TECHNOLOGY USE IN SECONDARY CHEMISTRY AND PHYSICS CLASSROOMS IN KENTUCKY

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Introduction

As the presence of technology grows, so does its importance to chemistry and physics education. Research has shown that technology use at home and at school is directly correlated to student performance. (Delen, Bulut, 2011) This study focused on how technology is being used in secondary chemistry and physics classrooms across Kentucky and its perceived classroom effects.

The Study

Using SurveyMonkey, 78 secondary chemistry and physics teachers across 35 districts in Kentucky were asked about their cultures and how they used technology. The study had a return rate of 22% (N=17). The teachers reported that they used a variety of different technologies in their classrooms, including SMARTboards, cell phones, tablets, and lab equipment. Teachers had an overall positive attitude toward technology use in instruction, but many noted the potential for it to be a distraction for students.

Student Receptivity to Technology Use in Instruction; Rating 1-10

Types of Technology Used in Teachers' Classrooms

Types of Technology

Number of Respondents

Games
Computer modeling
Lab equipment
Computer software
Computer probes
Lab apps
Social media
Personally created website outside school server
Personally created website on school server
CITS
Video
Podcast
Audio bites
Games
Movie
Closer response system
Cell phone
iPad/Tablet/Kindle
SMARTboard 3D cube
SMARTboard@Promethean

Proposed Dissemination

Proposed conference proceedings:

- Fall 2016: E-Learn, an AACE (Association for Advancement in Computing Education) conference
- Spring 2017: SITE (Society for Information Technology and Teacher Education), an AACE conference

Teachers’ Perception of Their Personal Use of Technology in Instruction; Rating 1-10

Teachers’ Quotes

“I like using technology in class but I feel that it distracts some students.”

“As a teacher, I use technology to access, create, and format study tools for students, which they then complete using paper and pencil. Students have requested that I put review questions on Quizlet as a study tool, and I will do this before the final.”

“For the most part we use the technology as part of the STEM program to help students fulfill the technology part of the curriculum.”

References

