



DEPIT

Designing for Personalization and Inclusion with Technologies

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Output IO5

Guidelines for teachers and stakeholders

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1. The DEPIT project

Aims

DEPIT (Designing for Personalization and Inclusion with Technologies) project is co-founded by the Erasmus+ Programme of the European Union.

It includes two levels of interest: the development and implementation of a teaching methodology based on a theoretical framework shared by all the partners and the development of an application software starting from the needs of teachers involved in the testing phase of the methodology (to download the DEPIT App: <https://infofactory.it/media/files.html>). As we will see, teachers' contribution has been incredible and useful (starting from the survey on design activities to the pilot phase and then during international mobility within Italy and Spain).

The APP allows users to design and implement curricular learning paths at different levels: a general design divided into modules and individual sessions, structured as a Graphic Organizer, able to ensure a clear vision of the organization of the educational path.

The result is a tool that can be useful for teachers during their daily planning of classroom work, but also for the students, helping them to have a clear overview of their own learning path. The APP has been designed as a Graphic Organizer, viewable with the IWB and usable and modifiable in the classroom.

The aim of this project, then, is to develop, test and transfer an interactive learning design methodology and an App into the school and university systems - starting from the the partner countries to reach every EU country. In particular the objectives are:

- to develop a learning design methodology to support teachers in managing new and complex classroom realities, and differentiation between learner needs;
- to develop an Application (for PC and mobile), easy to use, to support teachers in designing their learning activities (both in the classroom and at home);

- to test and validate the Learning Design Methodology and App in several schools and at different levels (in partner territories);
- to implement a MOOC to open up the learning opportunities to other territories and to promote the use of the methodology and the app;
- to *disseminate and transfer the Learning Design Methodology and related App* to other schools, universities and teachers outside the partnership at both local, national and European level.

To achieve the objectives defined, partners from 4 different countries cooperated throughout four different action phases:

- 1) in the 1st action phase partners defined and fine-tuned the methodological approach;
- 2) in the 2nd action phase partners developed an App, testing their use directly in schools and with teachers that belong to the networks of the consortium;
- 3) in the 3rd phase a training process consolidated the use of the Methodology and App through a training course for the teachers of the involved pilot schools, through the introduction of the training content within the course curricula of the science education program of the 4 universities involved, to prepare future teachers/trainers and through the development of the course content in a Massive Open Online Course (MOOCs);
- 4) the 4th phase is dedicated to transfer results at local, national and European level, including the organization of multiplier events.

Partners

The DEPIT project was conceived by a consortium of partners representing a set of different skills, necessary for the development and implementation of technologies that can be integrated into educational planning situations: Italian and European universities, international associations of teachers and trainers, networks of schools consortium for projects in teaching innovation, software development companies.

The partners are:

University of Macerata (Italy – Coordinator) – www.unimc.it

AEDE-IT (Italy) – www.aede.it

Universidad de Sevilla (Spain) – www.us.es

Association Rete DEPIT (Italy)

Centro del Profesorado Sevilla (Spain) – www.cepsevilla.es

Consorzio Rete CRESCENDO (Italy)

University College London (UK) – www.ucl.ac.uk

Infofactory srl (Italy) – www.infofactory.it

Università Cattolica del Sacro Cuore (Italy) – www.unicattolica.it

Associated Partner: AETEE – Association pour la Formation des Enseignants en Europe (Belgium) – <https://atee.education/>

After these years of co-operation and sharing, a very huge result is represented by the collaboration between schools, universities (three units in two Countries), teachers' associations and developers: each voice has been useful, important and relevant during the project.

Pilot research

The project started first with a in depth analysis of design methods in each countries and in literature revision. A questionnaires has been developed and delivered to schools in Italy and in Spain. The questionnaire aimed to have feedback from teachers with respect to their planning methods, both relative to the annual planning and to the preparation of a single lesson or work session. The purpose was to track the current situation in order to start an observation of the needs and habits of the teachers, that makes the implementation of the DEPIT app as much aligned as possible with the work needs of teachers. The questionnaire consisted of 16 questions divided into three thematic areas: the sample profiling, the planning of the annual course, the planning of the single lesson or teaching session. We got 289, territorially distributed in 16 Italian regions, with a certain preponderance for the Marche and Friuli Venezia Giulia, sites of the networks of schools that participate as partners in the DEPIT project. Questionnaires from the Spanish schools were 129, almost all located in the Seville area.

Comparing the main results: annual design underlined similarities both in terms of content and design methods. Both the design bases (national indications and indications inside the school), and the spaces of autonomy intended for individual teachers are very similar. Spanish teachers in part prefer a form of narrative design, while Italians use graphic or tabular forms. Daily planning are then different in the degree of explanation. Spanish always design implicitly and with a high degree of structuring, Italians have more varied styles, often using notes, sometimes they rely on mental traces. Another difference lies in sharing: Italian teachers use the collaborative form also for the daily planning, which instead for the Spanish is an individual type activity. The problems encountered: both the samples wish for greater sharing and collegiality in the design, for which they would like moments and dedicated spaces.

Teachers appreciated the importance of having time to reflect about their teaching and learning practice. The reflexive practice about the importance of a good teaching design to get a personalized and inclusive learning.

After that survey partners decided to conduct a pilot research study conducted at school and at university level (with future primary schools teachers)

Catholic University of Milan

This unit used DEPIT APP during the university course of “Education Technology” held by Professor Pier Cesare Rivoltella, during classes and a practical activity guided by a tutor.

They used the following proposal, designed for university students, focused on the evaluation of the DEPIT APP considering 2 steps: APP use experience with university professors guidance; University students’ design experience with APP.

Students in fact were not in their internship yet, so we could not let them to a direct use of the APP at school. The unit considered, though, their use as university students and as “teachers to be” during a guided group session aimed at designing an activity following the EAS method (in English, Episodes of Situated Learning) with the DEPIT APP.

Time spent with the APP has been important (4 weeks, than means 4 lessons), as students usually have different skills, especially referring to the use of digital media and APPs (a lack of time is in fact an issue underlined in the evaluation): group is not homogeneous for technical skills, but also considering their experience at school. The unit collected 88 evaluations, 81 are considered valid and complete. Within these 81 students, 21 do not have an educational design

experience (question: “Did you already have experience in educational design?”) and 21 students do have a teaching experience (1 to 13 years, with an average of 2 years-experience at school).

Students considered many interesting options:

- knowing the frame helps them to learn better;
- getting a better link between activities and lessons;
- a nice graphic looks important to learn and appreciate the content;
- every material is stored in the same place (that means, it is useful when you need to find images, schedule, examples, presentation and different stuff).

Referring to the second step (students as active users of the DEPIT APP), the APP looks like usable (question: “On a scale of 1 (= not usable) to 6 (= totally usable) how do you define the usability of the APP”): more than 50% consider the app very usable in their educational context.

The unit gathered the following 4 recurrent topics:

- “the use of the DEPIT APP allows teachers to organize and define previously all the activities/lessons considering time and limits, but especially to correct them while teaching”, a student said (organization and error detecting);
- have a detailed idea on the path (where you are, what to do next for example);
- “the APP let us organize and define the steps in details”;
- an important issue refers to the need for a clear idea of competencies requested by each activity: “this allows teachers to think about the aim and what he or she is asking to students, so that each activity could really answer to their needs” (said a student with no teaching experience);
- and last but not least, the APP makes it possible to document each activity and get a strong idea on your teaching.

University of Sevilla

The piloting of the DEPIT in Sevilla application with university students has been performed at the University of Seville within the subject “Prácticas Docentes I –Previous Training”. The DEPIT application has been tested in two groups of third-year students in Primary Education

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Degree.

Regarding difficulties and potentialities, the use of the APP has meant for the students a break with respect to their previous conceptual structure, and they have appreciated the help of the professors, as well as the existence of a pedagogical and technical guide. In conclusion, throughout this experience, students have valued the APP as a tool of great help within the classrooms regardless the initial barriers.

The use of the APP has shown them a more transversal pedagogical design, linked to a specific pedagogical objective, not so much to content objectives.

Students designed an individual Didactic Unit, adapted to real school context, and they also recorded the implementation through video in a real classroom situation.

In summary, the evaluation revealed the importance of the APP when it comes to structuring content and designing activities, as well as having the resources organized and making the entire teaching- learning process visible. Finally, we must highlight the appreciation that some student make about the potential of the application for the generation of customizable itineraries in the same platform.

The most remarkable achievement of this experimentation is undoubtedly the conceptual change that the DEPIT experience has provided the students. Teachers also appreciated the possibility to share practice in different countries: teachers' mobilities has been an important issue and this is a very interesting output considering their professional profile (internationalization, participating in European project, increasing job satisfaction, getting new positive synergies).

University of Macerata

The DEPIT application was used in university teaching at the Department of Education Sciences, Cultural Heritage and Tourism of the University of Macerata as part of the Primary Education Sciences course, a professional training course for future teachers of nursery and primary schools.

The pilot was conducted along two different lines, which covered the following aspects: to use of the app as a tool for designing and sharing the didactic path by the teacher; to use of the app as a design tool for students (pre-service training).

The use of the app has been planned at two distinct levels: during the course of Educational

Technologies, the functions and the theoretical background on which the DEPIT project are based were illustrated to students, who were able to test some functions of the application in groups and to produce simulated design artifacts. Instead, in the course of Theories and Methods of School Design and Evaluation, students were asked to develop a design of a work session through the application which they then did in the classroom, during the direct internship, which was carried out in a primary school class.

This pilot was very complex and took nearly an entire school year to be carried out and then analyzed. Students highlighted the following aspects:

- the use of the application allows a greater awareness in the production of designs as it guides novices and helps them to structure consistent and complete paths;
- the design artefact produced is an excellent tool for self-evaluation with respect to the practical skills that are learned during the course;
- the design artefact also provides security and greater orientation when students have to conduct their first lessons in class.

The MOOC

Considering the impact of the DEPIT APP, we designed, developed and launched a MOOC (May, 2020), as a self-paced course to analyze the problems teachers find in designing in complexity and to deepen how digital technologies can support the design process.

Teachers produce complex, multi-modal courses, as well as an explicit and personalized design. Hence the need for a design visualized for the students, to favor a construction of global sense and to highlight the red threads of the pathway. The self-paced course, therefore, starts from the design model mediated by the Conversational framework proposed by Diana Laurillard, as we will see in the “Theoretical framework”, which presents an interactionist approach to teaching through the DEPIT APP, which supports explicit and visible design to students. In addition, it presents experiences and reflections of many school teachers who in Italy and Spain have used DEPIT and highlighted their strengths and suggestions for an effective work. As an open educational resource, the MOOC is designed to support school teachers design, from pre-primary school to high school (no specific prerequisites are required).

The MOOC is hosted on the European Schoolnet Academy. A short presentation can be reached here: <https://youtu.be/UUFgGaFGvgE>.

Learning objectives of the MOOC can be summed up as follows:

- to understand and assimilate the principles of the Design Learning model connected to this project;
- to understand and assimilate the principles of Visible Design;
- to recognize DEPIT's contribution to improve the educational process;
- to know the DEPIT APP, its functions, its educational usefulness, its applications, its advantages;
- to identify the advantages of the DEPIT tool to make education inclusive and customizable.

The MOOC is organized in 3 Modules:

- Module 1: Why and How Annual Planning Design?
- Module 2: DEPIT - Pedagogical Model and App

About this module

 [Bookmark this page](#)



Welcome to module 1 of the Designing for Personalization and Inclusion with Technologies MOOC! In this module, you will see how teachers design the annual planning in today's school contexts and what problems, related to the current complex reality, impact such learning design.

The learning objectives for Module 1 are:

- Understand what annual planning design is
- Be aware of the problems that teachers encounter in designing learning;
- Identify useful models for designing learning in a complex society;
- Know the challenges posed by digital society;
- Be aware of issues related to personalization and inclusion;
- Understand the concept of micro-learning.
- Know the relationships between macro and micro learning design;

- Module 3: Design With DEPIT: Pedagogical and Practice Reflections.

1. MOOC - content Module 1 (About this module)

The structure is rich in videos, examples, activities, documents in order to make teachers' experience more confident.



2. MOOC - content Module 1 (Video)

Design practices of teachers

[Bookmark this page](#)

For further reading take a look at this document where you can learn more about the teachers' design practices.

1) How is this multiple level of design achieved in practice and what meanings are there for teachers?

This first question is useful for understanding the need to simultaneously govern two types of vision: a global one, indicative, in which the teacher shows the meaning of their teaching activity by structuring a lesson plan that has a starting point, a goal to be reached, and intermediate goals. A map that guides teachers throughout the school year.

A second vision should instead be more positioned and detailed. In fact, the teacher must observe and anticipate what happens and will happen in the classroom day by day and, from this context analysis, have a more limited map, which helps to identify the peculiarities of daily activity. The strategies to be used, the timing, and the useful mediators to achieve the objectives.

If macro-design is an orienting device, micro-design is the place where relations and interweaving of skills, knowledge and strategies are reified. Representation anticipates action.

2) How do the micro and the macro dialogue? Is there a logical and structural relationship between the levels?

For the teacher, planning means orchestrating a series of activities that encourage learning that is situated and consistent with knowledge. In other words, according to Chris Dede and Barry Fishman, each didactic path creates three trajectories: cognitive, linked to epistemologies and knowledge, intra-subjective, concerning the identity of the subject, and inter-subjective, concerning the relationship between self and the world.

In this vision between macro-design and micro-design, there can be no linear or hierarchical relationship.

The micro does not descend from the macro just as a series of assembled micros does not give rise to the macro. The two paths are autonomous but interdependent. They have their own logic and meanings.

"Competence appears only with a look that embraces a significant time interval and that takes into account the history of the subject. The devices of the micro level have their own consistency and are aimed at

3. MOOC - content Module 1 (Further reading))



Patterns and methods

[Bookmark this page](#)

In the previous units it was highlighted that micro-design presents today some structures that have their own autonomy and self-consistency. The micro-learning proposal, as it will be shown in this unit, is an answer to this need.

Today, the socio-cultural situation launches to teaching new challenges, challenges related to the construction of contents, to their form, to regulation, to the ability of teachers in classroom management. To face these challenges, traditional teaching methods - based on the frontal lesson - are no longer sufficient: new teaching methods capable of bringing attention to the interactive dimension, capable of focusing on social competence, the ability to work in group, on content production and meta-cognitive reflection operated by students. The desired transition is from a class passively thought - as the end of a speech constructed by the teacher - to a new idea of class conceived as a learning community in which teachers and students (together) co-construct the meanings, develop reflection, initiate and carry out investigative processes.

In this video **Prof. Pier Cesare Rivoltella** reflects on the current need to promote didactic that go beyond traditional didactic, in order to identify the challenges of the socio-cultural context and to align with the new demands of teaching. In this sense, it is possible to resort to the micro learning strategy and, within this perspective, one of the method's hypothesis that can be used, is that of the Episodes of situated learning.

4. MOOC - content Module 1 (Video description)



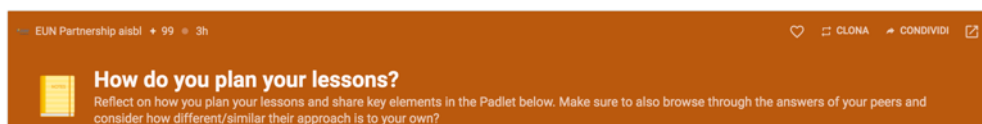
Activity: How do you plan your lessons?

[Bookmark this page](#)



Reflect on how you plan your lessons and share key elements in the Padlet below. As part of this consider the following questions:

- What do you start out with when planning lessons? Are you thinking about your students or your curriculum at the outset of planning?
- How else does your planning link to curriculum documents or other macro-design elements?
- What type of template/tool do you use for your planning?
- How would you like to change your own planning?



5. MOOC - content Module 1 (Activity + Padlet)

As teachers' practice is really important to make examples and concrete sharing of knowledge and cases, the MOOC involved not just universities (partners of the project), but also teachers

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as important contributors. Part of the videos, the examples of real life use of the DEPIT APP are important assets of the MOOC.

How the app changed the teachers' model

[Bookmark this page](#)

Some Italian teachers who have experimented in their classes with the DEPIT application to design the annual curriculum explain what changes they have noticed both in their design activity and in their daily teaching with students.
Watch this video by Rete Crescendo:

Video

Start of transcript. Skip to the end.

We work at a Middle School in Italy and we have experimented the app with our students aged 12 to 13. Planning the learning units through the app has been a challenging experience for us, because we had to simplify all the educational plan, re-design the lessons and the objectives, think about real-task activities, and about possible solutions to help the students with difficulties. We realized we had to adopt a more effective

6. MOOC - content Module 3 (Teachers' practices)

2. The theoretical framework

The complexity of the present contexts, based on the mobility paradigm, requires a flexible tool, based on the continuous adjustments and revisions that take place during teaching and learning, and the necessary restructuring of the processes.

This means that design has a great importance as situated and recursive process (design, action, testing and documentation are linked).

The theoretical framework considers then current challenges, and it includes concepts as *micro learning*, curriculum design, "teaching as a design science" (Laurillard, 2002), *visible learning*, inclusion and the Conversational Framework we will focus on later. What is needed is an explicit design where the plot is clear both for teachers' and students' benefit, as considered by the visible learning approach. In this way, a visual organizer, like a map or the DEPIT App as we

will see, makes the sequence of the activities clear and it can offer a vision of the whole learning scenario.

Micro learning and visible learning

We should also consider the idea of micro learning and the importance of micro-contents, related to mobile-learning: if the activities have to be enjoyed in mobility, they have to be short. Micro-contents also help to face the problem of focused attention today, that is more and more reduced and works according to cycles (5-7 minutes on average). We should then understand how teaching can become consistent with those rhythms attention and DEPIT seems to consider this aspect deeply, having the macro level in the background.

“Micro learning is a rather new expression. Yet, in the 60ies, in particular at the University of Stanford (USA), methods of micro teaching have been developed. Based on critical views of traditional lecturing in teacher education, Dwight & Ryan (1969) summed up the state of the art in those days. They designed a cyclical model (teach – critique – re-teach – critique). Their program aims at the acquirement of skills in teacher education. It puts an emphasis on team teaching and mentoring, and it is structured into micro lessons, micro periods and laboratory phases for research purposes” (Hug 2005) Micro learning starts from project based learning, but it looks different for the possibility of working within 2 or 4 hours, while a project would require more time.

The micro learning episode takes into account the knowledge and skills of students, also gained in informal contexts and reverses the model of the classic lesson, practiced in the last two centuries and structured in three phases: the teacher exposes a content, students make exercises, the teacher evaluates them. Today, this model is impractical and it requires that students starts from common and homogeneous cultures, experiences and learning styles, necessary to follow the teacher's exposure.

In micro learning teaching starts from the experiences possessed by students. It is structured on limited segments of content, organized with short activities - possibly based on production - with short instructions and reflections to be conducted ex post.

The key issue is the transition from fragments to the network of meanings. Hug made a draft of dimensions appropriate to describe, analyze or generate versions of micro learning considering

time (short), content (small or very small), curriculum, form (like episodes, elements of informal learning etc.), process, mediality (face-to-face, mono-media, multimedia etc.) and learning type (Hug 2005).

The flipped classroom, the ESL method (Episode of Situated Learning) are two main examples of teaching methods adopting micro learning. “The ESL model is a Teaching and Learning Activity (TLA), part of many didactic models and capable to foster meaningful learning opportunities (...). Like the Flipped didactics, ESL can provide students the opportunity to link contents before coming into the classroom, through activities aimed at increasing interest and curiosity. Nonetheless, ESL didactics present a

three-way structure, with three main work phases, each one comprising specific actions by teacher and students” (Terrenghi and others, 2019).

The complexity depicted requires a sort of aggregator, that means a “layout” to connect fragments (of information for example) and to make design as a *visible action* (to reflect on it, to get to know it, to make it coherent, to show it to learners as well, to get the entire path made of single actions in the whole vision), helping both the design process and the practical work in the classroom (time, resources, activities, difficulties, connections in terms of sustainability).

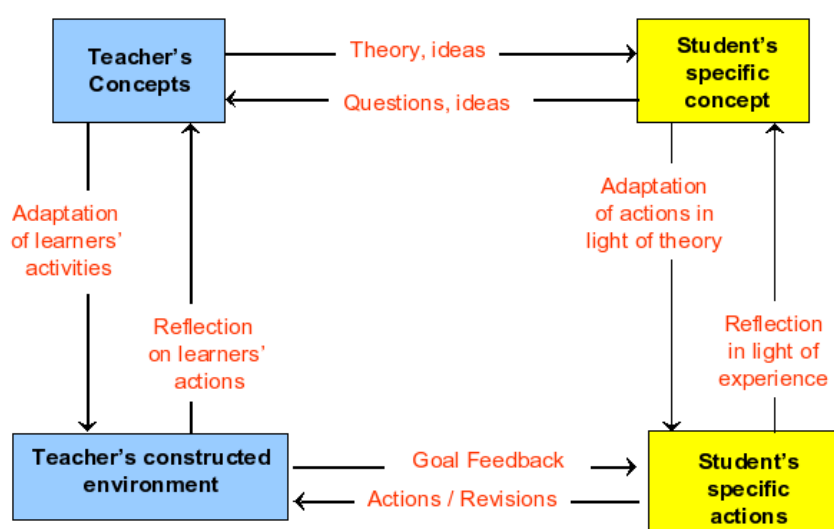
Thanks to a map teachers also have the opportunity to design personalized activities, keeping a common path and suggesting several ways to access it using different mediators or individualized activities, providing different modalities to access the content for students. The inclusive curriculum is, in fact, flexible and “conversational”.

The Conversational Framework

Laurillard’s framework (pillar for the DEPIT APP) is an interesting perspective on learning design because it’s a learning theory and - at the same time - a practical approach/framework to design educational environments. Teacher’s design should take into account different forms of communication, helping students to understand reality (“interpreting reality” is the main issue). The Conversational Framework “is a framework for thinking about the design of learning and teaching, which integrates several theories of learning” (Laurillard, 2011, p. 9). It is “Conversational” because it describes the continual iterative dialogue between theory and practice, teacher and learner, and students together.

According to Diana Laurillard, the teaching-learning process takes place through four elements in a deep dialogue: teacher's concepts, student's concepts, teachers' learning environment and students' specific actions. There are four forms of communication (and mental activities) each design should include: discussion, adaptation, interaction and reflection (8 flows, 2 each form of communication):

- discussion takes place between teacher and student/learner, their conception should be accessible and they should both agree on learning objectives;
- adaptation (of learners and of the environment created by teacher) is referred to student's integration of feedback into his/her own conceptions and to teacher's adaptation of the objectives;
- interaction is between student and the environment organized by his/her teacher, asking teachers to "adapt to world" and to focus on supportive actions to give feedback to learners;
- reflection takes place on student's performance by teacher and learner too, as teacher has to support students revising his/her conceptions and learner should also reflect on learning processes.

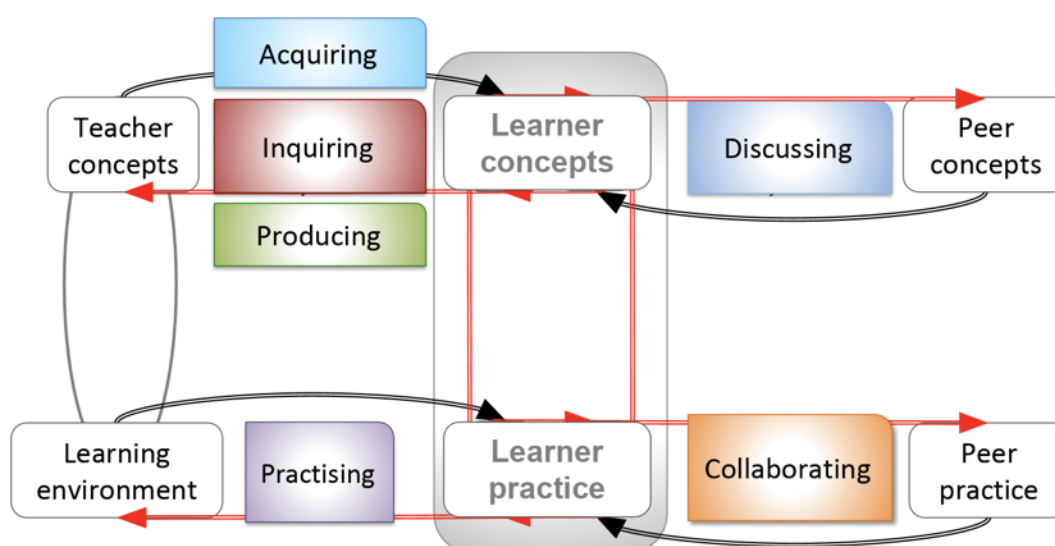


7. The elements of teaching and learning as a dialogic process

What is the role of teachers? Is there an asymmetry? As Laurillard wrote, (...)“it is not symmetrical: the teacher is privileged as defining the conception and designing the practice environment to match. The teacher also learns, from receiving learners’ questions and products, as well as reflecting on their performance” (Laurillard, 2011, p. 7). Teaching is in fact a design science (Laurillard, 2012), with a creative spirit and a deep analysis of experience.

There are different ways to help learning: acquisition (reading, watching or listening), practice, discussion, inquiry (research), collaboration (group work, peer work), production (and essay, a project, a performance). So acquiring, inquiring, practicing, discussing, collaborating and producing are the main actions.

The Conversational Framework works on them and supports the notion that teaching is a dialogue.



8. The Conversational Framework (and the ways we learn)

DEPIT was born then under this framework, allowing to:

- weave multiple threads and multiple languages,
- link micro to macro,
- return to the design through the documentation (adding materials in progress),
- give stability to actions in class and the curriculum,
- become a heritage for students and for teachers.

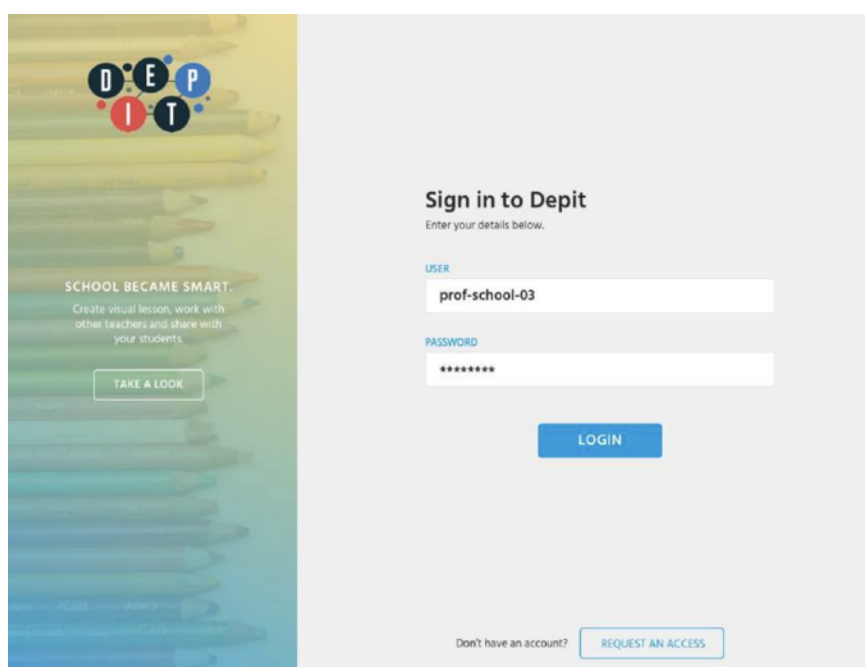
Cards allow to organize the materials, the activity and scan the path clearly also visually (for example through images and colors), also integrating the work colleagues (sharing the maps you are working on).

3. Tips for teachers: how to use DEPIT in everyday work

Even though we have a very detailed Guide to use the APP, we consider the importance of tips and comments developed by teachers who are currently using the APP.

That is why, besides the Technical Guidelines, we provide a very short summary of the main actions teachers can do with the APP in order to design a lesson, produce contents and cards, use the APP in the classroom and plan the evaluation.

The aim is to connect actions to the theoretical framework. Both are useful materials and resources, especially if mutually used. The Technical Guidelines are the last part of this document, as we consider the framework and these examples as a prior access to the APP philosophy in action. To download the APP just visit the website: <http://depit.eu/download-app/>.



9. Login page

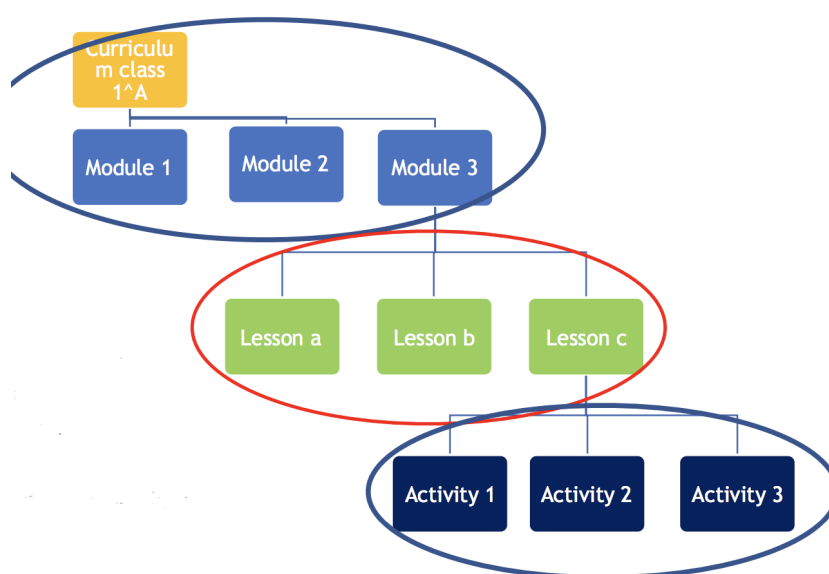
Open the page and click the link, then choose the system needed and download it.

Remember to write the username and password. If you are the first registered member of your school, you will be asked to activate the other accounts for your colleague.

How can I design with DEPIT?

Considering the design task, we should focus on two levels: macro and micro. Let's start with the macro level. How to create a curriculum folder?

Click on the 3 points on the right and choose NEW FOLDER, you can name it according to the content. This folder will host your annual path. It is the first step to organize the hierarchical contents in DEPIT APP, to make it easy to develop and to better plan your design. The *curriculum* is made of a set of *modules* (first level), each *module* is made of *lessons* (second level), while each *lesson* is made of *activities* (third level), as in the following Figure.



10. Levels (adapted from <http://depit.eu/files/2019/03/IO1-A2-DEPIT-App-Guidelines.pdf>)

Moving from the macro to the micro level means to create a map: after creating this general folder, click on the 3 points on the right and select NEW MAP.

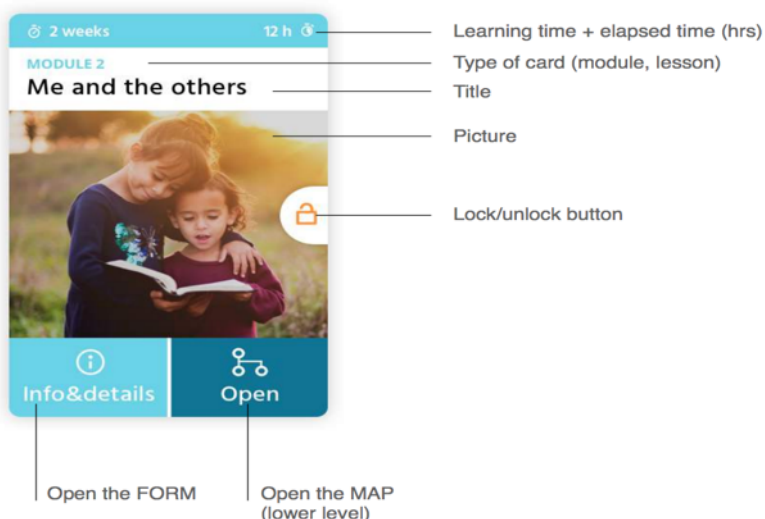
This process will help the organization of your lessons and materials, which correspond to a *multimodal* frame: videos, audio, pictures, GIFs, written papers, presentations, links. Everything can fit in the map, as needed and as the situation in the classroom evolves.

How can I create and share contents?

The visual issues are very important as they make learning *visible* and easy to grasp: every module, in fact, asks teachers to reflect on basic informations:

- the title, the topic (keywords),
- time required (learning time and elapsed time),
- a brief description (especially if we use the same card for a different group of students),
- the main objectives and competencies.

MODULE/LESSON Card

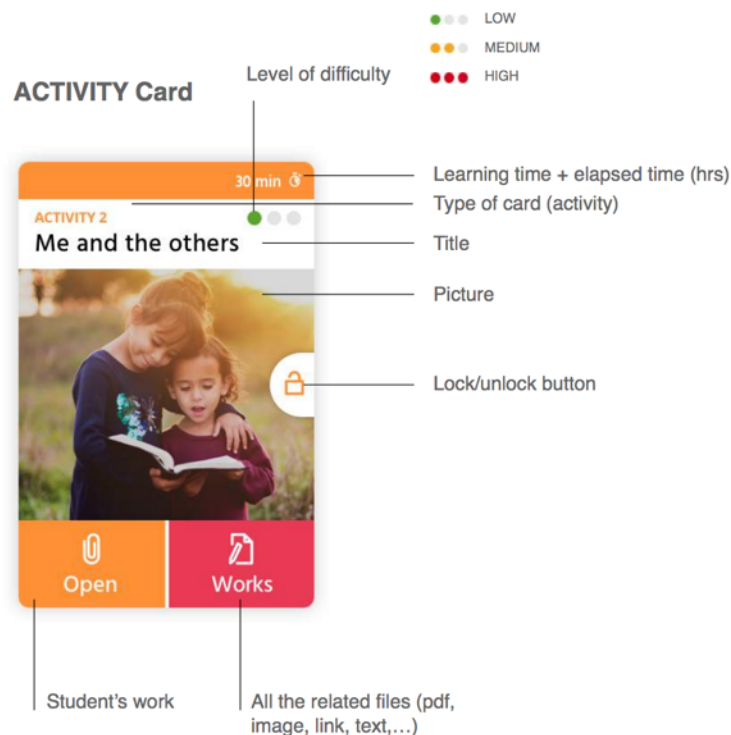


There are also two empty levels: initial and final notes to think about the activity, documenting problems, issues, benefits, surprises, changes needed etc. This notes are not visible to students when they access materials. From this card, teachers can open the form with informations and details, but also open the lower level of the map (see Figure 11).

11. Module/lesson card (taken from

<http://depit.eu/files/2019/03/IO1-A2-DEPIT-App-Guidelines.pdf>)

Lessons (that is the third level as seen before) include a form to be filled, with similar elements: title, time, type of activity, the organization of the work designed for students, a brief description and the assignments, topics, objectives and, again, two empty field to welcome private notes. This kind of card includes two more informations: *links* and *materials* teachers choose to use once in the classroom. Resources are attached as Urls, or uploaded files as in Figure 12.



12. Activity card (taken from <http://depit.eu/files/2019/03/IO1-A2-DEPIT-App-Guidelines.pdf>)

We present three images to make it more clear: from macro to micro (all the images are taken from the video made by the Spanish teacher Miguel Cabrera: <https://www.youtube.com/watch?v=tiq1cv6qhi8&t=359s>.



13. Lesson created by Miguel Cabrera (Spanish lesson, main design of the third school period - Unit 10-11-12)

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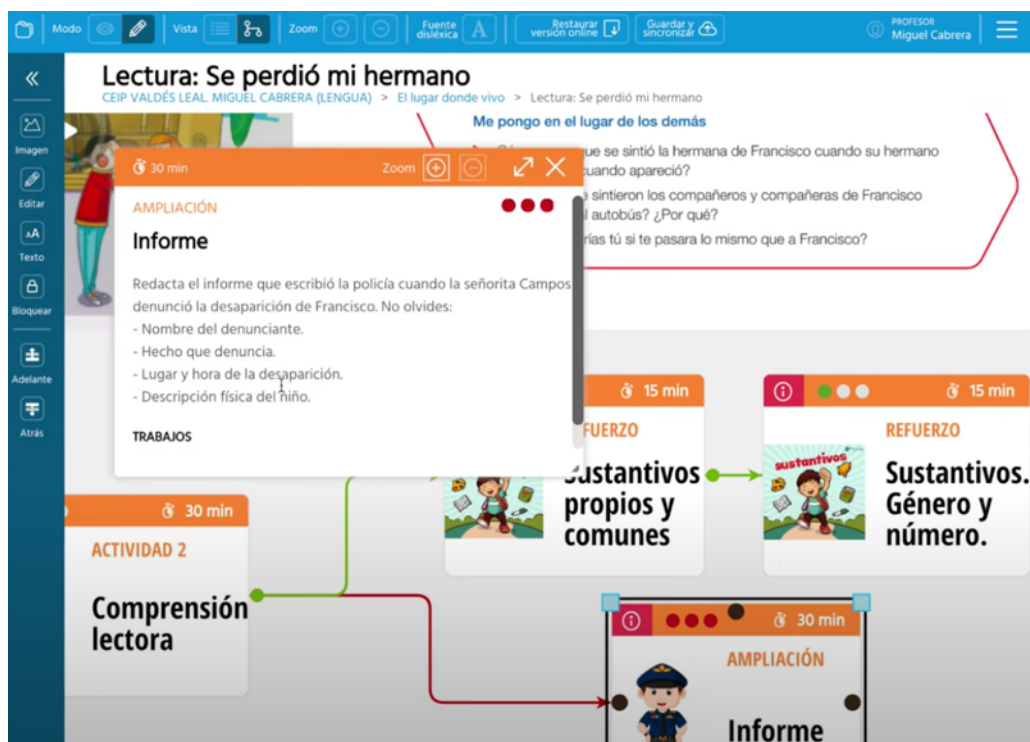
14. Lesson created by Miguel Cabrera (focus on “El lugar donde vivo” - Unit 10)

As you can see in picture 14, the dashboard includes different lesson (6 lessons), every lesson has specific multi-modal materials to be used in the classroom (used, created and stored during every moment, with students’ help).



15. Lesson created by Miguel Cabrera (focus on “Lectura” - text and related materials)

Title are clear, time is defined (from 15 to 30 minutes according to the activity required), activities have different levels of difficulty (two are yellow, two are green and one is red, as we will see in the the next image).



16. Lesson created by Miguel Cabrera (focus on the activity related to the reading)

This approach is very useful for students with learning difficulties - as the organizer let them orientate easily, better following teacher's activity when attention is down; but it is globally useful for every student (and teachers).

So why is it so important to use a visual organizer while teaching? A visual organizer has a very useful anticipatory function: teachers can structure the timetable making it more suitable to students' needs. Talking with teachers using the App during the first phase of the project, we have strong corroboration: using images is really important to students, not only at primary school. DEPIT shows its strong benefits just considering the possibility to make personalization happen in the classroom, making teaching and learning closer.

How can I use the DEPIT App in my classroom?

According to many theories, the *anticipation* of the path and the sharing of the objectives are two factors that favor the success of learning, these factors are still valid but a further step is needed: the path and its evolution have to be shared with students.

Making the narrative explicit makes students aware and active.

The maps provide the sense of the succession of modules (in the curriculum map) and activities (in the session map).

They also make explicit the characteristics of the path designed by teachers and contain - in a structured way - the materials produced by students or proposed by the teacher in favor of context-sensitive learning.

The adoption of a digital environment makes the relationship between design, action and documentation recursive: materials can be shared in the same format and time in which they are produced.

There is another important element: teachers can collaborate and share maps, to work as a community. Comments from teachers using the App pointed out this benefit: you can create a path with your colleagues, you can access their materials and designs and you can easily share a philosophy of teaching and transposition.

The action needed is very simple.

The lockdown and the closure of schools due to the pandemic made DEPIT experience even more important: many teachers we met during our online training sessions and especially the ones involved in the project (the expert) noticed that working with DEPIT with students made the COVID-19 moment quite easy to consider and to leave, as they were already used to work from school-to-classroom and back and to use digital environments as normal elements of their day by day work (even online and not in a blended and mixed solution).

How can I organize the evaluation?

The maps can be continuously revised and adapted to the situation. The map acts as an *aggregator*, works on several levels, makes the narration explicit, connects daily activity with current activity. But most of all it creates a synergy between the design, classroom action and documentation, allowing to rethink the link between the epistemology and competences.

This aspect, that means the possibility to adapt materials, is an important issue, especially if we consider the great value of documentation within the DEPIT App.

As previously declared, you can add materials produced by your students, this is why the evaluation process is not just the final act of a comedy but a “regular” part of our work with students. We can in fact evaluate their work, we can store their projects to be considered for a *portfolio* (especially a work portfolio), we can come back to it when necessary and compare previous work to new ideas.

But evaluation is also helped if we consider the “identity card” of our activity: every card can be evaluated as “easy” or “difficult”, considering time needed, resources and cognitive skills. This means a lot to teachers, as they also evaluate themselves: imagine a teacher always planning “reading activities” or “analysis”. After two months, a brief look at this teaching style can suggest him or her to use other strategies or to check if designed lessons are useful considering the results achieved by students.

Learning could then benefit from this attitude, especially because evaluation does not touch only students achievement but also teachers’.

4. Technical issues

The APP allows users to design and implement curricular learning paths, as seen in teachers’ tips. There are very detailed Guidelines developed by Infactory and University of Macerata for the methodological support. This useful material can be downloaded for free here: <http://depit.eu/files/2019/03/IO1-A2-DEPIT-App-Guidelines.pdf>.

The Guidelines reflect both technical and practical issues and they are organized as follows:

- main features;
- technical features;
- roles (administrator, teacher (author of the map and materials), teacher (reader teacher of other classes that want to show materials from another author), student;
- APP structure (login, structure, levels, lesson map, cards, modes, maps view, sharing maps) and cloud requirements.

We suggest to read the Technical Guide after reading this document to put theory in a frame.

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