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LIFESPAN DEVELOPMENT
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SCIENCES

INTRINSIC ADVANCE PRIMERS: AN INVESTIGATION OF THE EFFECTS OF
PERSONALIZED EXTRANEIOUS MULTIMEDIA UPON INTRINSIC INTEREST
AND STUDENT ACHIEVEMENT (203 pp.)

Director of Dissertation: Drew Tiene, Ph.D.

The purpose of this study was to investigate if the delivery of personalized extraneous multimedia (PEM) messages prior to the delivery of the primary instructional materials could prime intrinsic interest and have a positive impact upon achievement in comparison to the use of non-personalized extraneous multimedia (NPEM). Extraneous materials are information that is related to instructional materials, considered interesting and enjoyable, but unnecessary to achieve the primary instructional objectives. Intrinsic interest in a new or unfamiliar subject may be primed by building connections between instructional materials and information that is both stored in long-term memory and deemed interesting by an individual

A between subjects research design was used in this study. Undergraduate students (N = 105) were placed into one of three treatment groups using simple random sampling. Experimental treatments included the presentation of: (a) PEM; (b) NPEM; and (c) the absence of multimedia. All treatment groups were given the same instructional materials on the topic of ergonomics. Intrinsic interest levels were measured using a five-point Likert scale inventory. Achievement measures included: (a) reading comprehension; (b) retention of information; and (c) problem solving transfer of information.

The use of PEM maintained student interest levels in comparison to the control group; NPEM resulted in significantly lower levels of interest, $F(2, 102) = 10.561, p < .001$. The observed effect size was 0.172. No significant differences were identified between treatment groups for reading comprehension scores ($F[2, 102] = 1.685, p = .191$), retention scores ($F[2, 102] = .810, p = .448$), and problem solving transfer test scores ($F[2, 102] = 1.663, p = .195$).

The results of this study have shown that there are significant differences between using personalized and non-personalized multimedia upon student interest levels. Providing students with a variety of multimedia topics may reduce negative effects that generic multimedia may have upon interest levels. The effectiveness of instructional multimedia may be measured by achievement tests but the perceived effectiveness of the multimedia is interpreted by how well an individual is engaged with the content on a personal level.