



Teaching Retail Math to Generation Z: A Student-Centered Approach to Retail Math

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Introduction. Retail math, or retail planning and buying, has been a key course in the Fashion Merchandising and Apparel undergraduate curriculum for at least 30 years (Garner & Buckley, 1988; Flynn & Sandberg, 1993), yet there is limited research on best practices for teaching retail math to students. The traditional approach in retail math courses uses the teacher-centered model, consisting of lectures and a supplemental textbook (Greene & Kirpalani, 2013). The first documented approach to teaching retail math from a student-centered perspective replaced the textbook with smart boards meant to provide students with more opportunities for independent learning. Smartboards allowed instructors to create templates for math problems which students could work through during class, and also easily download afterward (Greene and Kirpalani, 2013). As the fashion industry and technology becomes more complex, students and instructors need flexible but practical approaches to teaching retail buying. Current students are in a transitional phase from Millennials to Generation Z, which also creates a need to reevaluate the course delivery (Dominick, 2019). Previous instructors demonstrate a variety of approaches to this task. Arrington (2015) used a simulation technique to replicate the fashion environment for students. While Greene and Kirpalani (2013) focused on knowledge transfer, Arrington's (2015) multi-step approach to retail math provided students with a competitive edge and advanced knowledge for the job market. More recently, instructors also tried a flipped classroom approach with team-based learning (Oh, 2016) where students accessed course content prior to meeting in class (Dorie, Hurst, & Loranger, 2017). This paper describes an approach to retail math designed by an industry professional with over 10 years of experience in brand management.

Research Questions. The changes in the retail math course were driven by the following research questions: 1) Does the method of delivery in a retail math course influence student learning?

2) What are the long term benefits, if any, of an application assignment in a retail math course?

Methods. Before changing the course plan, the authors had been teaching assistants and instructor of record for their respective courses. These teaching experiences, along with the first author's industry background, defined the new approach to retail math. In the first semester, declining quiz and test scores demonstrated that students were not retaining the concepts from one chapter to the next, leaving them ill-prepared for the course final. This sentiment was also reflected by the students at the end of course evaluations and the average course grades. To make

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the content more in line with industry standards, the retail planning and buying project was created in the following semester. This provided the students with an application element to help with long-term retention and comprehension of retail math concepts.

The retail math assignment was designed to incorporate teamwork, analytical skills, critical thinking, and problem-solving into one group project. After completing the assignment, students should 1) understand the dynamics of store retail planning and buying strategies 2) take ownership of their role in the buying process. To fulfill these learning objectives, students were divided into groups with 4-5 members acting as assistant buyers for a chosen retail store specializing in men and womenswear. The majority of the course retained the teacher-centered model with lectures, in-class Excel examples, and quizzes but the retail planning and buying project replaced the course final and provided students with a semester-long application element. Throughout the semester, students turned in one aspect of the project in the form of three preliminary reports: the company background, a 6-month budget and seasonal assortment plan, and an overall justification. The project culminated in a final report and presentation due at the end of the semester.

Findings and Discussion. The retail buying assignment provided multiple benefits to students. First, student understanding of retail math concepts such as margins and basic cost changes increased. The firsthand experience of creating their own seasonal plan allowed them to take ownership of the terms and relate it to their experience as a buyer. Quiz grades also increased, but the authors note that the quizzes were used to gauge the understanding of basic retail buying concepts. At times, quiz content overlapped with the retail buying assignment but this was rare. Second, because students familiarity with Excel varied, the Excel assignments became optional. However, for the last two in-class Excel assignments, all students were required to attend class to learn the calculations for a 6-month merchandise plan. Students with previous Excel experience were able to apply new formulas in an industry-specific example.

In addition, completion of the assignment provided students with an example for their portfolios when on the job market. Multiple students used the completed assignment as a sample of their merchandise planning knowledge. Furthermore, students were able to apply their knowledge to merchandising careers outside of the apparel industry. Regardless of the industry, the transferable skills obtained through the group project allowed former students to obtain positions as merchandise analysts and buyers within home and furniture companies.

Conclusion. The changes in this course resulted in a higher level of student satisfaction with retail math. Students found the project useful for their job interviews, but they also understood

the relationship between the different courses in the Fashion Merchandising major. Greater understanding of retail math concepts allowed students to see the knowledge they gained throughout the major as a holistic and analytical approach to retail planning and buying.

Limitations. Lastly, the authors recognize the limitations of this study, specifically that the results are limited to 1 semester of testing despite the 4 semesters of course experience shared between the authors. Thus, this approach to a retail planning and buying course would benefit from multiple semesters of testing. Also, the course size was less than 30 students which helped to facilitate the group project. The assignment may not be feasible for a large lecture class with more than 50 students.

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