

Chapter 47

The Impact Upon Comprehension and Reading Tasks of Preservice Elementary Teachers Using a Web 2.0 Reading Extension

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ABSTRACT

This study explored the impact of using a Web 2.0 technology to augment and enhance the efficiency of face-to-face meetings and the amount and quality of time students spent out of class working with a reading assignment in an undergraduate science methods course. Treatment subjects (versus control subjects) used a discussion board style site called TitanPad® to respond to a journal prompt after reading an article and before attending a subsequent class to discuss the journal article. Results indicated that significantly more treatment students read the article and perceived that they more substantially contributed to a follow-up discussion. Results also indicated no significant differences between groups in the amount of time spent, between perceptions of being ready to discuss the reading material, and the groups' comprehension of the reading material. One inference was that with no additional time investment, instructors might increase student in-class participation using a Web 2.0 tool.

INTRODUCTION

At the researchers' university several online exercises have recently been incorporated into a science methods course for preservice, elementary school teachers. Preservice elementary school teachers are university students that are completing a program leading to an initial teaching license. Early efforts incorporated video of *in-situ* elementary classroom scenarios, participation in discussion boards, and website reviews connected with elementary activities for teaching science. During these initial efforts students were surveyed and expressed a desire for more online learning as part of their teacher preparation. Table 1 displays three statements from the larger survey that revealed this desire.

To meet this demand, and an expressed desire from local school districts, to help emerging teachers be better prepared in teaching with Web technologies, such as Web 2.0 tools, several exercises were incorporated into the students' science methods course. Web 2.0 environments and tools are ones in which users create information and interact with other users on the Web. This distinction is vastly different from Web 1.0 environments where users only read information on the Web. Preservice teachers' preexisting knowledge in Web activity and digital literacy were considered before redesigning the curriculum into a more digitally centered one. Such considerations are vital when considering how to infuse technology into the pedagogical and content related experiences of preservice teachers (Mishra & Koehler, 2006). Like many of today's college students, preservice teachers spend a great deal of time online while matriculating. Rideout, Foehr, and Roberts (2010) report that adolescents spend a total of 7 hours and 38 minutes engaged in using Web activity and entertainment media per day. Their connection to technology is reinforced from a personal one to a professional one when they begin entering K-12 classrooms as preservice teachers during their field experiences. When doing so, they observe first-hand the need to utilize technology and the Web, including Web 2.0 tools, in their future teaching. Based on their personal and emerging professional experiences, preservice teachers are receptive to university courses that are engaging through the utilization of Web activities and Web 2.0 tools. Course redesign experiences were purposefully incorporated using Web 2.0 tools as a way to help bridge what students have experienced on the Web, what they want in their courses, and what they need as future teachers. The salient question is, "Are these Web 2.0 tools effective in teaching and enhancing learning in a science methods course?"

The purposes of this study were to investigate if using a Web 2.0 tool would lead to an increase in the:

- A. The quality and quantity of time spent reading an out of class reading assignment,
- B. Student perception about interacting with the reading assignment during an in-class activity, and
- C. The comprehension of the course material.

Table 1. Mean score for each question about online learning from senior year elementary preservice teachers (N=48)

Survey Question	Mean Score* N = 48
Overall, I would prefer more online learning as part of my traditional methods courses.	3.7
Overall, I would prefer more online learning in place of my university courses.	3.8
Overall, I would prefer more online learning in place of my traditional methods courses.	3.0

*1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree

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