

# Effects of Multimedia Learning on Retention of Financial Credit Information



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## Purpose of Study

- ❖ To determine which form of multimedia technology would result in greater retention of financial credit information

## Objective

- ❖ To design and test videos using a cognitive theory of multimedia-learning
  - Effective multimedia learning design has three important components
    - Words with pictures
    - Words and pictures should be simultaneous
    - Words should be presented as narration rather than on-screen text (Mayer & Moreno, 2002). **Dual-Mode Processing**

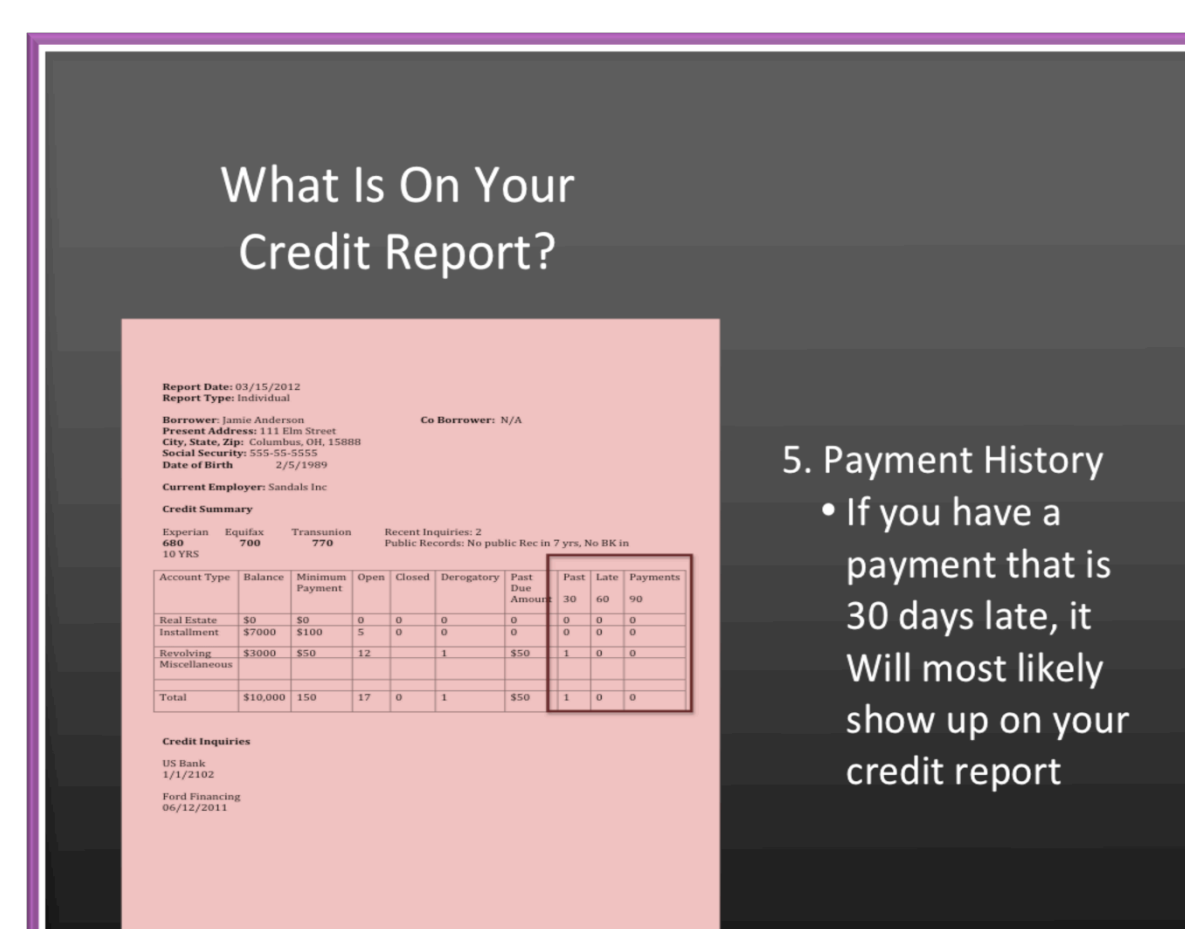
## Design of Study

**Hypothesis:** Participants who view an iMovie® with narration, pictures, and signaling text would have better retention of financial credit information than participants who view a PowerPoint video with text only and a PowerPoint video with text and pictures.

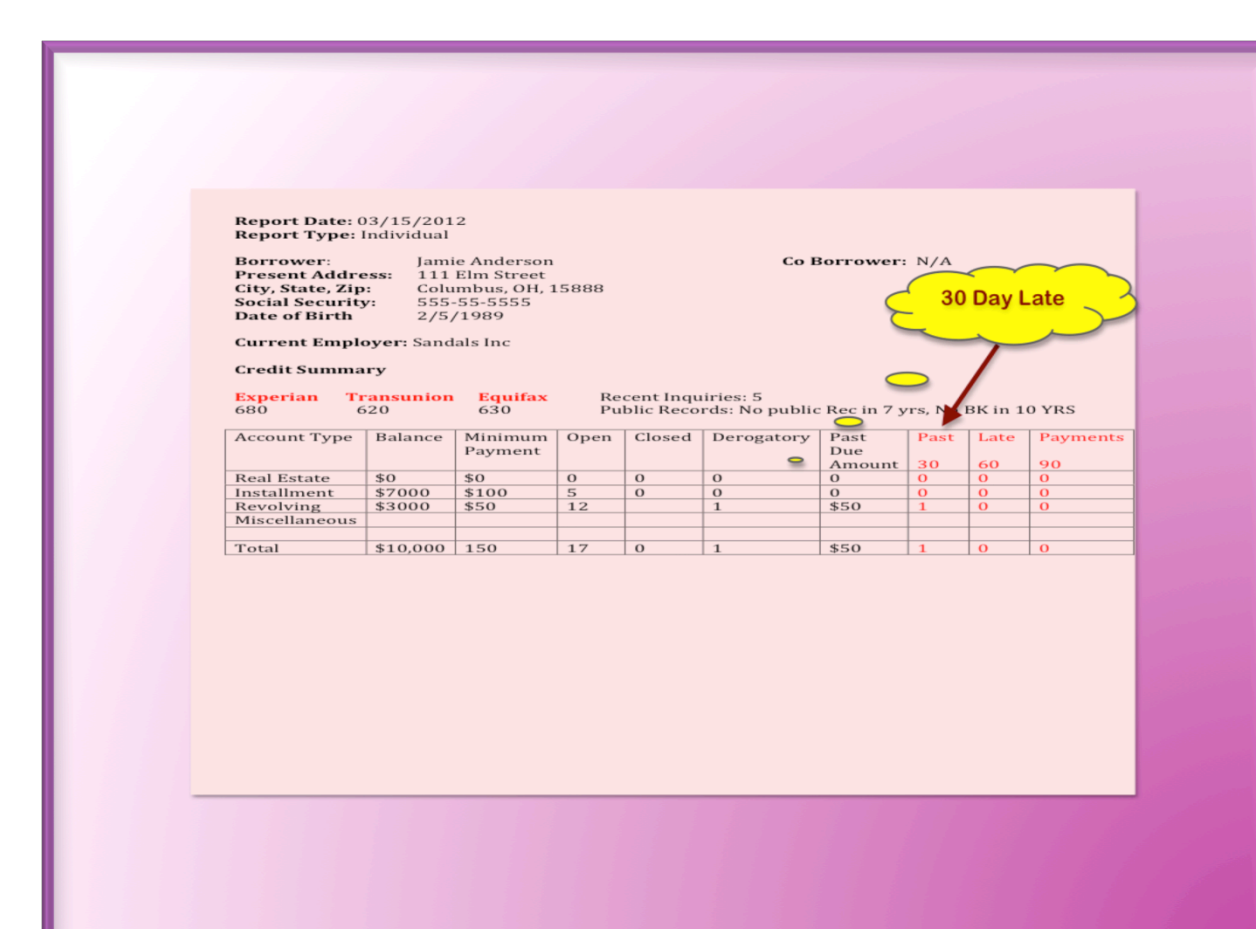
- ❖ We combined dual coding theory, cognitive load theory, and multimedia learning to create an iMovie® on financial credit.
- ❖ We compared the multimedia video to two other PowerPoint videos.
- ❖ 96 students from 18 different majors were randomly assigned to the three different stimuli.
- ❖ Participants answered demographic questions, watched one of the videos, and answered a 12-question quiz on the video.
- ❖ Our survey was conducted on Qualtrics.



Text Only PowerPoint Converted to a Video  
(Neither sound nor pictures)

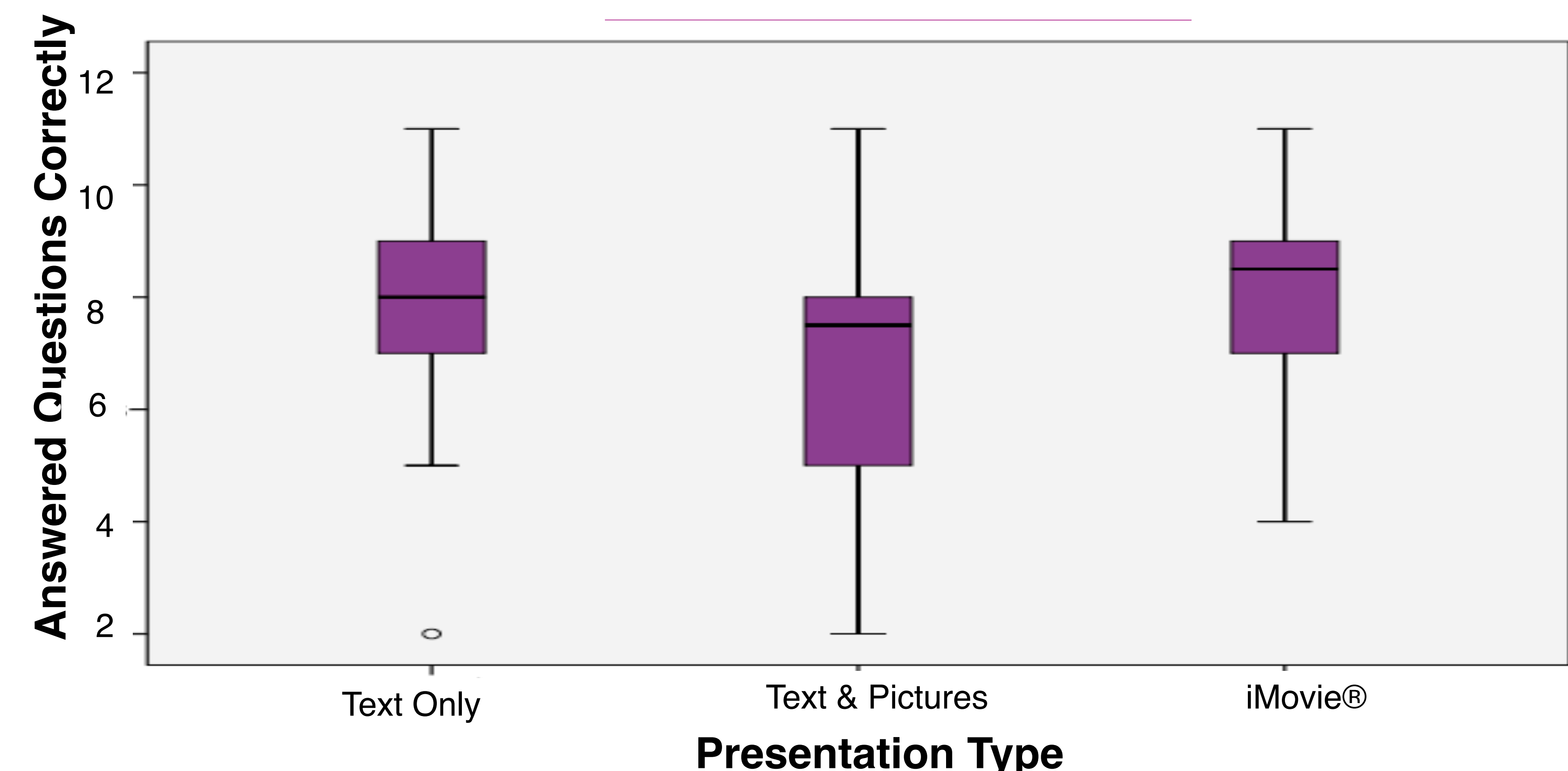


Text and Pictures PowerPoint Converted to a Video



iMovie® with Audio Narration and Pictures

## Results



❖ Text Only ( $M = 7.57$ ); Text & Pictures ( $M = 6.94$ ); iMovie® ( $M = 8.12$ )

❖ One-way ANOVA:  $F(2, 93) = 2.88, p = .061$

❖ Text/Pictures and iMovie®:  $p < .05$  — Text Only and iMovie®:  $p = .515$

## Limitations

- ❖ There is a lack of research that compares a single mode delivery of text only against other modes of delivery.
- ❖ The background music and special effects in the iMovie® may have resulted in interference or cognitive overload.
- ❖ We were unable to monitor our participants watching the tutorials because they were not in a controlled environment.

## Conclusion

- ❖ Our results demonstrated that the multimedia video with dual mode (visual and audio) processing did result in *significantly* greater retention of financial credit information than the PowerPoint video with text/pictures.
- ❖ The lower mean in the text/ picture group resembles other research.
- ❖ Exposure to two visual stimulants (text and pictures) can result in a modality effect and decrease retention of information.
- ❖ Reading information may be just as effective as watching a movie about it.

## Extra Tidbits About Students' Current Financial Situation....

38% Never Balance Their Check Book  
53% Have At Least One Credit Card  
41% Have A Credit Card Balance of < \$1,000  
15% Have Bounced A Check

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