REIMAGINING TEACHING AND LEARNING FOR A NEW ERA: HYBRIDIZATION OF THE TEACHING AND LEARNING MODALITIES IN THE K-12 EDUCATIONAL CONTEXT

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ABSTRACT

The paper aims to explore the concept of hybridization as a digital transformation process of teaching and learning in the K-12 educational context. The discussion is informed by the results of a research project involving elementary and secondary school teachers and their students and how they have experimented with the concept of hybridization of their teaching modalities and learning environment. The paper examines various examples of hybridization of teaching modalities that have emerged from the project. In particular, it examines the use of 360-degree digital cameras and video conferencing to promote the hybridization of teaching modalities in in-person classrooms. It also examines the use of interactive and digital tools and online platforms to contribute to the hybridization of the learning environment in in-person classrooms. Finally, the paper demonstrates how the hybridization of teaching modalities and learning environments contributes to promoting students' engagement, collaboration, and creativity as well as the emergence of learning communities beyond the classroom walls.

1. INTRODUCTION

The COVID-19 pandemic contributed to accelerating digital transformation across educational systems. New teaching modalities and digital learning environments have emerged as a result of the transfer to online learning during the pandemic and contribute to the renewal of educational practices in the K-12 educational context. One of the lessons learned from the online shift during the pandemic (Bates, 2021) is that the educational approaches and digital tools used in an online teaching context can be used for in-person teaching. Specifically, we have a growing understanding that the hybridization of both online and in-person teaching methods and learning environments can potentially create new teaching and learning modalities. We are now in a new educational era where digital and online technologies contribute to reimagining teaching and learning through the hybridization of teaching modalities and learning environments (Laker,2021).

Hybridization is a move away from traditional teaching modalities (Garrison and Kanuka, 2004; Graham,2006) and learning environments that were limited by in-person interaction within the boundaries of a classroom. It is also the reconceptualization of blended and hybrid learning that dominated the field of education (Hrastinski, 2019), prior to the pandemic. The conceptualization of the integration of online and digital technologies in the in-person classroom needs to evolve beyond the guidelines offered by traditional blended and hybrid approaches that were popularized before the pandemic. The integration of online technologies into the K-12 classrooms requires a new conceptualization aligned with the digital transformative phenomenon accelerated by the pandemic and that allows the emergence of the natural phenomenon of hybridization. The adoption of new teaching modalities supported by new emergent technologies (e.g., 360-degree digital camera and video conferencing) and digital and online interactive learning environments that emerged during the pandemic is now contributing to reimagining teaching and learning beyond traditional approaches. The hybridization of the teaching modalities and learning environments

corresponds to our adaptation to a changing world where digital technologies and their affordances (Pellerin, 2018) allow the emergence of new and innovative ways to interact, communicate, collaborate, solve problems and be creative like never before.

2. METHODOLOGY

The research methodology for the project presented in this article is anchored in a qualitative and participative approach (Denzin & Lincoln, 2008). The project took place during the 2021-2022 school year. It involved 12 school teachers (elementary and middle school) in their respective classrooms in Canadian context. Data collection included digital documentation as artifacts gathered by teachers including audio and video recordings as well as screen shots of the activities completed on digital and interactive platforms (e.g., Flipgrid; Jamboard, etc.). Qualitative research approaches are used for the data analysis and aligned with the grounded theory method of qualitative data analysis. Through a coding process of the various digital sources of data gathered, initial key themes as well as emerging themes were identified in accordance with the qualitative methodology.

3. RESULTS AND DISCUSSION

Although the transfer to online teaching during the pandemic created many pedagogical challenges and forced teachers to adapt new pedagogical practices with new teaching modalities, new modes of teaching delivery have emerged such as co-modality, which refers to teaching that combines in-person and online modes simultaneously by using 360-degree cameras and videoconferencing tools like ZOOM. These teaching modalities were first adopted in the context of the pandemic to support emergency remote learning for the K-12 educational context as well as in higher education. The hybridization of online modality with face-to-face teaching gave rise to innovative pedagogical practices. New videoconferencing tools like ZOOM also grew in popularity during the pandemic, allowing synchronous learning to take place in order to provide social interaction and a sense of connectivity between the teachers and their students and between students, especially during the confinement period. Teachers are now experimenting with the combination of both online teaching modalities and in-person teaching. The hybridization of in-person and online teaching and learning modalities leverages the affordance offered by the new online and digital tools, thus contributing to the creation of new pedagogical practices and new learning environments.

3.1 Using The 'Owl' 360-Degree Camera: Fostering Greater Learner Engagement and Building Communities of Learning That Extend Beyond the Traditional Classroom Walls

In this first example, two secondary school teachers used the 360-degree 'Owl' camera to connect their students. Their classrooms were located on opposite sides of the same school and the pandemic did not allow for the mixing of student cohorts. The teachers used an interactive online platform (Kahoot) to review the content of a learning module that they had completed. They engaged their students in a friendly competitive game. The 360-degree 'Owl' camera's visual sensor allowed the students from each class to see and interact with the teacher as well as their classmates and access the online board game presented on the whiteboard. The students' engagement was enhanced by the connection of the two classrooms, as it increased student motivation, facilitated interactions with other learners, and supported the creation of a learning community.

Figure 1. The use 360-degree 'Owl' camera to fostering learner engagement and building communities of learning that extend beyond the traditional classroom walls

Another example of the hybridization of the teaching modalities using the 360-degree 'Owl' camera involved two secondary French teachers in two schools located in two different rural towns within a 45-minute driving distance. The students were first engaged in a guessing game to find out where the other group was located. Afterward, the students spent time chatting with each other in the target language. The teachers shared the students' enjoyment in meeting other students who were also learning French and going through similar learning experiences, in turn creating a real sense of learning community. Students asked their respective teachers to repeat the experience several times with their new friends from the other school.

The following example demonstrates how a videoconferencing tool like ZOOM was utilized in the in-person classroom resulting in the hybridization of the teaching modalities. Elementary teachers from the same school and later from different schools outside of the urban center teamed up to experiment with using ZOOM to provide early literacy activities with the young second language learners. Even though schools reopened during the pandemic in 2021 and 2022, the sanitary measures implemented to avoid the spread of the COVID-19 virus did not allow teachers to create literacy learning cohorts and reading 'buddies' as they used to prior to the pandemic. Having experienced the ZOOM tool during the confinement period and for emergency remote learning to provide synchronous education, these elementary teachers felt compelled to combine the online teaching modalities in the in-person classroom. Therefore, they first teamed up with classrooms in the same school reading aloud activities. Then, the teachers extended the hybridization of their reading aloud activities by teaming up with other teachers from the same grades but in different schools in different towns in the same school districts. The young learners (grades 1 and 2) were engaged in a synchronous way through the videoconference with others students. Neither the physical restrictions imposed by the pandemic in the schools or the physical distance from other schools inhibited the possibility to connect with other students, engage in collaborative learning, and create literacy communities of learning. The hybridization of teaching modalities in these examples demonstrate that it can contribute to further develop a sense of connectivity and community between the teachers and their students and between students, especially beyond the walls of the traditional classrooms.

3.2 Hybridization of the Learning Environments: Promoting Student Engagement, Collaboration, and Creativity

Although many digital tools and platforms were used in the classroom prior to the pandemic, they were mainly adopted as a complement or replacement (Hrastinski,2019) to in-person learning. The hybridization of the learning environment goes beyond this conceptualization of traditional blended and hybrid learning. The affordances offered by the new digital tools and online platforms such as Flipgrid, Book Creator, Jamboard, to name of few, allow learners to engage actively in their learning by collaborating, problem-solving, and sharing, all in ways that were not possible before. The hybridization of the learning environments also gives learners multi-sensory access (Pellerin, 2018) as well as multiple means of representation, interaction, and engagement. Therefore, by reimagining learning through the hybridization of the learning environment, greater inclusive pedagogical approaches emerged following the guidelines of the Universal Design for Learning (UDL) framework (2018).

In the following example, elementary school teachers from two different grades teamed up to engage their language learners in collaborating in the creation of an online story. They used the Book Creator online application to create multimodal and digital books for their story. The project contributed to fostering a sense of learning community between young learners and older learners and through the affordance of the application, the digital book could be downloaded to share with the school community and beyond the classroom.

The next example demonstrates how the hybridization of the teaching modalities and digital learning environments was experimented with by elementary teachers to promote social interaction and collaboration among students. After participating in reading aloud through ZOOM with other classrooms, teachers invited their students in reading comprehension and writing activities using the Flipgrid digital tool and shared their multimodal products and artifacts including video of the learning on the online platform.

Interactive and digital whiteboards like Jamboard were integrated into synchronous online learning during the pandemic. This type of platform allows students to interact and collaborate on a digital whiteboard. Through the hybridization of the learning environment, teachers are now integrating interactive online platforms in in-person approach to allow learners to benefit from greater engagement, and interaction, while also gaining access to multiple ways of representing and expressing their understanding and knowledge. As an example, as

an early literacy activity, the teacher used a picture of a snowman as a backdrop on the Jamboard platform. Images of different clothing and objects were displayed on the digital board by the teacher. Students were able to interact with the online platform to demonstrate to their learning by manipulating the different objects they wanted to use to represent their snowmen. The multimodal affordances of the application allow learning and thinking to become visible and increase student interaction, which in turn contributes to better engagement. The hybridization of the learning environment in the in-person classroom contributes to enhancing student engagement through active learning, social interaction, collaboration, and creativity.

4. CONCLUSION

The acceleration of the digital transformation in K-12 education following the COVID-19 pandemic contributes to the emergence of new possibilities to reimagining teaching and learning for a new digital era. We can no longer afford to teach the way we used to teach. The traditional in-person teaching modalities and learning environments are no longer adequate to prepare our students for a digital world in constant evolution. The affordances of the new online and digital technologies allow us to learn, interact, communicate, collaborate, engage and be creative in ways that were not possible before. Therefore, the hybridization of the teaching modalities and learning environments needs to go beyond the traditional blended and hybrid teaching and learning approaches. Like in nature, the phenomenon of hybridization corresponds to the combination of two species that goes on to create a whole new one. The hybridization of the teaching modalities and learning environment contribute to reimagine teaching and learning for a new era.

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