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Winding up for improved learning in a doctoral research core course: Integrating a spiral approach with scaffolding

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Winding up for improved learning in a doctoral research core course: Integrating a spiral approach with scaffolding

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Franklin University
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Abstract

In a spiral curriculum based on cognitive theory by Jerome Bruner (1960), learners have multiple opportunities to revisit a concept or theme throughout an academic term, accompanied each time with increasing levels of complexity (Johnston, 2012). The spiral curriculum has been shown to produce positive outcomes for student learning, especially when combined with other learning approaches and for subject areas on skill development (Johnston, 2012). This proposal will illustrate how a spiral curriculum, enhanced with multiple scaffolding strategies, help students learn and succeed in a doctoral research core course: MTHD 805 (formerly known as GRAD 805).

Context

In the research core series, MTHD 805, Research Methods and Design, is a fundamental course that teaches learners how to design a research project in different frameworks, including quantitative, qualitative, mixed methods, and action research. For most students in this course, these are new and complex topics. The initial design of the course adopted a basic spiral curriculum model, in which learners were given multiple opportunities to learn and practice the different research approaches. The course was organized along different components of a research plan: research problems, questions, methods, and designs. Students were shifting between quantitative and qualitative approaches during a major part of the course.

The first run of the course, in spite of the overall success as reflected in student grades, revealed a need for reorganization and additional scaffolding in the spiral curriculum, because the students reported being overwhelmed. The course was thus re-organized to allow students to focus on quantitative approach first and then qualitative approach. Also, more instructional materials and exercises were added. The redesign helped students overcome the cognitive load, build a stronger understanding of fundamental concepts in research skills, and ultimately, greater independence in utilizing these skills in designing their own research proposals.

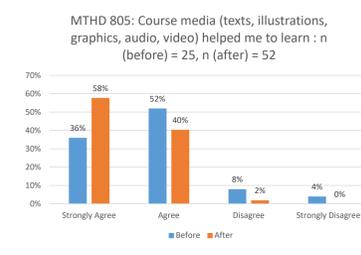
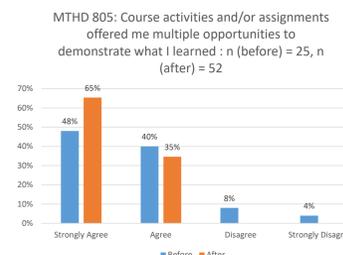
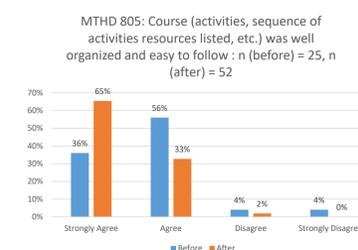
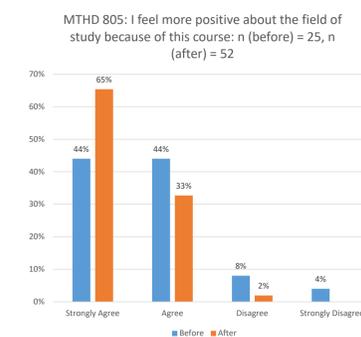
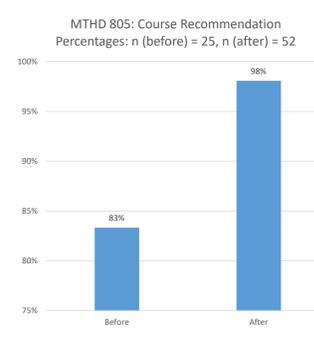
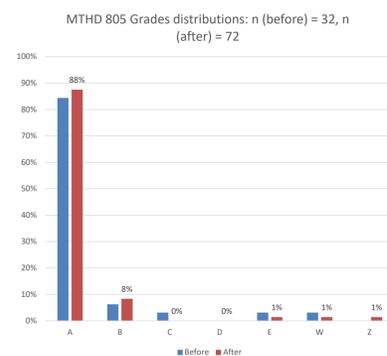
The Spiral Curriculum – Before and After



Before: The course was organized along different components of a research plan: research problems, questions, methods, and design. Students were shifting between quantitative and qualitative approaches.

After: The course was re-organized to allow students to focus on quantitative approach first and then qualitative approach. Additional scaffolding strategies were added to enhance students' understanding of key concepts (e.g., variables).

Data: Course grades and student ratings of course design



What did students say: Reflections & Comments (After the redesign)

- “The structure of your course was absolutely perfect...I felt challenged each week, but never totally overwhelmed by the material or pace.”
- "The progression of the learning modules helped me understand and retain the information. . . . Each week I learned something new and was able to build on my knowledge.“
- "I am beginning to feel confident in my ability to understand . . . scholarly work.“
- “This course is incredibly well designed and formatted. I enjoyed the progression from quantitative and qualitative to mixed-methods”
- The way that this course is structured helped me tremendously. I was able to learn about the different types of studies as well as ways to restructure research plans to fit the various types of studies (qualitative, quantitative, mixed-methods.)

References

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