Teknologistøttet læring

Teknologistøttet læring omhandler undervisningsformer hvor ulike former for teknologi integreres i elevenes læringsarbeid. I teknologistøttet læring kombineres pedagogiske og didaktiske prinsipper med digitale verktøy i læringsarbeidet. Teknologistøttet læring og undervisning kan struktureres som individuelt arbeid for elevene, eller som samarbeidslæring hvor elever eller studenter samhandler med andre. Eksempel på forskningsartikler hvor teknologistøttet læring er benyttet i undervisning:

- Engaging Students Through Educational Podcasting: Three Stories of Implementation
- Pairing Poetry and Technology: Teaching from the "Outside Inward"
- Applying a Quiz-Show Style Game To Facilitate Effective Chemistry Lexical Communication
- Epistemic agency in an environmental sciences watershed investigation fostered by digital photography

Engaging Students Through Educational Podcasting: Three Stories of Implementation

Author: Erin D. Besser, Lauren E. Blackwell, Matthew Saenz

Year: 2021

Abstract

While podcasting has been around for over a decade, this popular format is experiencing a resurgence. This phenomenon has led many educators to return to this medium and ask questions regarding the meaningful integration for teaching and learning. Podcasting lends itself to the idea of learning anywhere and at any time. The benefits of using audio, but specifically integrating podcasting, are well established in the literature. Student-created podcasts have been shown to improve reading, writing, and listening skills (Smythe and Neufeld 53:488–496, 2010) and promote student engagement and collaboration and lead to gains in literacy development (Morgan 91:71–73, 2015). Podcasts offer students opportunities to revisit classroom content and instruction while providing greater critical thinking opportunities (Shumack and Gilchrist 1:5–9, 2009). According to Vandenberg ((2):54, 2018), podcasting aids students in storytelling techniques that feature the importance of logical and coherent thinking. Additionally, incorporating either audio or video podcasts allows for a greater ability to personalize and accommodate learners (O'Bannon et al. 57:1885–1892, 2011). As educators begin to explore opportunities for podcasting within the classroom, this article presents three real-world case studies of implementation in various educational contexts: elementary, high school, and higher education. These cases provide insight into how these educators diversely implemented podcasting while minimizing challenges. Additionally, the authors offer a set of recommendations that can potentially guide the process towards successful implementation. Within this section, various technical tools and podcasting content are included to provide a practical starting point to jumpstart implementation.

Keyword: Podcasting, Instructional audio, Educational technology, Technology integration

Referanse: Besser, E. D., Blackwell, L. E., & Saenz, M. (2021). Engaging students through educational podcasting: Three stories of implementation. *Technology, Knowledge and Learning*, 1-

16. https://doi.org/10.1007/s10758-021-09503-8

Tag: engelsk, teknoloig, teknologistøttet læring

Pairing Poetry and Technology: Teaching from the "Outside Inward"

Author: Toby Emert

Year: 2015

Abstract

In this article, an instructional coach and a classroom teacher describe a two-week instructional unit that integrates poetry and digital storytelling tools

Keywords: poetry, digital storytelling

Referanse: Emert, T. (2015). Pairing Poetry and Technology: Teaching from the" Outside Inward". *English Journal*, 59-64. https://www.jstor.org/stable/24484323

Tag: engelsk, teknologi, teknologistøttet læring

Applying a Quiz-Show Style Game To Facilitate Effective Chemistry Lexical Communication

Author: Sam Boon Kiat Koh and Fun Man Fung

Year: 2018

Abstract

A mobile application game has been adapted to teach students about laboratory instruments, glassware, apparatus, and techniques. The game was designed with reference to a popular icebreaker game, “Charades!”, to ensure that it was easily accessible to students. Students will hold a mobile phone just above their forehead, which will then flash the name of a particular type of apparatus or an analytical technique. They deduce the answer based on the description given by their team members. The gamified approach is a relaxing alternative to traditional didactic recitations. This strategy is effective because it requires students to communicate openly through deliberate practice with their teammates. We call this game ChemCharades.

Keywords: High School/Introductory Chemistry, First-Year Undergraduate/General, Second-Year Undergraduate, General Public, Internet/Web-Based Learning, Analytical Chemistry, Organic Chemistry, Laboratory Instruction, Collaborative/Cooperative Learning, Communication/Writing, Computer-Based Learning, Humor/Puzzles/Games

Referanse: Koh, S. B. K., & Fung, F. M. (2018). Applying a quiz-show style game to facilitate effective chemistry lexical communication. *Journal of Chemical Education*, *95*(11), 1996-1999.

https://doi.org/10.1021/acs.jchemed.7b00857

Tag: kjemi, teknologistøttet læring, samarbeidslæring

Epistemic agency in an environmental sciences watershed investigation fostered by digital photography

Author: Heather Toomey Zimmerman and Jennifer L. Weible

Year: 2018

Abstract

This collective case study investigates the role of digital photography to support high school students' engagement in science inquiry practices during a three-week environmental sciences unit. The study's theoretical framework brings together research from digital photography, participation in environmental science practices, and epistemic agency. Data analysed include field notes and video transcripts from two groups of learners (n = 19) that focus on how high school students used digital photography during their participation in two distinct environmental monitoring practices: stream mapping and macroinvertebrate identification. Our study resulted in two findings related to the role of digital photography where students developed knowledge as they engaged in environmental monitoring inquiry practices. First, we found that digital photography was integral to the youths' epistemic agency (defined as their confidence that they could build knowledge related to science in their community) as they engaged in data collection, documenting environmental monitoring procedures, and sharing data in the classroom. Based this finding, an implication of our work is a refined view of the role of digital photography in environmental sciences education where the use of photography enhances epistemic agency in inquiry-based activities. Second, we found that the youths innovated a use of digital photography to foster a recognition that they were capable and competent in scientific procedures during a streamside study. Based on this finding, we offer a theoretical implication that expands the construct of epistemic agency; we posit that epistemic agency includes a subcomponent where the students purposefully formulate an external recognition as producers of scientific knowledge.

Keywords: Engagement; photography; science education; outdoor education; technology-enhanced learning; secondary education; life sciences; sociocultural theory; epistemic agency

Referanse: Zimmerman, H. T., & Weible, J. L. (2018). Epistemic agency in an environmental sciences watershed investigation fostered by digital photography. *International Journal of Science Education*, *40*(8), 894-918. https://doi.org/10.1080/09500693.2018.1455115

Tag: naturfag, teknologi, teknologistøttet læring