

Real Estate News Reports as Informal Learning Tools: A Mixed Methods Case Study on Student Responses

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EXECUTIVE SUMMARY

This chapter uses a mixed methods case study research design to systematically investigate the advantages of using real estate news reports as an informal learning tool among university students. It focuses on students' grasp of central tendency concepts and their connection to other descriptive statistics topics in K-12 education. Thirty-three university students completed a questionnaire to measure their self-efficacy in statistics and engaged in classroom group discussions to distinguish different measures of central tendency. The quantitative survey data revealed that university students expressed limited confidence in two statistical tasks associated with the measures of central tendency: the ability to identify the skewness of distribution and the ability to discern relevant information. Meanwhile, the qualitative data explored the benefits of informal learning through modified real estate news reports from actual sources in daily life. Implications for promoting similar informal learning in K-12 classrooms are discussed.

CASE DESCRIPTION

Introduction

Students frequently encounter difficulties comprehending the concept of central tendency measures, primarily due to misconceptions or a procedural instructional approach to problem solving involving memorizing formulas without a deep understanding of the underlying principles (Fernández et al., 2020; Groth & Bergner, 2006). Consequently, these misconceptions persist among university students, carried over from their past learning experiences in K-12 education (Capraco & Capraco, 2005), thus impeding their confidence in acquiring knowledge and understanding measures of central tendency in higher education. However, informal educational contexts can greatly enhance university students' interest in learning statistics despite their limited self-confidence and unfavorable attitudes (Maiorca et al., 2021). By providing real-life contexts and practical applications for statistical concepts, informal learning can complement formal scientific education, enabling students to recognize the relevance and practicality of science in their everyday lives, ultimately leading to increased motivation and interest in the subject matter.

This research study was conducted in a university classroom for an introductory statistics course in the Midwestern region. The purpose of this study is to evaluate the impact of informal learning experiences, which involved using modified real estate news reports from actual news sources to enhance the informal learning experiences of university students with the concept of descriptive statistics, focusing on the measures of central tendency (i.e., mean, mode, and median) to relate with statistics literacy in daily life. A mixed methods case study design was used, where qualitative and quantitative data were collected and analyzed concurrently to support the investigation of informal learning experiences. The reason for using both forms of data is to develop an in-depth understanding of the two case studies and to make a comparison. This chapter employed quantitative approaches to explore how often students lacked confidence in learning central tendency concepts and establish generalizable empirical connections among various self-efficacy items. Furthermore, qualitative approaches are employed to address how and why informal learning through modification of actual real estate news reports in real life has great advantages for students with low self-efficacy to learn statistics. By supporting the findings with multiple forms of evidence through a mixed methods design from two case studies (i.e., afternoon and evening class sessions), this study enhances validity compared to single-method approaches, showcasing the comparative advantages of these two paradigms (Creswell, 2014).

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