

POSTER TYPE: Theme Poster – “Advancing Psychological Science through Technology”

POSTER TITLE: COMPUTER-BASED LEARNING ENVIRONMENTS IN ORGANIZATIONAL TRAINING: IMPACT OF LEARNING ENVIRONMENT AND PERSONALITY

SUBJECT AREA: Organizational Training

KEYWORD: Organizational Training, Personality, Learning, Computer-Based Instruction

ABSTRACT (50 word maximum): The purpose of this study was to investigate the potential effects of technology and personality on training using a computer based learning environment designed to improve learning through technology-delivered instruction. The study provides a basis for considering personality characteristics when designing computer-based training interventions in organizational settings.

SUPPORTING SUMMARY (500 word maximum, plain-text format):

***This study was part of a larger study on the effectiveness of MetaTutor; some of these data may have been previously published/presented.

There is a growing utilization of technology-based training in the workplace. The 2012 State of the Industry Report published by the American Society for Training and Development (ASTD) revealed that U.S. organizations spent approximately \$156.2 billion on employee learning in 2011. The report also revealed that in the average organization, technology-based training methods accounted for 37.3 percent of all formal training hours across all learning methods.

Training methods and training settings have been studied in an to examine how learning is achieved (Colquitt, LePine &Noe, 2000). Research showed that some trainees learn more than others even if methods are held constant (Tannenbaum & Yukl, 1992), thus introducing a potential effect that individual differences may have on that relationship. This finding also led to further research and meta-analytic evidence that the Big Five are predictors of training criteria, suggesting the importance of including personality in training research.

The present study examined the potential effects of technology and personality on training through the use of a computer based learning environment designed to assist learners in achieving their learning goals through technology-delivered instruction. In order to build a foundation for the current study’s hypotheses, a review of major research pertaining to learning and personality will first be presented. An in depth analysis of the role of technology in learning and its application in organizational training will follow. This review will provide the rationale for incorporating findings from different research domains.

The current study is part of a larger study on the effectiveness of MetaTutor, a multiagent intelligent hypermedia-based learning environment (Azevedo et al., 2009, 2010, 2012, 2013). The study used MetaTutor in order to examine the amount of learning that takes place when using computers. Personality characteristics were also taken into consideration in order to examine whether certain types of learners learn more using advanced learning systems. Two learning conditions served as the basis for the current study; an experimental condition where participants interacted with an adaptive hypermedia environment that scaffolds learners in the use of various self-regulated learning processes

through the help of animated pedagogical agents, and a control condition where participants interacted with a non-adaptive version of the hypermedia environment.

Data were collected from a sample of undergraduate students ($N = 98$), recruited from three universities (two in the US and one in Canada), who participated in both experimental days. Condition had no effect on learning outcomes, while Conscientiousness was found to be significantly correlated with academic performance. In further analyzing the relationship between personality and learning outcomes across time using a latent growth curve model results showed non-significant conclusions for the direction of the relationship for each of the Big Five. Discussion of the results and implications for practice and future research will be provided. In conclusion, this study provides a basis for considering personality characteristics when designing computer-based training interventions in organizational settings.

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