

A DESIGN-BASED RESEARCH APPROACH TO THE IMPLEMENTATION AND
EXAMINATION OF A COGNITIVE FLEXIBILITY HYPERTEXT IN
A LARGE UNDERGRADUATE COURSE

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ABSTRACT

The overall purpose of this longitudinal study was to investigate the interaction between the learning process and the design-based process by using a cognitive flexibility hypertext (CFH) implemented in a large undergraduate course as the object of research. The first major focus was on the impact the integration of a CFH had on students' learning. A second major focus was on the structure of the Design-Based Research (DBR) process and its impact on the design and implementation of the CFH.

From a learning perspective this study found consistent significant increase of students' performance outcome mean scores when the cognitive flexibility hypertext was part of the instructional process. The analysis of students' conceptual understanding revealed potential areas of improvements of the design used for this study. For example students' tendency to rely on textual cues when conducting their biblical criticism analysis seems to be one of the factors that negatively influenced the quality of their conceptual structures. The design of explicit scaffolds building on conceptual networks developed by the experts may improve the quality of students' conceptual structures.

While the research and design findings reported for the two consecutive years represent in and of themselves significant contributions to the field of Design-Based Research, the researcher's reflective analysis found a theoretical link between the Design-Based Research process and the model of Research as Expansive Developmental Research as proposed by Activity Theory, to be explored in future research.