Effective integration of hypervideos in teaching and learning scenarios
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1. Introduction
In a technology-pervaded society where people watch an average of one billion hours of YouTube videos every day, and where the MOOC phenomenon strongly revealed the opportunities to use videos for teaching-and-learning purposes, we are still lacking a strong video pedagogy and clear evidence on how to fully exploit the video potential to support digital teaching and learning.

It is in this cultural framework that iVideo.education has been developed by the Swiss Federal Institute for Vocational Education and Training (SFIVET), trying to exploit the added values hypervideo (or interactive videos) offers.

iVideo.education enables trainers, teachers and students with no particular computer skills, to customize and structure instructional material for their own learning, teaching or training activity, using existing or self-made footage and producing their own hypervideos through an intuitive, graphical user interface.

2. System Components
iVideo.education is made of 3 components:
- An Editor, which allows to turn raw videos into hypervideos.
- A Player, which allows to view the edited videos.
- The Web Portal, an online repository in which users can share their hypervideos and access advanced features.

Both Editor and Player are available on MacOS, Windows, Linux desktop platforms; the Player is also available on mobile platforms (Android and iOS). The Portal URL address is: www.ivideo.education.

To access a video presentation of the system, please scan the QR code on the right.

3. Structure and Affordances
As shown in a literature review by Sauli, Cattaneo, and van der Meij (2018), hypervideos (HV) prove to be effective learning tools in a variety of instructional scenarios.

Hypervideos add to the benefits of a traditional video four main features:
- **Advanced navigational control**: it allows users to explore the video under non-linear trajectories, through a panel-like table of content which segments the video in sub-sections;
- **Hyperlinking function**: it enables to insert blinking markers in the video to focus the attention on specific relevant details and linking the marker to additional information (images, texts, external documents or web pages) in order, for example, to anchor theory to practice;
- **Quiz function**: it allows to insert questions in the video to immediately provide learners a formative feedback;
- **Video-annotation function**: it permits to individually or collaboratively annotate the video to support analytical tasks and foster reflective skills development.

4. A pedagogical model for HV
We implemented iVideo.education in a wide variety of educational contexts, from in-service teachers, to apprentice chefs and fashion designers, to surgery room technicians, nursing students and masters level students, both in Switzerland and abroad. Based on a review of the literature and on the analysis of such experiences (e.g. Cattaneo, Nguyen, & Aprea, 2016), iVideo researchers developed a model (Cattaneo, van der Meij, Aprea, Sauli, & Zahn, 2018) to facilitate the design of effective instructional scenarios integrating HV. This model includes two intertwined dimensions: the (hyper)video related design phase and processes (including a preparation, a production, and a use phase) and the involvement of the different actor(s) therein (connected to the instructional strategies a teacher may want to employ).

5. Implications for Practice
The model provides the possibility for a flexible and effective integration of HV in different teaching and learning contexts. Believing that technology is not an added value per se, instead, it needs a strong pedagogical rationale behind, we started to investigate under which conditions using HV is effective for teaching-and-learning (e.g. Cattaneo, van der Meij, & Sauli, 2018; Cattaneo, Boldrini, & Lubinu, 2018). We are still continuing this fascinating investigation, which already gave us the possibility to draft specific guidelines for teachers and educators (Cattaneo & Sauli, 2017) to support the design of HV-based learning scenarios.

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References