Global Education Via the Web: The GlobalEd project

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Abstract
GlobalEd is a interactive simulation project designed for middle and high school students in the northeastern USA. The simulation is embedded within an academic course and lasts for approximately six weeks during which teams of 12-15 classes engage in international negotiations across the Internet. Classes are assigned a country for the period of the simulation approximately two months before the simulation begins. During the simulation, each class acts “in character” of the country they are assigned. Negotiations are made across the web during scheduled weekly conferences but are also open to negotiation during non-scheduled e-mail contact. The goal of the class is to develop a treaty with another country. As part of the simulation, students and teachers complete a set of instruments designed to assess changes in their knowledge, attitudes and behaviors related to the simulations, problem solving, decision making, leadership and educational technology.

The GlobalEd Project: An Experimental Web-based Study of Gender Differences in Group Decision Making and Negotiation Skills (GlobalEd) is a research study examining gender differences in knowledge, attitudes and behaviors (KABs) related to international studies, the use of technology, and major student outcomes. The GlobalEd Project has its roots in the International Communication and Negotiation Simulations project used by University of Maryland in the early 1980s with college-level political science students, as well as in the Connecticut Project in International Negotiation.

GlobalEd is a problem-based simulation embedded within the classroom that uses technologies, such as email and synchronous and asynchronous discussion areas, to facilitate communication between groups of students at various school locations who represent different countries for a period of six weeks (see www.globaled.uconn.edu). Students must interact with participants from other schools using the technology tools within the simulation in order to achieve the goals of the simulation: drafting and negotiating a multinational treaty with other countries.

The simulation is set six months into the future and all interactions are web-based. The assessments were administered within two weeks prior to the start of the simulation and within two weeks following the end of the simulation.

A sample of the instruments completed by the participants includes: Student Demographic Information; Student Interest; Technology Self-efficacy; Academic Self-efficacy; and Leadership. However, this paper will only discuss the results of the knowledge, attitudes, and behaviors items, and Technology Self-efficacy items.

One of the best ways to provide an authentic and rich context in an academic situation is through the use of problem-based learning (PBL). PBL has proven to be effective in simulating real-world contexts. In a problem-based environment learners work in teams reviewing, critiquing, testing each other’s ideas, and engaging in collaborative knowledge building [1, 2]. Outcomes of a PBL collaborative environment have proven more effective in promoting retention, transfer, and reasoning strategies than the traditional method of instruction.

Within this problem based learning environment, this study examines the role of gender on self-efficacy and KABs related to international studies, technology and student outcomes. Previous gender related research has shown that women are more peaceful and cooperative than men in their approach to world affairs and international violence [3, 4]. Likewise, Reis [5] has found that females believe in encouraging their subordinates and favor cooperation over competition with colleagues.

Previous research suggests that gender differences exist in men and women, boys and girls’ approaches to leadership, decision-making, and technology [5], and in GlobalEd it is examined how these differing approaches may be manifested, developed and/or fostered in the current educational environment.

The sample consisted of 234 participants, with nearly an equal distribution of males and females, in high school across Connecticut and Massachusetts, participating in the simulation during the fall of 2001. A total of 16 classes (countries) participated.

The survey instrument had two major sections. The first focused on items related self-efficacy using a 10-point response scale (alpha reliability estimate = .80). The second, the KAB instrument, used a Likert-type 5-point response scale (alpha reliability estimate = .88). Previous reliability estimates ranged from .80 to .93 [6].

Chi-square analyses revealed no significant gender differences in response to having a home computer,
reading newspapers for the national/international news, or watching television for news (p>.05). A consistent statistically significant difference in the response pattern across gender was found for the variable, watching the national news, for both the pre-test and post-test [χ²(2)=7.98, p=.02; χ²(2)=8.95, p=.01, respectively]. Boys reported a higher frequency for watching the national television news than did girls.

Only one self-efficacy items showed a significant difference among males and females, prepared to discuss topics related to international economic, where males reported significantly higher scores than females (p<.05). There were no significant differences regarding self-efficacy related to the assigned country, international politics, using computers or working in groups (p>.05).

There were no significant gender differences reported on any of the knowledge items. Males scored significantly higher than females on only one attitude item: interest in computers (p<.05), however, there were no differences between pre-test and post-test across genders (p>.05).

A noteworthy finding is that the means of females on the pre to post test increased significantly for the item good at using computers for homework. Suggesting that through the necessary use of technology to participate in the GlobalEd Project, girls’ self-efficacy increased.

The findings of this study suggest that self-efficacy regarding the specific GlobalEd Project simulation in international politics is not related to gender. Both boys and girls seemed to report similar gains in self-efficacy items. The differences in attitudes about computers has been well documented in the literature [8]. The fact that there were no self-reported behavioral differences, and no knowledge item difference according to gender, suggests that any differences among males and females in high school may be attitudinal rather than based on knowledge or behavioral performance.

The current findings are consistent with the gender literature reported by Halpern and Reis, as well as the self-efficacy literature as it relates to academic performance and the use of technology [5, 9]. Furthermore, our finding of few gender differences supports the contention that it may be a social phenomena and that gender differences in cognitive abilities are on the decline [9].

References