“Active engagement strategies in a web-integrated science learning environment”

A set of web-based technologies is used as a supplementary learning space and project assessment system to foster students’ active engagement and collaboration in science classes. In this presentation, we will discuss some of the learning and assessment strategies we shared with pre-service and in-service teachers through professional development sessions. Also, we present some in-class activities that significantly increased students’ group interactions, stimulated students’ interest in learning science, and led students to attain a sense of achievement.

In the professional development sessions, we encouraged the teachers to use a web-integrated active response system to provide the students with opportunities to actively participate in the collaborative learning processes by setting up hypotheses for scientific inquiries, conducting their own research, collecting and organizing digital artifacts to explain scientific phenomena. The teachers provided modeling for active engagement, guiding through fading, and demonstrating online collaborative learning sessions. The online collaborative learning demonstration enabled the students to continue to work on their science class projects at home and at libraries and also encouraged them to share their work with their parents and significant others.

Overall, this presentation is targeted for those who are interested in learning about the innovative use of a web-integrated learning and assessment space, promoting students’ active engagement, creating a science learning environment supporting constructivist learning approaches, and positively influencing students’ attitudes toward and interest in learning science.