

**Teaching Studios: combining content and pedagogy in early degree coursework**

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### Introduction/need for innovation or idea

Darling-Hammond and Bransford (2005) describe three areas of knowledge required for effective teaching: Subject area knowledge (SAK) is the specific content in a discipline, pedagogical knowledge (PK) is knowledge of universal teaching and learning principles, and pedagogical content knowledge (PCK) the discipline-specific teaching and learning principles within that specific content area (Roberts & Kitchel, 2010). Integrating these three areas assists the teacher in planning and implementing lesson plans that allow for student learning. Studio-based courses place emphasis on creativity, problem-solving, and communication utilizing coaching and peer critiques to help students hone the technical skills needed for their profession (Green & Bonollo, 2003). They utilize a mixture of pedagogies to provide space for the development of knowledge and practice in applying the knowledge to real-world situations. It requires the students to focus on a cycle of learning, application, reflection, and adaptation to develop the skills to succeed in their technical careers (Green & Bonollo, 2003).

This innovation explores using Studio-based courses with freshmen and sophomores to help students combine SAK with the PCK and PK early in their degree experience. This year, our program has offered two teaching studios; one with integrated SAK and another that provides the PCK while students were simultaneously in the SAK courses. This innovation allows the pre-service teachers to practice combining their new SAK with PCK for their future careers in secondary agricultural education.

### How it works/methodology/program phases/steps

After reviewing student data for the teacher certification area of emphasis for the [university] program, the faculty determined that students need to engage in developing teaching practices and connecting them to the SAK closer to their SAK development. Based on the program of study and the Praxis Ag exam data, two different approaches were identified. The Integrated Studio (IS) was developed to provide SAK in the Forestry & Natural Resource (FNR) system pathways and the basics of two PCK methods to apply together to develop lessons. The Simultaneous Studio (SS) was developed to provide PCK development with the application to the SAK they developed in the Ag, Food, and Business courses of their core curriculum. Both studios will focus on developing Problem-based and Inquiry-based teaching methods, as research has shown they require more time and experience for teachers to implement effectively (Newcomb et al., 2003).

#### Keys for the Integrated Studio:

- 4-hour studio per week for 2 credits. The first 3 weeks focus on how people learn, IBI, and PBL. After the first 3 weeks, the time together will be split into 1 hour of micro-teachings and 3 hours of FNR content.
- Collaboration with SAK faculty is essential. The Co-instructor from Ag Ed focuses on the PCK, and the FNR Co-instructors focus on the SAK and resource exploration. The PCK should focus on demonstrating the IBI and PBL techniques and include additional instruction throughout the course based on the students microteaching. Examples include creating & utilizing rubrics, giving effective directions, etc.
- Utilize the [University] resources and peer faculty to highlight the variety of opportunities. For example, when teaching winter tree ID, visit the [University] arboretum.

- Upon completion of the course, the students will have 10 well-developed lesson plans, which will be combined with their peers to create an FNR Teaching Lesson Portfolio. Students will also utilize interactive notebooks throughout the course to document their SAK development, teaching practice highlights, and weekly reflections.

#### **Keys for the Simultaneous Studio:**

- 2-hour studio/1 credit. Utilizes a PCK faculty. The first 3 weeks are similar to the IS.
- This Studio focuses on collaboration with in-service teachers to help them develop ideas into instructional lessons. A call for topics asked teachers for lessons they have an initial idea for but have not yet developed into a lesson. Teachers request specific SAK focus and their teaching method choice.
- Based on the SAK coursework of the students, they are assigned one of the in-service teacher requests. Students meet with the teacher for the initial idea, then utilize the studio time to develop the introduction, learning activities, and assessments for the teacher. Students work with their instructors and peers to practice and develop their lessons.
- Students then visit the teacher and co-teach the lesson they created in the teacher's classroom. Based on that experience, they make a final version of the lesson, provide it to the teacher, and add it to their own lesson portfolio.

#### **Results to date/implications**

Implementation occurred in the Spring of 2023. To date, the class has been well received, with students indicating they were enjoying the course structure and the chance to start learning about teaching methods early in their degree. Additionally, one senior is taking the course and shared, “This is a great course; I can see how taking it early will help improve how well we understand and can apply some of the concepts that I struggled with last semester in teaching methods and curriculum development classes”. The only change has been that the 3 SAK/1PCK split for the studio time has been more of a 2hr even split than originally planned due to the time for the microteaching activities students have been developing and testing out.

#### **Future plans/advice to others**

Based on the early positive feedback from the pre-service educators in the course, it is the intention of our program to offer a teaching studio every other year, rotating between the IS and SS. The degree, because of the lower credit requirement, our fee structure, and flexible timing, they fit well for both our 4-year students and those who transfer into the program. Data-driven decisions are important to determine the type of studio that meets your program needs. Our decision to use FNR as our IS subject area was based on PRAXIS II scores in Environmental and Natural Resources systems and the secondary course offerings throughout the state. Partnership with peer faculty in the content areas is essential for success; someone with connections, knowledge, and enthusiasm appeals to pre-service teachers. As a teacher educator, when exploring the facilities and content of the included pathway, it is important to help the preservice teacher focus on the total program. For example, when visiting and learning about maple syrup production, it's not just about learning the process for the classroom but also thinking about the SAE implications and opportunities to explore within the FFA world as well.

#### **Costs/resources needed**

The largest cost is the ability to add it to a faculty's teaching load. Only other additional costs related to travel and supplies for learning activities.

### References

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