

Using Provided Guided Notes in Coordinated First-year Mathematics Courses

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Course coordination has been successfully implemented at the mathematics departmental level at various universities (Regier et al., 2024; Jensen-Vallin, 2013; Golnabi et al., 2020; Rahman et al., 2021). Adeyemi et al. (2023) described “Course coordination implies coordination in the design, structure, and teaching of a course to the extent that multiple instructors within a multi-section course have come to a common agreement.” Another path to improving student experience, explored by instructors, has been implementing guided notes in the classrooms. Feudal and Panse (2022) defined guided notes as “a modified version of the instructor’s notes with certain blanks the students have to fill in during the lecture.” The department in which this research study is being conducted has begun to use standardized guided notes as part of the provided curricular materials in course coordination. There has been little studied about the impact of course-wide standardized guided notes, created by someone other than the instructor, in post-secondary mathematics. The research question is: In what ways does the use of standardized guided notes in a coordinated classroom in first-year college mathematics affect student and instructor perceptions, expectations, and actions within their course?

This project focuses on first-year mathematics credit courses which have no prerequisites in which students are required to purchase student workbooks containing guided notes created by a former coordinator of the course. The study takes place at a large, public, research university in the Southern United States. Researchers utilized an inductive mixed methods approach.

To begin understanding the use of the guided notes, course coordinators were asked to provide basic course information to determine the intent of the guided notes and to determine the coordination structure, according to framework established by Couch et al. (2023). Next, the instructors completed an online Instructor Survey which asked about their experience teaching coordinated courses, their plan for using the workbook when teaching, and the survey included a Likert scale on Mathematics Teacher Self Efficacy, modified from Zuya et al. (2016). The instructors also participated in a focus group interview to provide qualitative context to their survey responses. Students enrolled in the course were asked to participate in a survey which included a Likert scale of student perception of guided notes (influenced by Feudal and Panse, 2022). Researchers observed a class meeting of two sections of the course, conducted by different instructors, covering the same topic of Systems of Linear Equations. A classroom observation rubric modified from Mustafa et al. (2014) was utilized to record instructor actions and the use of the workbook as well as student engagement. During the last five minutes of class, the researchers took pictures of student notes to determine the types of information recorded by students (Fukawa-Connelly et al., 2017).

Researchers piloted the study in Spring 2025, with the course sections of College Algebra for Economics and Business. The poster will feature preliminary results from the pilot study, highlighting instructor and student perspectives on guided notes. In Fall 2025, the researchers will expand the study to include two additional large multi-section first-year mathematics credit courses (Contemporary Mathematics and College Algebra). As the study is expanded to cover multiple courses, the researchers are also interested to learn how other universities utilize guided notes or student workbooks in their first-year mathematics courses.

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