, as was noted in the following comment. *“I take notes during class so I don’t forget things I want to discuss.”* The notes included comments from students, activities/strategies that worked or didn’t work, and questions about how something was worded. Instructors met each week after class and once assignments were graded to discuss successes and issues for both the students and the instructors. If the gap between theory and practice was going to be closed, the student experience in both courses needed to be continuously discussed and understood. Clearly communicating to students using the same lexicon was a topic that came up several times in the notes which caused the researchers to continuously include this topic in the weekly collaborations. Noted by one instructor, *“We talked today about how class went. We noted that there are still some issues with the vocabulary we are using when we are deconstructing the standards. They all want the correct answer when it comes to deconstructing [the standard], but it can be done multiple ways. It is going to be really important that we get on the same page with this.”*

Evaluate

Finally, once the first iteration was complete, instructors took time to evaluate the integrated course activities and course assignments. Instructors found the collaborative redesign process to be painstakingly iterative. Not only did they need to reflectively collaborate regarding what worked and what did not work from class session to class session but they needed to reflect on how the course went from semester to semester. Further consideration had to be given to how revisions needed to look in order to accomplish the collaborative goals across the two courses. One instructor noted in the field notes, *“Just when we think we have the directions or the questions as clear as they can be, we find that there is another way to think about them and a more clear way to ask the question. It is always ‘back to the drawing board!’”* The second instructor said, *“This work is hard, but it is so worth it. The students are really making some important connections that they have not readily made before!”*

Additionally, the iterative cycles taking place over the period of three years were necessary to reach the goals of supporting students in making the necessary and critical connections between the two courses. Changes made during one semester required a different change the following semester, as one professor included in their notes. *“It’s hard to realize the full effect of changes we make until we teach and see how the students respond.”*

Research Question 2

The second research question focused on the perceptions of preservice teachers regarding the use of integrated course work and the specific connections they were able to make between instruction and assessment. Data gathered from the reflections of preservice teachers overwhelmingly indicated they had been able to make specific critical connections between instruction and assessment. Further, their comments indicated a significant sense of self-efficacy regarding their knowledge and skills around developing and enacting aligned assessment and instruction within their field-based placements. One student wrote the following: *“Instruction and assessment are very much connected. A teacher can use formative assessment during a lesson to check for understanding. Then, the teacher uses summative assessments at the end of lessons to assess mastery. A teacher then uses the results of summative assessment to make adjustments in her teaching strategies or even to reteach the lesson with different instructional strategies.”* Another student made this observation: *“Through the collaboration between the two classes, I became more cognizant of the importance of creating lessons that are consistent with what will be assessed. The objectives are the driving force of the lesson. When objectives are well defined, both teachers and students will be aware of learning expectations. Objectives act as anchors so that when teachers feel they are veering off track of their lesson plans, they can always review their instructional goals to ensure that what they are teaching is in alignment with their assessments.”*

Preservice teachers in the focus groups were asked, “What connections are you noticing between lesson planning and assessment now that you are in the field?” Students overwhelmingly indicated that the experiences gained through the integrated assignments in the two courses contributed to their ability to craft, evaluate, and analyze assessment that is aligned with classroom instruction in their field-based placements. One student commented, *“I knew they went hand in hand, but now it is real!”* Another student noted, *“[Lessons and assessments] have to be very aligned. If the students do not fully understand or master the objective, then you have to reteach. Planning is ongoing and adjustments are made as needed... based on assessments.”*

CONCLUSION AND IMPLICATIONS

The major themes inherent within *The Framework for Collaborative Design*; develop, redesign, enact, and evaluate, were identified from the qualitative data gathered during the integrative process. Initially the instructors collaborated to identify the commonalities and align the course content to begin the integrative pedagogy. As noted by Darling-Hammond (2006), course work must be intentionally designed so as to intersect and create a seamless learning experience. Collaboration among university faculty is essential to begin to build a foundation of common knowledge and shared beliefs (Hammerness, et al, 2005). Thus, woven throughout the iterations of collaborative integrative pedagogy were themes of time and communication. Instructors spent numerous hours discussing, problem solving, analyzing and evaluating to decide what needed to be included in the re-designs. Additionally, the iterative cycles taking place over the period of three years were necessary to reach the goals of supporting students in making the necessary and critical connections between the two courses. Throughout the whole process it was imperative to stay focused on the many details that needed to be continually considered such as, the transformation that was taking place within the educator preparation program, the course goals, activities and assignments, the horizontal alignment of content across courses and the vertical alignment with student teaching. *The Framework for Collaborative Design* provided the spectrum on which to ground and guide the collaboration regarding the use of integrative pedagogy to intentionally provide students the opportunities to make, recognize and evaluate their own connections.

As stated above, this case study was conducted to examine the use of intentional integrated course work to enhance preservice teachers' knowledge and understanding of the connections between instruction and assessment. Findings of the work demonstrate the significance and value of integrative pedagogy in the redesign and development of course work. The results of the study informed researchers in developing *The Framework for Collaborative Design* (Fig. 1) to support breaking the silos that exist in university coursework and academia.

Findings from this work underscore the need for teacher educators to make every effort to engage in integrated coursework such that preservice teachers are able to synthesize knowledge and skills learned to make critical connections from course to course as they advance through their program (Darling-Hammond, 2006). Preservice teachers will then be enabled to develop the self-efficacy to demonstrate their ability to apply theory learned in coursework to their practice in the field. Finally, this innovative, collaborative approach to course design was applied to two courses within a teacher preparation program. Future research could potentially explore how the collaborative, integrative pedagogy might be replicated between other courses and across the program.

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