



REPOSITORY OF GOOD DIGITAL LEARNING PRACTICES IN THE AUTOMOTIVE SECTOR

Integration of EdPuzzle for participatory teaching

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Brief description


Designing methodology for integrated didactic lessons with an asynchronous preparation moment that uses the tools of ed puzzles to create interactive videos.

 <p>What was the purpose of the practice ?</p>	<p>Delivering effective face-to-face and distance learning lessons that go beyond the face-to-face model and encourage the attention and active involvement of learners by using interactive video.</p>
 <p>What was the initial situation / specific context when the practice was implemented (digital strategy, digital equipment...)?</p>	<p>In February 2020, when the pandemic broke out, the Cfp was closed for about 15 days: there were numerous cases of illness (even severe) among the management and coordination staff. However, the centre was able to respond immediately to the problem of distance learning, as it had individual devices for both trainers and students, platforms and staff who were already digitally qualified. Many teachers were already trained (thanks to an extensive programme initiated and financed by the Lombardy Region) in the use of technology in teaching before the pandemic and were accustomed to using a wide variety of tools.</p> <p>The Head of Digital Learning (D.B.), with the help of the support team (4 internal professional educators + some external ones from the municipality) codified a methodology of intervention (see Pedagogical approach and resources), which was then shared with the management; subsequently, they promoted a training course for all colleagues to share techniques and tools.</p> <p>The support team usually takes special care of "certified" pupils (BES, DSA, 104) and has a different sensitivity towards children and learning.</p> <p>It should be borne in mind that many of the trainers in the very early stages of the pandemic (spring 2020) were in the</p>

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	<p>SIF/Integration Fund (wage guarantee schemes) and therefore on reduced hours.</p> <p>Since the beginning of the 2020/21 academic year, it has been possible to manage both presence and distance; in fact, pupils with disabilities or with family or other problems (e.g. pupils who did not have an individual device in their family) were able to attend classes in presence: the trainers therefore managed classes with pupils in presence and others connected from home.</p> <ul style="list-style-type: none"> • What are the objectives of this digital strategy? The actions implemented? <p>Infrastructural investments and qualification of human resources, including the identification of two system figures: IT referent and digital learning manager or digital animator (a term also used in the school world).</p> <p>Since September 2021, the Wi-Fi network maintenance service has been outsourced, after a move to fibre optics decided following the emergency phase, where connectivity had been implemented thanks to the purchase of portable routers to connect to the Internet. Everything is now located in the Cloud platform.</p> <ul style="list-style-type: none"> • What digital equipment does the organisation have? <p>D.B. arrived c/o the Padri Somaschi 4 years ago after experience as a "digital animator" in other training structures where he had had the opportunity to do research in the educational and digital field (since 2010). In 2019 the choice was made to adopt Google's GSuite, with activation of email addresses for trainers and learners. Other platforms, such as EdPuzzle and Moodle, were already in use. EdPuzzle is still in use: it is judged to be very interesting because it also allows the use of materials from colleagues. Moreover, the learners (and trainers) were already equipped with tablets. Now they have switched to the use of computers/laptops as distance learning has highlighted the limitations of the tablet for full operational</p>
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	<p>teaching. The Centre has an agreement with a local company for subsidised purchases for pupils' families. In fact, almost 70% of the pupils have a personal laptop.</p> <p>The labs have been equipped with WIFI cameras for recording videos to be uploaded on the platform (however, videos available on YouTube are also used).</p>
<p> Could you describe the implementation process of the practice?</p>	<p>As an educational practice I try to work on reality projects or orders. This practice is divided into 4 phases: Conception, Design, Realisation, Verification; in case the verification phase has highlighted critical issues, we return to the "design" and "realisation" phase. The cycle is repeated until the work is ready for delivery.</p> <p>The face-to-face lessons are kept to a minimum and, above all, are preceded, via the Edpuzzle platform, by a video with the topics that we will discuss in class in which self-assessment questions are included with the aim of helping the students to focus on the key points and to develop their self-assessment skills. Lessons are designed using the logic of Understanding by Design, with the essential questions as the educational core. The assessment of competences is done, not only by analysing the finished product, but also through the production of several artefacts to be presented during the course, according to the logic of Bloom's Taxonomy in its recent revision (wheel and not pyramid).</p> <p>With the arrival of the emergency, I drew on my previous experience to create a training course that, in practice, did not differ much from the normal course of face-to-face lessons. Each distance learning lesson was a time for discussion and clarification of what my students had learned from the material shared in advance.</p> <p>At a distance, the 120-minute lesson is organised as follows: 10/15 minutes of frontal lesson on the topic of the day (pupils must have already seen the material shared through EdPuzzle), division into subgroups by level and 60 minutes of work. This structure is aimed at making the pupils responsible. During this time I moved from one group to another and</p>



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	<p>intervened where necessary. In order to have an overview of the class, I was present in all groups at the same time (generally no more than 3/4). At the end of each meeting, pupils had to upload the required product to the Classroom course. I shared this scheme with colleagues, who then customised it according to their own needs. The scheme is also adaptable for 1-hour interventions (see attached scheme which the trainer applies to both face-to-face and distance sessions).</p> <p>It has been observed that for 1 hour of distance learning at least 2 hours of preparation are needed: for the most inexperienced, this can be a disincentive or a "brake". Maybe also for this reason, some trainers "go back" to the "traditional" frontal lesson. Other trainers go back to using the EdPuzzle platform when the class returns to DAD, as happened in the 2020-21 academic year and is also happening in the current 2021-22 academic year. Still others, like the interviewed trainer, continue to use the technology and the defined approach also in presence.</p>
<p> What is the academic discipline concerned? (only if the practice is specific for this subject)</p>	<p>All subject, in particular we work on Digital competences (IT, educational robotics and digital handicrafts). With regard specifically to the "bodywork" profile, this includes: 3D printing, laser cutting, graphic design/AutoCAD elements, etc. Between March and June 2020, a simplified approach was favoured. Thus, the content covered with the pupils was basically:</p> <ul style="list-style-type: none"> - Google Sheets to also link to other disciplines, especially mathematics with classes 1e and 2e; - Creation of videos with classes 3e. <p>The same approach has also been adapted by other colleagues for other disciplines; more complicated of course, also in time, is distance or integrated teaching by lab teachers who prefer "presence". In fact, in the course of the school year 2020/21 they too continued to use videos of their own production or video content already available on YouTube, for everything that was not dealt with directly in presence in the laboratory, but the results were not very satisfactory.</p>


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 <p>Who are the targeted beneficiaries? (only if the practice is specific for these beneficiaries)</p>	<p>All trainees of the training pathways except those in the "motor vehicle repair" sector, where another trainer is involved. In the case of the present questionnaire, only the trainees of the "body repair" sector are considered, which had 4 classes in the school year 2020/21 (1 class 1a; 1 class 2a + 2a dual; 1 class 3a), corresponding to about 80 trainees, and 5 classes in the school year 2021/22 (the same as the previous year + 1 class 4a), corresponding to about 100 trainees (on average 20 trainees per class). The 4th classes are both regular and dual classes. Three-year-old pupils = EQF3; 4th year pupils = EQF4.</p>
 <p>Could you describe the pedagogical approach associated to this practice?</p>	<p>My encounter with Papert's educational theories in 2010 made me aware of how important the combination of digital and skills is. That's why I started a training path that led me to deal with various educational models; specifically, the EAS (Episodes of Situated Learning) of Prof. Pier Cesare Rivoltella (Catholic University of Milan) and the UBD (Understanding By Design) of Prof. Grant Wiggins are those that helped me to better formalise lessons in which digital skills and competences could create an educational environment flexible to generational change and effective in achieving objectives.</p> <p>As an educational practice I try to work on reality projects or orders. This practice is divided into 4 phases: Conception, Design, Realisation, Verification; in case the verification phase has highlighted critical issues, we return to the "design" and "realisation" phase. The cycle is repeated until the work is ready for delivery.</p> <p>The face-to-face lessons are kept to a minimum and, above all, are preceded, via the Edpuzzle platform, by a video with the topics that we will discuss in class in which self-assessment questions are included with the aim of helping the students to focus on the key points and to develop their self-assessment skills. Lessons are designed using the logic of Understanding by Design, with the essential questions as the educational core. The assessment of competences is done, not only by analysing the finished product, but also through the production of</p>




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	<p>several artefacts to be presented during the course, according to the logic of Bloom's Taxonomy in its recent revision (wheel and not pyramid).</p>
<p> What are the tangible results of this practice? (if relevant)</p>	<p>First of all, there has been generalised training in the use of GSuite and Classroom (about 30 video tutorials are available on YouTube (hidden) and linked on EdPuzzle), including families for access to teacher interviews (which take place on Meet).</p> <p>More support for pupils. Having the history of lessons (materials + videos) available meant that pupils who had fallen behind could also be caught up. Ex. The complete "Carrozzeria 2019" course is available for class 3 and their teachers, who can also use all the material produced to catch up on "old content".</p> <p>The outline (pdf file) of the training sessions is also available.</p>
<p> What is the impact of this practice (on learners/ on trainers)?</p>	<p>Over the present year, contents and objects already dealt with previously are being taken up again; it has been seen that by presenting the same exercises in a different form (but for the same skills/knowledge) the pupils are not able to carry out the task (so there has been no real learning).</p> <p>Some of the ways in which 'expert tests' (or tasks) are carried out in the classroom have also changed. In fact, the reintroduction of paper and punishment in many exercises has sometimes been envisaged in order to avoid "shortcuts" (e.g. copying and pasting from one's own notes) because pupils have to learn the grammar of programming (in robotics). The request to do the test "by hand" has precisely the objective of supporting the consolidation of learning by transforming it into skills; it is not done in a punitive way.</p> <p>On the contrary, in Internet research to prepare classroom presentations, pupils are expressly invited in the first phase to make a "copy/paste" (to collect the different information + sources) followed by a second document, reworked in an original way to summarise what has been collected (therefore: not an opposition to "copy/paste" that is "institutionalised", but the moment of "original" reworking is needed to consolidate learning).</p>

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	<p>These are all strategies born after distance working.</p> <p>In general, the evaluation of what was introduced during the pandemic is the part where there was the most lacking, caught up in the emergency.</p> <p>The pandemic and what was put in place during the lockdowns and the DAD 'shone a light' on the teaching action in general by the teaching staff. In 2021, the management activated an internal project to analyse the various organisational processes in order to implement improvement/corrective actions. As far as teaching is concerned, a path has been set in motion that provides for:</p> <ul style="list-style-type: none"> • Creation of an internal working group (already activated) which includes also the interviewed trainer • Structuring of a questionnaire aimed at collecting the teaching practices ("The successful lesson") adopted by all trainers of the Cfp. The questionnaire will be administered at the beginning of 2022. • All collected practices will be analysed during a Summer Campus in 2022 (hopefully in presence) where the elements defining a "successful lesson" will be defined together and an "observation protocol" will be agreed among teachers. • This protocol will be activated during the next academic year 2022/23: a teacher will enter a classroom and will be observed by a colleague in order to understand the areas of improvement (this practice has already been tested by the interviewed trainer during a previous professional experience).
 <p>What are the benefits of this practice?</p>	<p>The key element was the presence of staff who were already qualified and experienced: everyone was on average already trained in IT/digital matters: with Generazione Web of the Lombardy Region since 2013, which allowed both a large investment in technology and then also in staff qualification (digital teaching).</p> <p>Another key to success: the enthusiasm with which the staff to a great extent threw themselves into this initiative. With the</p>

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	<p>management blocked by Covid, the staff reacted from below and the management then validated approaches and tools.</p>
<p> What advice could you give for a successful implementation of this practice?</p>	<p>The lack of pedagogical references. Eighty per cent of teachers teach as they have learned; they do not question the models already studied and analysed and tested elsewhere (e.g. how do I make a competence-based planning?). If e.g. Bauman has done some thinking, I start from him and he comes forward.</p> <ul style="list-style-type: none"> • How were these constraints addressed? Was it successful? <p>Funding was found for a "Capacity Building" project which first of all made it possible to analyse the Cfp in its various aspects/departments/processes: management, relations, planning, teaching, etc. The results of this process include: the reorganisation of the management, as well as the teachers' observation project ("Impacts" section). Among the outcomes of this process we can already mention: the reorganisation of the management, as well as the teachers' observation project ("Impacts" section).</p> <p>It has become clear that there is a need to grow.</p>
<p> How could one replicate/adapt this practice to a different context/different scale? (if you have information)</p>	<p>It is reproducible and scalable. To be organised and designed. The criteria for success and the limits are also the requirements. They are fundamental:</p> <ul style="list-style-type: none"> - the motivation of the trainers - their qualification also on digital - knowledge of the underlying pedagogical models. <p>A Commission/Working Group has also been set up on evaluation to work on motivation, group and team building.</p>
<p> Testimonial (not mandatory)</p>	<p>Desire and drive to go deeper into the topics/models; further motivation to work with pupils and achieve the unattainable goal of the 'perfect lesson'.</p>

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<p>Sources available on this practice</p>	<ul style="list-style-type: none"> • https://www.dropbox.com/s/ic54nhig6v0ysm6/Copy%20of%20ipotesi%20scansione%20ora.drawio.pdf?dl=0 • https://www.dropbox.com/s/ev8llqlo68oygde/UBD-grafica-disegno_carrozzeria-%204%20anni.pdf?dl=0
<p>See also in the repository</p>	<p>Links to the similar practices in the repository</p>