Video Conferencing Analytics to Support Teachers during Social Interaction Remote Learning Activities

José A. Ruipérez-Valiente
University of Murcia
jruiperez@um.es

ABSTRACT: Over the last decade, remote learning has started to become more and more common. However, COVID-19 pandemic has quickly transformed into the most common educational format. Moreover, social and collaborative learning activities have been depicted as one of the main components of active learning, but authors have addressed that these activities might suffer during remote learning. In this challenge we set ourselves to explore the potential of video conferencing analytics to support teachers implementing social and collaborative activities during remote learning.

Keywords: Learning analytics; video conferencing analytics; social and collaborative learning; remote learning.

1 BACKGROUND

Remote teaching and learning have started to become increasingly more common during the last decade. Furthermore, COVID-19 pandemic has turn it into the main educational format (Reimers et al., 2020). While this might be temporary while this situation continues, several experts have stated that this will affect in depth how people work and study even after the pandemic finishes (Rapanta et al., 2020). Most studies agree that remote teaching and learning will remain much more widespread after the pandemic is over. Therefore, improving this format is of the upmost importance.

Social and collaborative learning activities have been depicted as one of the main components of active learning, helping students achieve higher cognitive processes that lead to deeper understanding (Cress et al., 2015). However, the rapid transition to remote teaching might endanger the quality of these activities (Kreijns et al., 2003). For example, in-classroom activities organized to discuss in groups or work in group projects used to happen when several students sitting together in different parts of a class. The teacher would have the possibility to walk by the class and listen to students talks to intervene when appropriate. However, these activities happen now in group rooms over the videoconferencing platform, and teachers cannot be aware what is happening in each one of the rooms to support students. Video conferencing analytics could provide a key role to give teachers insights regarding the current status of each working group.

This challenge will explore the potential opportunities of performing video conferencing analytics to improve the social interaction and support teachers during remote teaching.

2 RESEARCH QUESTION

As part of this challenge, we set up the following research questions:

1. What are the potential opportunities that video conferencing analytics can bring to improve social interaction during remote learning synchronous activities between peers?

2. What are the technical challenges and feasibility of deploying [inter-operable] real-time video conferencing analytics systems in terms of methods, technology, and privacy?

3 EXPECTED OUTCOMES

As part of the expected outcomes, first we would hope to respond to the research questions. Therefore, for the first one, we envision to prepare a list of the properly justified potential opportunities that video conferencing analytics based on previous literature on peer learning and social interaction. For the second research question, we hope to obtain potential design options in terms of the methods to apply, the technology to implement the system, and privacy-respectful approaches.

These lessons learned can be the base of future prototypes, projects, and collaborations in this direction.

REFERENCES

Cress, U., Stahl, G., Ludvigsen, S., & Law, N. (2015). The core features of CSCL: Social situation, collaborative knowledge processes and their design. International Journal of Computer-Supported Collaborative Learning, 10(2), 109-116.

Kreijns, K., Kirschner, P. A., & Jochems, W. (2003). Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: a review of the research. Computers in human behavior, 19(3), 335-353.

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. Postdigital Science and Education, 2(3), 923-945.

Reimers, F., Schleicher, A., Saavedra, J., & Tuominen, S. (2020). Supporting the continuation of teaching and learning during the COVID-19 Pandemic. Oecd, 1(1), 1-38.