Preservice Teachers’ Meaningful Understanding of Constructivist Instruction: 

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Abstract: This study will present a quantitative model to explain preservice teachers’ meaningful understanding of constructivist approaches to instruction when using social interaction strategies and web-based communication processes.

Introduction

During the last decade, a major trend in teacher education programs has been to focus on constructivist learning theory and its application in reforming the practice of teaching and students’ acquisition of knowledge. The trend is supported by research that demonstrates the effectiveness of including constructivist in the classrooms with the purpose of promoting learning for all-students (Barron, Schwartz, Vye, Moore, Petrosino, Zech, Bransford, 1998; Johnson, Johnson, & Holubec, 1994; Carlin & Ciaccio, 1997; Emmer & Gerwels, 2002; Deeds & Allen, 2000; Vaughan, 2002). Teaching formal theory (i.e. constructivism) is not sufficient to encourage preservice teachers to connect their beliefs and informal theories with formal theories and integrate them into classroom practice (Stuart & Thurlow, 2000). There is a need in teaching education for preservie teachers to gain knowledge on constructivist pedagogy in a meaningful manner to understand the relationship between theory and classroom practice so they can “adjust their “internal thinking” in order to construct new meaning” (Szabo, Scott and Yellin, 2002). Meaningful learning results when the learner consciously and explicitly ties new information to relevant concepts or propositions they already possess and providing evidence that the individual has been able to internalize a new stimulus that reflects the ability to apply new knowledge to other situations. Meaningful understanding of constructivism requires preservice teachers to develop an integrated knowledge base about how students learn in a situated learning field-based experience carefully combined with university course experiences to provide coordinated opportunities for preservice teachers to learn new ideas and practices (Putman and Borko, 2000). The movement toward integration requires preservice teachers to learn “reflective practice” and construct new meaning from new situations. Reflection and construction are two key factors associated with effective teaching and requires effective social interaction and efficient web-based communication processes with peers, field mentors and university instructors.

This study will present the social interaction strategies and the web-based communication processes used in a preservice education methods course when teaching a unit about constructivist approaches to instruction. The course design included reading texts about constructivist instruction and social interaction to promote learning. Multiple choice tests where used to measure conceptual understanding and included pre-service teachers developing and scoring hierarchical computer concept maps from their reading texts. A field-based log-observation reflection form (adapted from Szabo et al, 2002) allowed to measure preservice teacher discourse about theory and practice of constructivist instruction. A regression analysis modeled log-observation data with six pre-determined predictors: reading/writing entering scores, constructivist concept map score, social interaction concept map score, multiple choice tests scores, web-based discussion board interactions and benchmark competency score.

References


