An Action Research Approach To DIY In Education: Expanding Digital Competence To Foster Student Agency And Collaborative Learning

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Contribution

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Today, digital technology is present in schools and universities; eBooks, interactive blackboards, tablets or notebooks are now commonplace in Europe's classrooms. However, when using this technology, students are typically positioned as consumers. In an effort to change this tendency, our project draws on DIY culture, encouraging students to become producers of digital objects. We believe that students and educational institutions need to foster learning experiences that support learners' critical capacity. This is not a goal that can be achieved by using only one platform or tool. Instead, true digital competence means using available devices with pedagogical approaches such as "flipped learning" (Bergmann & Sans, 2012) or transdisciplinary inquiry-based projects, which guide young people to grow into active and thoughtful learners.

This communication will discuss the actions and results of the first year of the three-year European project "Do it yourself in Education: expanding digital competence to foster student agency and collaborative learning (DIYLab)". The main objective of this project is to promote lifelong and life-wide learning by expanding students' digital competence, agency, and creativity, by putting into practice DIY philosophies (Guzzetti, Elliott, & Welsch, 2010; Lankshear & Knobel, 2010). Initiated in January 2014, researchers and primary and secondary schools and universities in Spain, Finland and the Czech Republic will have finished the first and begun the second phases of the project by the time of this communication in September.

The DIYLab project will develop a 'DIYHub' in each participating educational centre to promote primary, secondary and higher education student engagement by proposing collaborative, meaningful and authentic learning experiences that can be sustainable and expandable after the end of the project. This practice will depend on the use and implementation of different technologies as tools (video editing software, mobile/flexible applications, html5-based services for learning, etc.), and the dissemination and construction of a DIY community (Kafai & Peppler, 2011) in an open, on-line platform.

The first phase of this project entails working with focus groups (Stewart, 2007) of teachers, students and parents in order to understand what practices are already in place in each participating context. This sets up an action research approach based on an ongoing dialogical process of analysis and practice. This position supports sustainability by allowing local knowledge to inform and guide the process. Our communication will discuss the preliminary results of this stage, including: the working definitions of DIY education developed in each context, the state of the DIY ethic in each context as reported by the focus groups, and the initial technical design of the DIY Labs that will be implemented starting in January 2015. We will also make recommendations for developing DIY Labs based on our experience in each educational centre. The second phase of the project entails the formation of participating teachers and school administrators in support of the implementation of the DIY Lab. The communication will discuss the design for the formation period and our approach to implementing DIYLabs in primary, secondary and higher education. We will review the main obstacles schools face and provide an analysis of ways that schools can best integrate the DIY ethic into their centres to support digital competence.

Method

Recent research in educational change (Hargreaves & Shirley, 2009; Sancho & Alonso, 2012) tells us that change takes place only when teachers and students are involved in the decision process and when new practices are anchored in the most promising aspects of teachers' professional knowledge. If teachers and students feel their current knowledge and skills are dismissed instead of built on, as so often happens, they will go back to the old practices and forget the new skills and resources they have acquired once the project is over. Therefore, our project is based on action research and will build on existing practices. To achieve the project's objective, the consortium will follow a methodology based on the principles of collaborative action research (CAR), which we understand as "a participatory, democratic process… [that] seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern" (Reason and Bradbury, 2001: 1).
In phase 1, focus groups are carried out with students, teachers and parents in each partner country to determine how each participating school context uses new technologies and supports autonomous learning. These focus groups provide the foundation for developing strategies for implementing the DIYLab in each school; they will identify what participant institutions recognize as best practices in developing key competences, and especially digital competence, taking into account their difficulty in providing students with purposeful learning experiences to foster lifelong and life-wide learning skills. In phase 2, a formation for participation teachers will be designed and implement, tailored to each context according to what we learn in phase 1. This communication will discuss the role of action research in creating the pedagogical and technological foundation for this project.

Expected Outcomes

As a result of the implementation of phase 1 we will be able to share with the greater educational community a European perspective on digital competence. Using the cases of participating schools and universities, we will analyse how digital competence can be better integrated in curricula and connected to learning outcomes, not only at all levels of formal education but also in informal and non-formal learning. We will also share our build for a conceptual and technical approach to implementing DIY Labs that has developed out of a collaborative formation process—involving researchers, teachers and administrators. We will discuss the guidelines for assessing digital competence and the rubric (indicators) that will allow students and teachers to monitor progress as participants move from being information consumers, to knowledge producers, by fostering digital competence.

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