Exploring the Use of Video Reflection as a Professional Development Tool

Cassandra Broneak
National Center for Computer
Science Education
College of St. Scholastica
Duluth, MN USA
cbroneak@css.edu

Chery Lucarelli
School of Education
College of St. Scholastica
Duluth, MN USA
clucarelli@css.edu

Jennifer Rosato
National Center for Computer
Science Education
College of St. Scholastica
Duluth, MN USA
jrosato@css.edu

ABSTRACT

The use of video recording in the classroom has the potential to improve pre- and in-service teacher practice. This poster explores the use of video as a virtual-visit and professional development tool for computer science educators at the high school level. The Mobile Computer Science Principles (CSP) program offers a rigorous professional development (PD) and curriculum for new and experienced computer science teachers. With support from the National Science Foundation, the program was able offer a stipend to teachers who completed the research requirements, which for the online program included recording, reflecting on, and submitting a 10-minute unedited video of educators implementing a chosen lesson in their course. In addition to the video submission and reflection, teachers reviewed and commented on others videos in a protected online environment. Researchers have begun examining the teacher reflections and the comments. This poster presents preliminary common themes and findings from teacher video reflections, video comments, focus group data, and an end of course survey. Trends surrounding student engagement, teacher confidence, and teacher views of effective pedagogical strategies such as growth mindset and pair programming have emerged. Results show that while computer science educators can often feel isolated in their school environment, video serves as a powerful tool for promoting connectedness and individual reflection. Creating a space where teachers can reflect on their own teaching is an important professional development opportunity. Results show that while computer science educators can often feel isolated in their school environment, video serves as a powerful tool for promoting connectedness and individual reflection. The use of video helps

teachers in how to develop and implement best teaching practices and pedagogical strategies effectively into their classroom.

The CS10K: Mobile CSP and CS10K: TeachIT projects were funded by the National Science Foundation under grants CNS-1240841 and CNS-1440947.

CCS CONCEPTS

• **Social and professional topics~Adult education** • Social and professional topics~K-12 education • **Applied computing~Collaborative learning**

KEYWORDS

Computer science; K-12 education; in-service education; professional development; video reflection; video cohorts; pedagogy; best teaching practices.

ACM Reference format:

Cassandra Broneak, Chery Lucarelli and Jennifer Rosato. 2019. Exploring the use of video reflection as a professional development tool. In *Proceedings of ACM International Computing Education Research conference (ICER '19)*, 12-14 August, Toronto, ON, Candana. ACM, New York, NY, USA.

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author.

ICER '19, August 12–14, 2019, Toronto, ON, Canada

© 2019 Copyright is held by the owner/author(s).

ACM ISBN 978-1-4503-6185-9/19/08.

<https://doi.org/10.1145/3291279.3341213>