

Chapter 17

Examining Digital Pedagogy of Teachers Using Engeström's Activity Theory

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ABSTRACT

This chapter proposes that Engeström's activity triangles in tandem with direct attention to the 4Cs—collaboration, communication, critical thinking, and creativity—can help teachers and researchers identify effective teaching practices in online environments. The authors illustrate this technique using data from two studies on teachers' technology use in brick-and-mortar classrooms. Focusing on literacy and music in the elementary classroom, the authors suggest ways teachers can reflect upon and design their online activities considering students' use of the 4Cs. They demonstrate the process using an exemplar online activity. Apart from individual pedagogical concerns, the chapter also discusses more significant issues around policy, access, professional development, and the 4Cs and offers implications to research and practice.

INTRODUCTION

Many K-12 classrooms have moved to virtual platforms during the course of the COVID-19 pandemic. This shift has been toughest for younger students who are now learning techno-literacy skills on top of literacy skills (Bao et al., 2020; Malhotra, 2014). Teachers moved to online platforms with varying technological skills and access. Furthermore, a wide range of socio-economic circumstances, availability of adult assistance, access to devices, and/or high-quality internet connection lead to a divide between students who benefit in virtual environments and those who do not (Dhawan, 2020; Kalyanpur & Kirmani, 2005; Minhas, 2020). The challenges of virtual environments are found not only in literacy

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lessons, but also influence subjects such as music, where, touch, breath, and in-person cues are the very spine of the subject. This situation is exacerbated in elementary classrooms where teachers are trying to keep 24-40, children engaged in virtual spaces with little help.

There are many possibilities for education in the virtual world. Virtual field trips allow teachers and students to quickly and cheaply “travel” around the world. Freed from the page, learning resources can be greatly expanded and easily updated. Email, video-conferencing, and virtual classrooms such as D2L or Google Classroom, allow for faster and easier connections between home and school. Finally, students’ ability to access their teacher from home opens possibilities for them to learn in a more comfortable environment. However, certain vital skills such as practicing phonics in literacy lessons or learning how to breathe together in music lessons- which may already be challenging to teach in-person- can become not only more difficult, but also seem less purposeful in virtual environments (Dye, 2016). Elementary teachers trained for face-to-face teaching, may struggle to imagine pedagogy in online contexts. Students and teachers must now work harder to communicate verbally because they cannot simply move a student’s finger on the pencil grip or help a student hold an instrument right, nor work and play together in the same physical space. And imaginary play may become somewhat abstracted for younger children when mediated through a screen.

How then can educators and scholars plan robust online learning and assess its achievement of curricular goals and mediation of its challenges? The authors propose that using Engeström’s activity triangles in tandem with direct attention to the curricula goals of teachers can help them analyze their online teaching practices, reflect, and identify effective strategies for their online activities taking into consideration their knowledge, beliefs or challenges of the medium.

The purpose of this chapter is to shed light on two areas - music and literacy - and consider how Engeström’s activity triangles may help teachers struggling to imagine online education to approach their pedagogical practices. Revisiting data from studies conducted in “brick and mortar” schools, the authors suggest ways in which teachers may reflect on their online activities to further improve them in future, or intentionally design their activities and explore how critical thinking, collaboration, creativity and communication i.e. the 4Cs (Thoughtful Learning, 2015) are or can be enacted therein. The following research questions guided this study:

1. How can teachers use Engeström’s activity triangles to elucidate challenges and opportunities for their lesson planning and evaluation?
2. How do Engeström’s activity triangles help teachers to design online lessons which support student use of the 4Cs?

To explore these research questions, the authors focused on two studies conducted in a face-to-face format in Canadian elementary schools. The first project explored the use of technology in the kindergarten literacy curriculum (Malhotra, 2014). The second project questioned how cosmopolitanisms were enacted through students’ interactions with global pop music videos in a grade 4/5 music classroom (Johnston, 2020). These music videos were accessed through YouTube and formed the basis of inquiry projects designed to facilitate collaboration, critical thinking, and communication.

To examine the use of the 4Cs within online activities, the authors selected four different lessons plans, i.e., activities observed in Malhotra (2014) and Johnston (2020) and created activity triangles for each of these individual activities. This chapter discusses how music and literacy activities can be micro analyzed using Engeström’s activity triangles in order to design for the students’ use of the 4Cs

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