

Walden University

COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Ruth A. Best

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Elina Lampert-Shepel, Committee Chairperson, Education Faculty

Dr. Karine Clay, Committee Member, Education Faculty

Dr. Maureen Ellis, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2016

Abstract

An Online Statistics Course From Faculty and Students' Perspectives: A Case Study

by

Ruth Angela Best

MS, City College of New York, 2004

MBA, Pace University, 1999

BS, Concordia College, 1993

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Teacher Leadership

Walden University

April 2016

Abstract

Faculty at a private college in the northeastern United States found students lacked prerequisite mathematical skills and were unable to transfer quantitative reasoning skills to upper level business courses. Guided by Mezirow's transformative learning theory and Knowles' approach to self-directed learning, this study examined how undergraduate students learn statistics online. The purpose of this qualitative embedded case study was to examine faculty and students' perspectives about the online statistics course design and delivery while exploring possible barriers to students' learning. Data collection occurred by review of course documents and the learning management system. Archival data generated questions for semistructured interviews with 2 faculty and 4 students. Thematic analysis of data followed the inductive and interpretive approach to identify categories and 5 themes: measuring and assessing student learning, challenges learning statistics online, student readiness and preparation, online faculty roles, and recommendations for improving online statistics courses. Findings identified technical and affective barriers to learning statistics online and the need to create supportive learning environments fostering differentiated instruction, mastery learning, and complying with the Guidelines for Assessment and Instruction in Statistics Education. The resulting project was 5 professional development webinars designed to assist faculty creating student-centered online statistics courses focused on conceptual understanding. This study contributes to positive social change through implementation of course design leading to student access and online content mastery.