Learning Projects in Glocal Networks

The Emergence of a Formal and Informal Peer Culture

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Abstract: The digital age has provided new possibilities for the creation of glocal peer cultures that stretch beyond the boundaries of the immediate community. To better understand these opportunities in the school context, this study aims to examine the co-creation of an international learning ecosystem of 2 classes organized around a shared object of inquiry. The participants in this study were 1 Finnish 6th-grade class (N = 17) and 1 American 7th–8th-grade class (N = 16) who communicated through blogs and Skype. Using deductive content analysis on their transcribed Skype meetings, the students' digital artifacts, and a questionnaire, we aim to describe the learning ecosystem that emerged. The preliminary results of the study indicated that during the academic learning process, an informal peer culture started to emerge through students' mobile devices and applications such as Skype, FaceTime, and Snapchat. Conclusions are drawn about the hybrid ecosystem that connected friendship-driven, interest-driven, and expertise-oriented participation.

Introduction

The digital age has provided new possibilities for learning. The youth of the digital era spend much time online, networking, searching, sharing, and creating information (Kafai & Peppler, 2011). This kind of networking allows youth to become active members of a variety of formal and informal glocal communities, thus preparing and supporting them in adapting to their role as lifelong learners (Jenkins, Ito, & boyd, 2016; Roth & Lee, 2004). Jenkins et al. (2016) characterize the three different forms of participation as *hanging out* (friendship-driven), *messing around* (interest-driven), and *geeking out* (expertise-oriented). According to previous research (Hietajärvi, Seppä, & Hakkarainen, 2017; Ito et al., 2010; Jenkins et al., 2016), the friendship-driven activities of hanging out are also linked to the notion of belonging to a community or group, whereas messing around is used for experimental and more interest-driven activities, and geeking out usually involves fewer students, thus meaning that their participatory activities are targeted toward more specialized knowledge.

Although connected learning networks may comprise experts, enthusiasts, family members, and peers (de Haan, Leander, Ünlüsoy, & Prinsen, 2014; Roth & Lee, 2004), recent research has shown that these communities are typically made up of friends or relatives—people whom the youngsters know and whom they are also in contact with when "offline" (de Haan et al., 2014; Hietajärvi et al., 2017). To develop the skills and ways of knowing needed in the 21st century, Ito and colleagues (2013) argue for the need for connected learning that allows school students to link their academic work with society, family, and community through interest-driven and inquiry-oriented activities. Furthermore, the students should also be supported in becoming globally competent citizens who can collaboratively solve wicked problems and improve the collective well-being of current and future generations (de Haan et al., 2014; Organisation for Economic Co-operation and Development [OECD], 2016). Consequently, teachers and educators face the challenge of developing networked practices that will arm students with these new kinds of mind-sets and competencies needed in modern society. To meet these challenges, this study

aims to examine the co-creation of an international learning ecosystem of two school classes organized around a shared object of inquiry.

Theoretical Background

The theoretical background of this study originates from Vygotsky's (1978) sociocultural perspective in which the learning activities are in connection with the surroundings, people, and tools mediating them. Given this insight, the learning ecosystem (see Figure 1) is understood as a participatory network that connects the subjects (the community participating in the activity), the object of their activity (the learning task), and the tools (for making, communicating, thinking), and resources as mediational means (digital, nondigital) (Liljeström, Enkenberg, & Pöllänen, 2013). As argued by Vartiainen (2014), through open-ended learning tasks, the students have the opportunity to connect with and use the afforded community, technology, and information resources in an interest-driven manner. As with activity systems (Engeström, 1987), the elements of the ecosystem are not static, but are continuously interacting with each other, through which they define the emerging connected learning system as a whole.

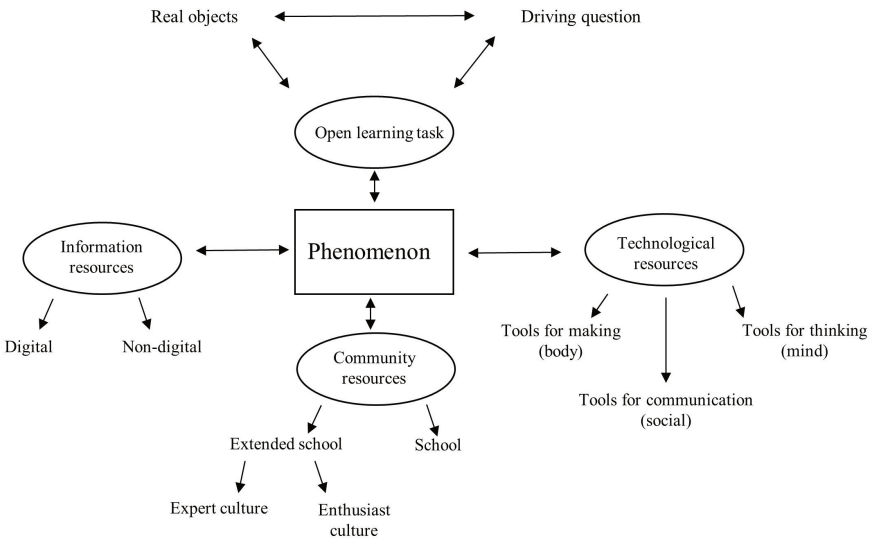

Figure 1. Conceptual structure of the afforded learning ecosystem (Liljeström et al., 2013).

In relation to the creation of the connected learning ecosystem, the learning activities should highlight the following principles (Vartiainen, Liljeström, & Enkenberg, 2012; Jenkins et al., 2016): (a) connecting learners in the pursuit of shared learning tasks (object); (b) connecting through diverse technological

tools for producing, creating, and experimenting with peers (tools and resources); and (c) facilitating interest-driven participation in openly networked and generative communities (community). Accordingly, when the core pedagogical principles are actualized through the co-creation of an international learning ecosystem, novel learning activities and forms of participation are also likely to emerge.

Method

The present work is part of a long-term design-based research (DBR; Design-Based Research Collective, 2003) study in which the aim is to develop international learning networks.

Participants

The participants in this study were one sixth-grade class (N = 17) from Finland together with their class teacher (N = 1) and one seventh–eighth-grade class (N = 16) from the United States together with their science teacher (N = 1). The two classes formed peer groups and were required to (a) design, implement, and document a connected learning project, and (b) share their progress and findings with their peer classes. The language used during the learning activities was English.

This learning project was a part of normal learning activities in school and no additional ethical review was needed. We respected the participants' autonomy by seeking consent for both participation and publication from the students' guardians, and we have followed the ethical guidelines of the Finnish Advisory Board on Research Integrity (2012) during the research.

Data Collection

During the project, three Skype meetings were organized and recorded. Two of these meetings were between the teachers and one meeting was between the peer classes. In all, the recorded data consisted of 101.57 minutes of conversation, equaling 55 pages of transcribed text (Arial 11, spacing 1.15) for analysis.

Both school classes had blogs where they reported their progress during the projects. These two learning blogs (consisting of text, video, and pictures) are also analyzed for this study and are used as supplementary data. This provided researchers with the opportunity to gain more information about the themes emerging in the Skype conversations.

Furthermore, students answered a questionnaire (N = 29) at the end of the project. By using different data sources in the analysis, we aim at ensuring data triangulation (Patton, 1999).

Data Analysis

In this qualitative study, we used deductive content analysis for analyzing data consisting of different formats (Mayring, 2000). In the first phase of the analysis, one researcher transcribed the recordings and became familiar with the data. In the second phase, the data were preliminarily analyzed through the framework represented in Figure 1 by one researcher. The aim was to preliminarily depict the main emerging elements (community, object, tools, and resources). The unit of analysis (Chi, 1997) in this study varied from single words to whole sentences describing an idea or suggestion. In the next phase,

we continued the analysis by using two independent coders to analyze the emerging informal peer culture and to increase the reliability of the study (Burla et al., 2008; see Campbell, Quincy, Osserman, & Pedersen, 2013; Krippendorff, 2004).

Preliminary Results

The preliminary results of this study reveal that both classes created a unique ecosystem that connected them through the shared learning task (see Figure 2).

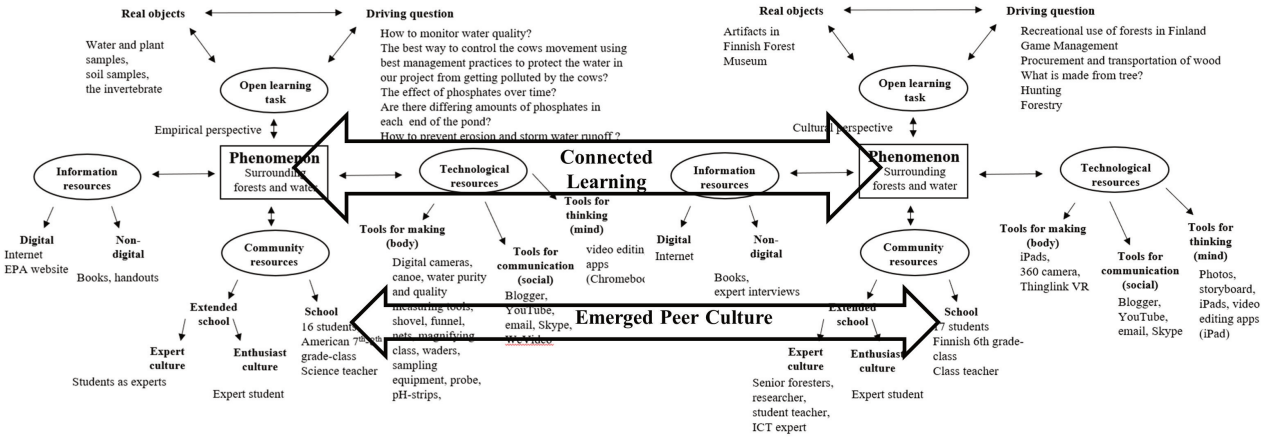

Figure 2. Conceptual structure of the connected learning ecosystem based on Liljeström et al. (2013).

The shared phenomenon of the peers' classes was the surrounding forests and water. The Finnish students focused on a cultural approach toward the recreational use of forests, game management, and the procurement and transportation of wood. The Finnish students studied real objects in a forest museum and used the expertise of senior foresters in solving their learning challenges. They also had the possibility of consulting an information and communications technology (ICT) expert and a researcher.

The American students were interested in developing experiments on water quality and soil samples. They collected and studied water and plant samples from a nearby pond, soil samples from a parking lot next to the pond and forest, and the invertebrates living in the pond. In the American school class, the students were acting as experts by presenting the empirical studies to their peers through educational videos.

Both school classes used multiple and diverse technological tools that can be divided into three further categories: tools for making (iPads, Chromebooks), tools for communication (Blogger, Skype), and tools for thinking (photos, video-editing apps). The information resources used by both peer groups during these projects were mainly digital (Internet), but nondigital resources were used as well (books, expert interviews).

The students created an academic peer culture through negotiating and sharing information on the project's progress and aims. In addition, the students began to connect with their international peers in their free time through mobile devices and applications such as Skype, FaceTime, and Snapchat.

Conclusion

The aim of this study was to examine the co-creation of an international learning ecosystem of two school classes organized around a shared object of inquiry. The preliminary results of the study indicated the emergence of a hybrid ecosystem that connected friendship-driven, interest-driven, and academically oriented participation. Students' academically oriented participation was mediated through the use of various digital and non digital information resources, technologies, and expert tools for creating solutions to their own interest-driven questions. In addition, a friendship-driven peer culture started to emerge as the learners expanded their communication to their free time. Accordingly, it seems that the co-creation of international networks opens up the possibility for the emergence of glocal peer cultures that stretch beyond the boundaries of students' immediate community (c.f., de Haan et al., 2014; Hietajärvi et al., 2017). Furthermore, the students were supported in developing their skills in becoming globally competent and aware citizens who could use local networks and expertise to create solutions to globally relevant tasks (OECD, 2016). Likewise, teachers benefited from collaboration with their peers in co-designing connected learning practices that will enhance their skills and understanding needed in the increasingly globalized world.

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