

INTISARI

Penelitian ini menginvestigasi pengaruh media dan materi pembelajaran sebagai desain instruksional terhadap hasil belajar individu. Penelitian ini mendasarkan pada *cognitive load theory*, bahwa desain instruksional yang efektif dapat menurunkan *cognitive load* individu sehingga kinerja pembelajaran tinggi. Secara spesifik penelitian ini mengembangkan *cognitive load theory* dengan pengujian perbandingan antara media *virtual reality* dan media audio-visual terhadap hasil belajar individu dalam konteks pengembangan materi persamaan akuntansi.

Penelitian ini menggunakan metoda eksperimen dengan desain faktorial 2x2 antarsubjek yang melibatkan 173 partisipan. Data dianalisis menggunakan *Analysis of Variance*. Penelitian ini menunjukkan bukti bahwa media dan materi pembelajaran berpengaruh terhadap hasil belajar individu. Hasil belajar individu lebih tinggi ketika mendapatkan media *virtual reality* dibandingkan dengan media audio-visual. Lebih dari itu hasil belajar individu juga lebih tinggi ketika mendapatkan materi pembelajaran persamaan akuntansi nontradisional dibandingkan materi pembelajaran persamaan akuntansi tradisional. Berdasarkan penjelasan *cognitive load theory*, *cognitive load* individu yang mendapatkan paparan dengan media *virtual reality* lebih rendah dibandingkan dengan media audio-visual. Hal ini dikarenakan keleluasaan dan variasi penggunaan media dalam *virtual reality* lebih mengakomodasi berbagai gaya pembelajaran individu. Selain itu penelitian ini juga menjelaskan bahwa materi pembelajaran yang dikuasai pada jenjang sebelumnya berpengaruh terhadap proses pembelajaran selanjutnya berdasarkan prinsip *the borrowing and reorganizing* dalam *cognitive load theory*. Hal ini ditunjukkan dengan hasil belajar individu lebih tinggi ketika mendapat materi pembelajaran persamaan akuntansi nontradisional dibandingkan materi pembelajaran persamaan akuntansi tradisional karena materi tersebut mencakup pengetahuan yang dimiliki oleh individu sebelumnya yaitu matematika.

Penelitian ini juga menunjukkan bahwa hasil belajar individu lebih tinggi ketika mendapatkan media *virtual reality* dan materi pembelajaran persamaan akuntansi nontradisional dibandingkan dengan media audio-visual dan materi pembelajaran persamaan akuntansi tradisional. Hasil ini mengkonfirmasi *cognitive load theory* bahwa *cognitive load* individu paling rendah pada saat menerima paparan media *virtual reality* dan materi pembelajaran persamaan akuntansi nontradisional dan kinerja pembelajaran paling tinggi pada kondisi tersebut. Hasil penelitian ini memberikan kontribusi pentingnya penggunaan teknologi *virtual reality* dalam pembelajaran akuntansi dan penyusunan materi pembelajaran yang efektif.

Kata kunci: *cognitive load theory*, *cognitive load*, *virtual reality*, *audio-visual*, *the borrowing and reorganizing*.

ABSTRACT

This study investigates the impact of media and learning materials as instructional designs on individual learning outcomes. This study is based on cognitive load theory, that effective instructional design can reduce individual cognitive load so that the learning process runs effectively. Specifically, this study develops cognitive load theory by testing the comparison between virtual reality media and audio-visual media on individual learning outcomes in the context of developing accounting equation material.

An experimental method with a 2x2 factorial design between subjects involving 173 participants this study was employed. The data were analysed using Analysis of Variance. This study demonstrated evidence that media and learning materials had a significant effect on individual learning outcomes. It turned out that individual learning outcomes were higher when students used virtual reality media compared to audio-visual one. Moreover, individual learning outcomes were also higher when the students obtained innovative accounting equation learning materials on VR compared to traditional one. Based on the explanation of cognitive load theory, the cognitive load of individuals who were exposed to virtual reality media was lower than those who were exposed audio-visual media only. This was because the flexibility and variety of media use in virtual reality was more accommodating to various individual learning styles. In addition, this study also explained that the learning material mastered at the previous level affected the subsequent learning process based on the borrowing and reorganizing principle in cognitive load theory. This was indicated by the higher individual learning outcomes when receiving innovative accounting equation learning materials on VR compared to the traditional one. As for the material required previous individuals' knowledge, namely mathematics.

The findings demonstrated that individual learning outcomes were higher when receiving virtual reality media and innovative accounting equation learning materials compared to audio-visual media and traditional accounting equation learning materials. Therefore, these findings confirm that the individual's cognitive load is low when exposed to virtual reality media and innovative accounting equation learning materials and the learning performance is high in these conditions. The findings of this study contribute to the importance of using virtual reality technology in learning accounting and preparing effective learning materials.

Keywords: cognitive load theory, cognitive load, virtual reality, audio-visual, the borrowing and reorganizing.