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CCL GUIDE: LEARNING STORY

PERSONALISATION

What is the Personalisation model and how to use it?

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Creative Classrooms Lab | <http://creative.eun.org>

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WHAT IS THE PERSONALISATION MODEL?

DIFFERENT LEARNING STYLES

Adjusting teaching strategies to learning styles is arguably one of the strengths of a successful school. Students' motivation, commitment and attitudes to learning depend on that relationship. Research has identified a range of different learning models and learning styles, and shows that personalisation is a key element of all of them.

STUDIES OF HIGHER ORDER COGNITIVE FUNCTIONS

Some researchers have dedicated themselves more to the study of the higher order cognitive functions of the brain and how learning is related to stimulus and brain induced zones/ areas. Among them, Rita and Kenneth Dunn (Dunn & Dunn, 1979) identify four types: environmental, emotional, sociological and physical, organizing the elements that influence the learning style of the students (see example in figure 1).

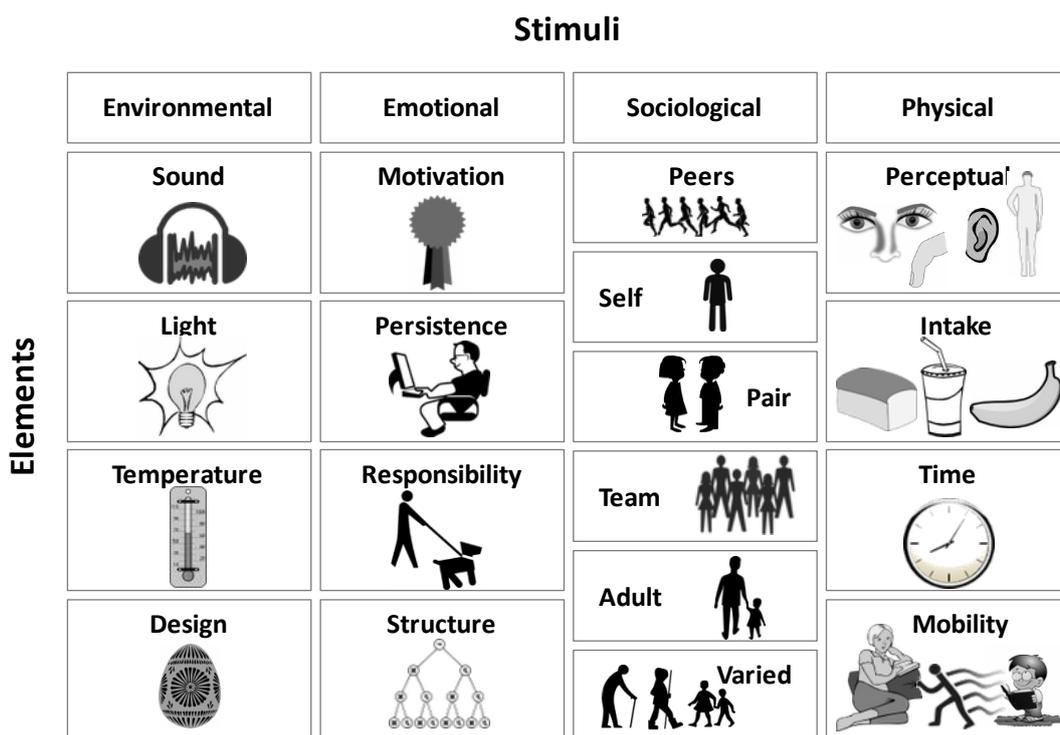


Figure 1 – Diagnosis of learning styles
Diagram adapted from Rita Dunn and Kenneth Dunn (1979)

PERSONALISED LEARNING ACCORDING TO DIFFERENT LEARNING CHANNELS

Other approaches, whose origin are unknown, but have concentrated broad attention in the last quarter of the 20th century, due mainly to the works of Barbe, Swassing and Milone (Barbe, Swassing, & Milone, 1979), who related the preferences or the learning models to the favorite learning channels of the students: visual, auditory or kinaesthetic (relating to movement in the body), known by the English acronym VAK (Visual, Auditory, Kinaesthetic). A variation of this approach is proposed by Neil Fleming (Fleming, 1992) which is widely used in driving lessons. Fleming's proposal includes the association of the touching sensations of reading and writing, changing the acronym to VARK. According to this perspective, the learners will preferably use Vision, Auditory, Reading/ Writing and Kinaesthetic in their learning activities.

EXPERIENTIAL LEARNING THEORY

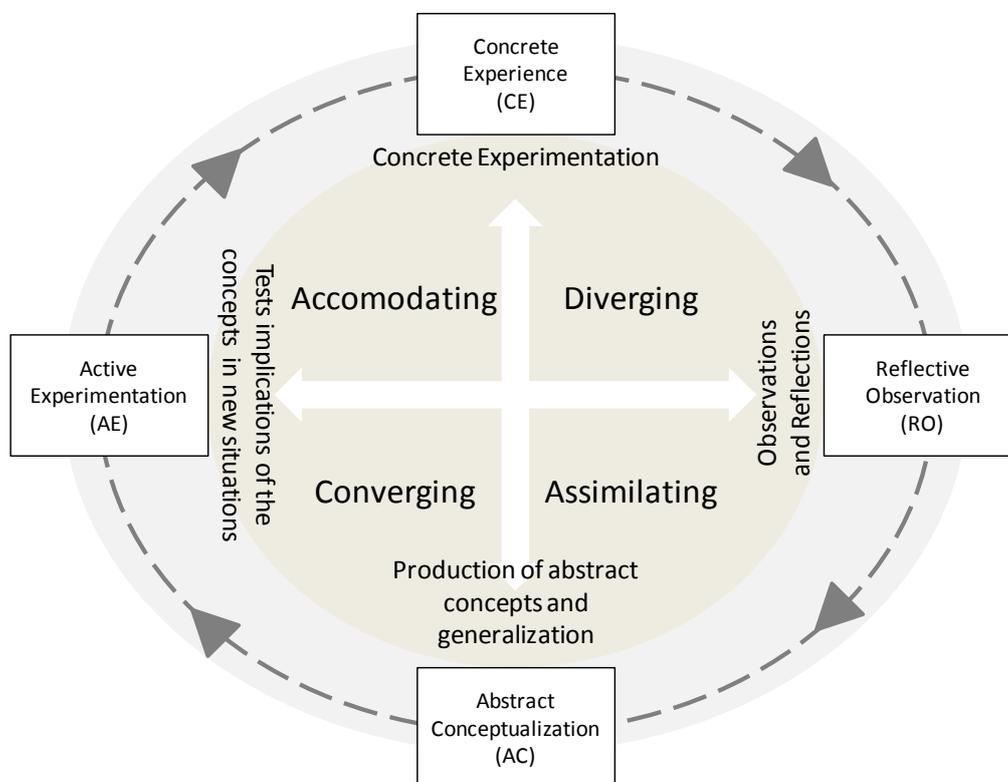


Figure 2 – Interpretation of the experiential learning cycle of Kolb.
Diagram adapted from D. A. Kolb, Boyatzis and Mainemelis (2001).

Alice Kolb and David Kolb (A. Y. Kolb & Kolb, 2005), authors of the Experiential Learning Theory (ELT), whose model is represented in Figure 2, believe that the learning is developed in four stages: Concrete Experience, Reflexive Observation, Abstract Conceptualization and Active Experimentation; and according to four learning styles that represent the combination of two immediately related styles: Divergence (CE/RO), Assimilation (RO/AC), Convergence (AC/AE) and Accommodation (AE/CE).

PERSONALISATION ACCORDING TO DIFFERENT LEARNING STYLES

Other authors like Peter Honey and Alan Mumford (Honey & Mumford, 2006) are more interested in studying the learning attitudes of the learner and identify four types: Activist, Reflector, Theorist, Pragmatist.

The Activists learn by doing. Their preferred activities include brainstorming, problem resolution, group discussion, puzzle organization, challenges and role or function interpretation. The Reflector, on the other hand, prefers learning by observing and thinking about the events/ processes. Their favorite activities are pair discussion, self analysis and personality questionnaires, observation activities, and those that include people's feedback. They like to do rehearsals and interviews. Pragmatists need to understand how to use what they learn in the real world. Preferred activities include time to think about how to use the learning about reality, real life case studies, problem resolution and debate. Theorists like to understand the theories underlying actions. Their favorite activities include theoretical models, statistics, histories, quotes, in depth information and theory application.

HOW TO USE THESE THEORIES IN TEACHING

There are several ways of discovering students' learning styles. One can use, for example, questionnaires, portfolios and analysis. Whichever is used, it is not always a simple matter to determine a student's preference or learning style correctly. However, if the educator can use some hints about how his/ her students learn, he/ she can also better adjust the teaching strategies.

At school pupils acquire a lot of knowledge which, owing to its natural complexity or difficulty in showing relevance and contextualize, is easy for teachers to present. They therefore need to understand that different people organize knowledge in different ways. Some use the right side of the brain more, the most creative area related to art, music, images and graphic representation; others use the left side of the brain, more sequential, and associated with language, analysis and logic. Therefore, the teacher should aim to design activities that stimulate the interconnection of the two sides of the brain.

LEARNING BALANCES ACCORDING TO JENSEN

Eric Jensen (2005) is one of the authors who has shown in simple language how our brain processes learning and how the teacher can intervene to improve or accelerate these process. In his works, Jensen explains the brain's natural reward system, comparing *noise* and *knowledge* and the impact on learning of factors such as light, temperature, noise, gender, social interactions, motivation and stress. When evaluating the importance of feedback and the former existence of mental models of knowledge organization, he establishes a balance of learning that includes time distribution, active and passive learning (cf. Figure 3).

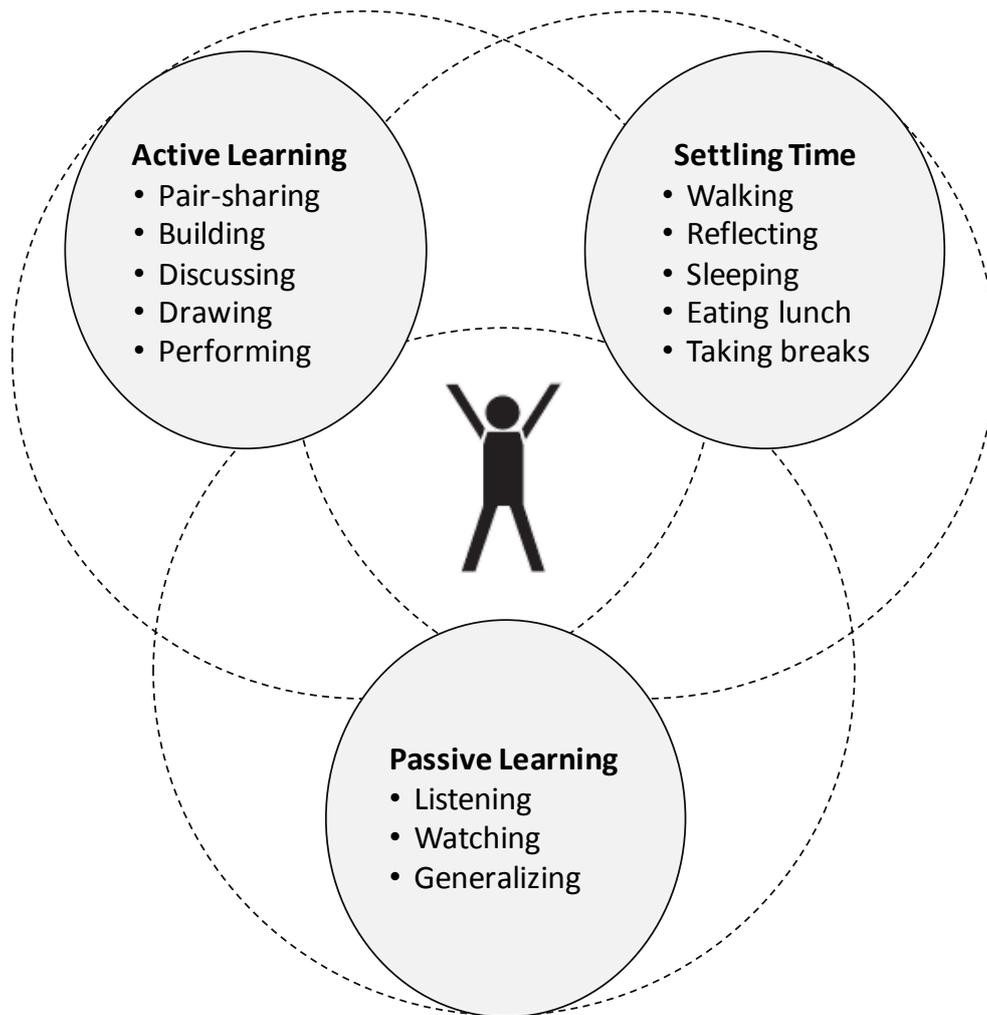


Figure 3 – Learning balance according to Eric Jensen (2005, p. 38)

ORGANIZATIONAL MODEL OF THE TEACHING METHOD PROPOSED BY JENSEN

Jensen proposes a teaching model that allocates 10% of classroom time to students' preparation and creation of an appropriate environment for learning, so that 80% of the time comprises student engagement, organization of activities that promote motivation and avoid the natural tendency to lose attention and allows learning to be contextualised such that students recognize as important. It is in the longest part of the class that learning is deepened, students experiment, observe and relate what is new to other content and processes and to the characteristics of the pupil him/ herself. The remaining 10% of the time should be used for passive learning and revising previous learning, embodying them in new situations (cf. Figure 4).

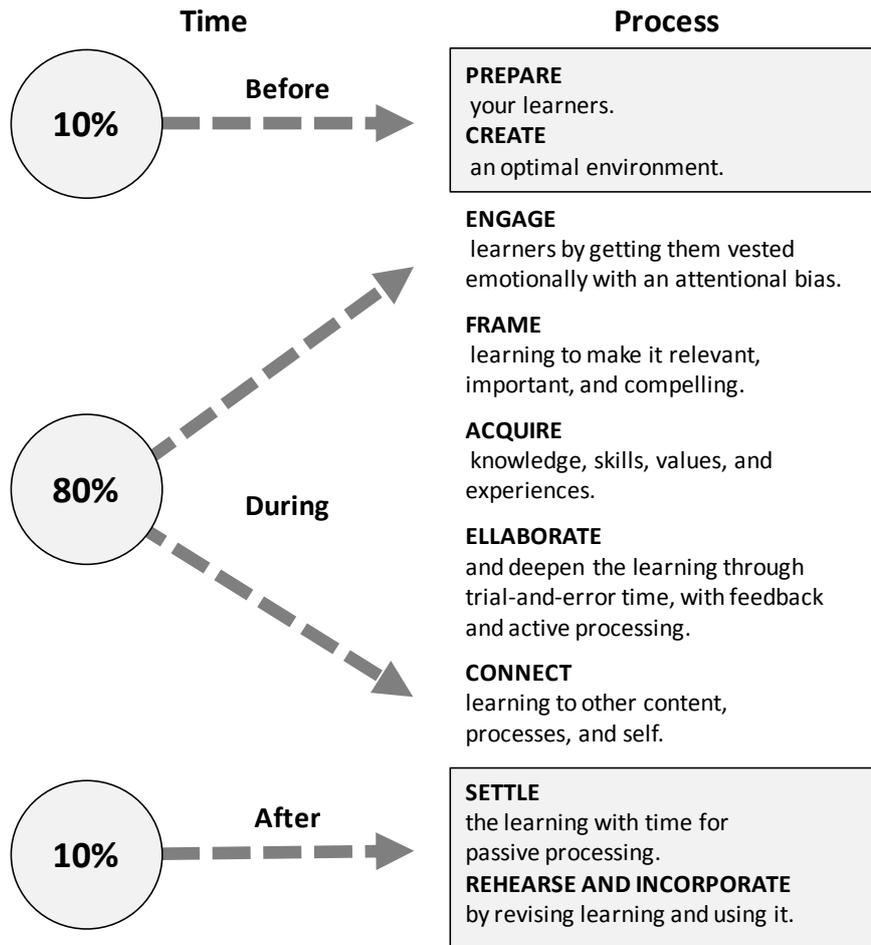


Figure 4 – Organizational Model of the teaching method proposed by Jensen (2005, p. 145)

In personalized environments, before or immediately after the discussion of the problem or after the activity takes place, students should organize themselves in groups, taking into account their learning styles.

HOW TO USE THE PERSONALISATION SCENARIO

The major objective of this scenario is to personalize learning, hence to design activities that meet the needs, competences, capabilities and learning preferences of individual students. This is an approach contrasted to 'lock step' teaching and learning, where the class is treated as a single unit, marching towards a common learning objective. In this scenario students follow personal paths towards creating a final product, for example a video, a blog, a website or an eBook, using technology (tablets, tools, social media etc.) for educational goals, not for the sake of using technology itself.

Students are expected to process information, developing skills using different sources of information. Teachers and students should discuss the issue of plagiarism and ways of collecting information on the Internet.

LEARNING ACTIVITIES: DREAM > EXPLORE > MAP > MAKE > ASK > RE-MAKE > SHOW

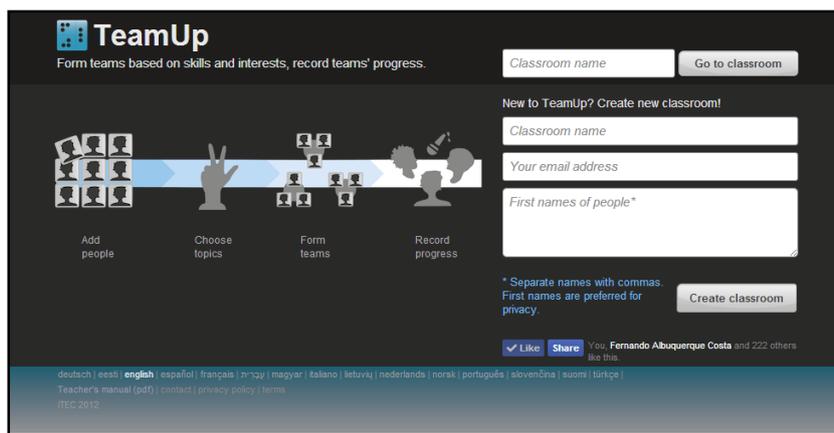


Dream

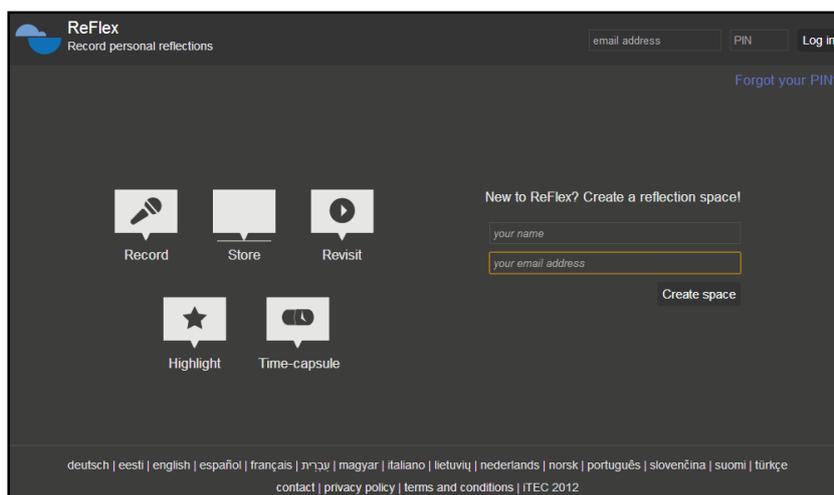
The preparation of an activity in the Personalization scenario starts with the Dream activity. Here the teacher presents the topic under study and the design of the activity, taking into account that its main goal is to personalize the teaching and learning in such a way that students develop problem solution skills, collaboration and learning how to learn, important to 21st century citizens. The teacher assures that the learning experience matches the individual needs, respects the biographic path, the cognitive development and student's competences, introducing study topics with a main question or problem that should be discussed among the groups. Group discussion is an element that helps developing communication competences and collaborative learning. The groups should be organized with or without the support of digital tools and the collaboration can take place in person or online.

Online tools you might use:

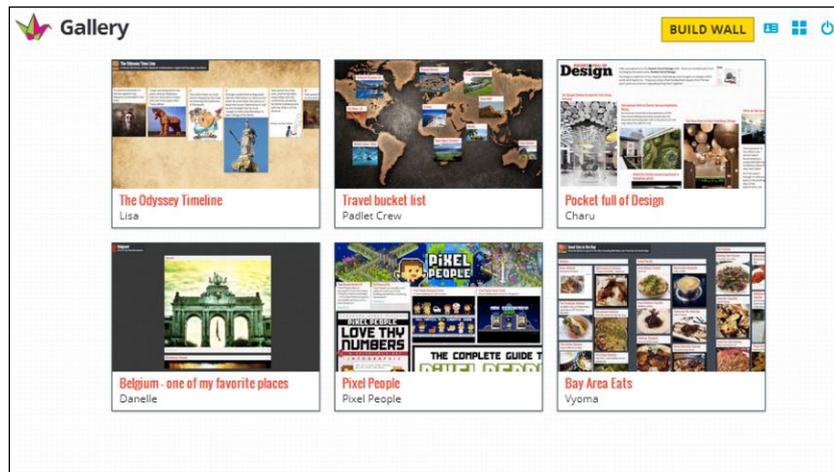
TeamUp (<http://teamup.aalto.fi/>) is a tool that helps organizing group work online, following the criteria established by the teacher. The rapid reorganization and interactive characterization of the grouped members is one of the main advantages of TeamUp.



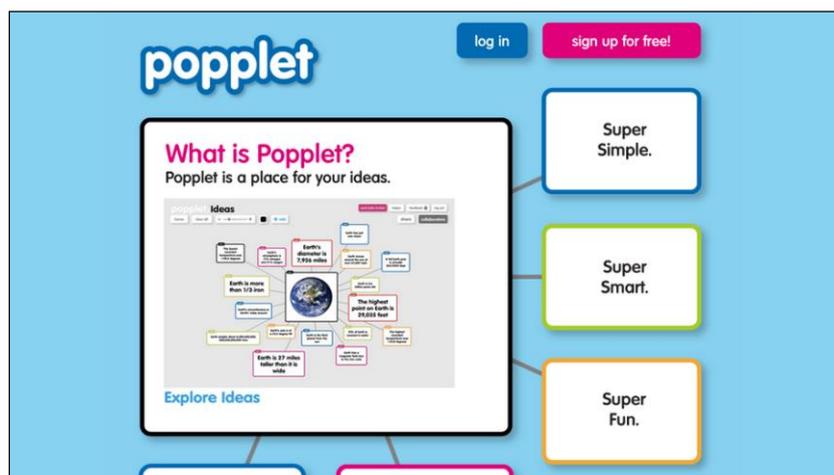
Reflex (<http://reflex.aalto.fi/>) can be used to audio record the daily or weekly views of the students and build a time line of those reflections. Its didactic use can focus on the systematic record of the progress (evaluation) or ideas about new projects, developments and creative suggestions that make learning easy.



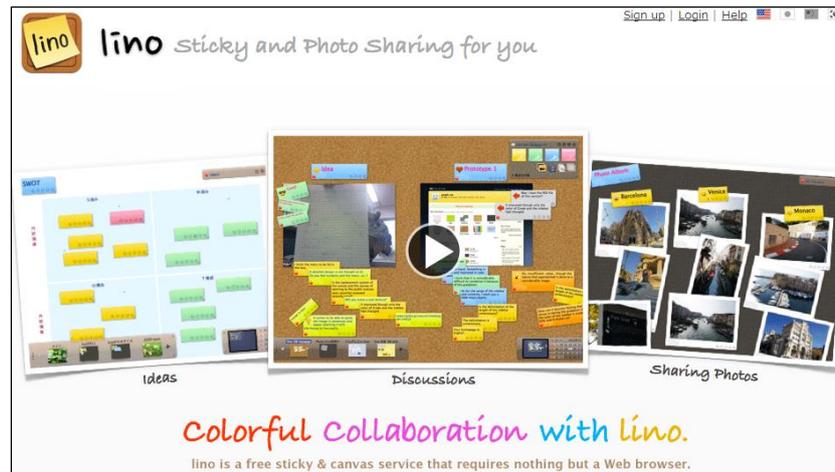
Padlet (<http://padlet.com/>) is a web application which allows the expression of ideas on a topic and ways of organizing them easily. It may be useful to present a proposal for a work project, to design a project or learning scenario. Padlet let you embed online documents (e.g. images, video, pdf) and documents uploaded from a computer.



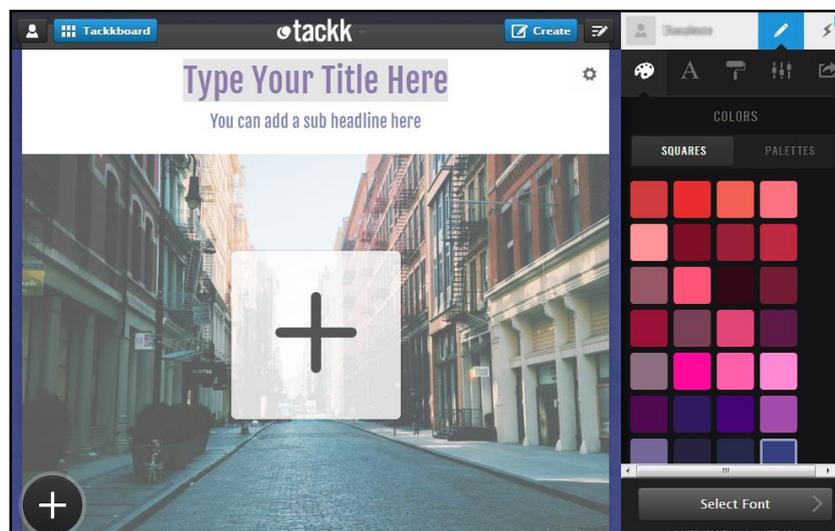
Popplet (<http://popplet.com/>) is an internet application that can be used to record a brainstorming session, allowing people to express their thoughts about a certain topic in an easy and visual way, organizing ideas and concepts and their relations by linking them, creating a mapped structure of concepts, ideas or flow options. The application allows collaborative use by different users, from any kind of device. It is a multimedia friendly tool, free-form or a real-time wiki.



Lino-it (<http://en.linoit.com/>) is a web application similar to a corkboard where you can post digital PostIts (sticky notes), create a structure of information that you collect. You can express yourself by means of text or graphics, video or files existing online or uploaded from computers.



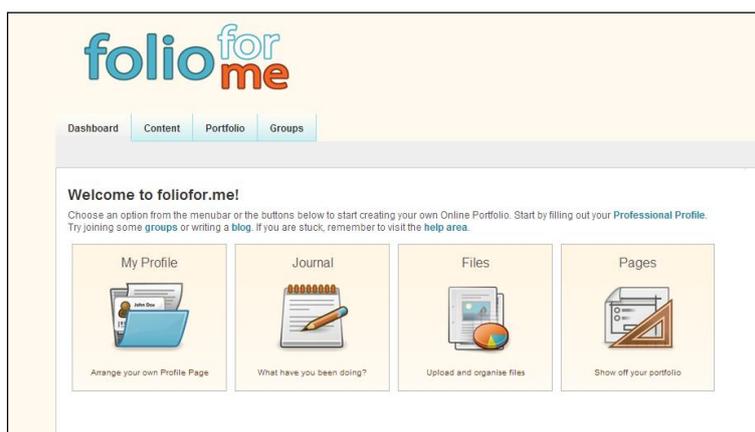
TACKK (<http://tackk.com/>) is an easy to use and fast blogging system which does not need a login. It allows for customizing and sharing content and adding comments if so desired. You can upload photos, videos, maps and audio files.



Voki (<http://www.voki.com/>) is a tool that allows for creating avatars to make a text to speech. These can be integrated in some systems on online content creation.



FolioFor.me (<http://foliofor.me/>) is an online system to create e-portfolios based on Mahara. As an alternative you might consider to use Foliospaces (<http://www.foliospaces.com/>). Both systems allow uploading documents from a computer or using documents already published online.





Explore

In this stage, the teacher should plan activities that favour exploratory learning and help students to develop autonomous research skills, encouraging scientific curiosity and the production of investigation questions.

Brainstorming activities with students can help overcome some learning barriers, allowing the integration of new knowledge through more creative forms of interaction. Information research activities as well as its reorganization contribute to a higher cognitive flexibility. Here, the teacher acts as leader, collaborating with the students in the evaluation of the information they are faced to and proposing learning environments that are flexible and match the tasks and goals, using flipped classroom models if s/he wishes. The organization of individual spaces for online learning encourages the appearance of individual learning resources, always accessible and made personal by the students themselves.

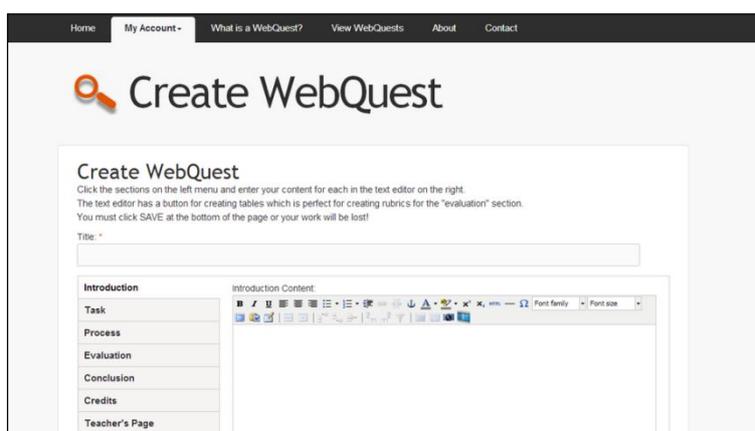
Parents have an important active role in the support of homework activities. Therefore, parents' commitment should be taken into account.

Online tools you might use:

WebQuest (<http://createwebquest.com/>) is a system that allows creating and sharing online learning-oriented activities. Usually a WebQuest has six sections: Introduction, Task, Process, Evaluation, Conclusion and References or Credits. You can learn more about the different WebQuest sections or components (in Portuguese: <http://webs.ie.uminho.pt/aac/webquest/>, in English: <http://webquest.org/>).



See examples in QuestGarden <http://questgarden.com/>

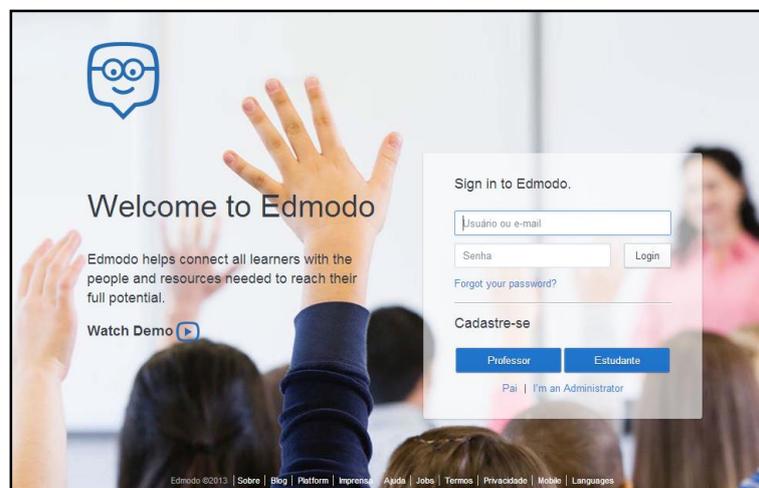


Moodle (<https://moodle.org/>) is an open source online course manager that has to be installed in a domain managed by the school or someone whom they trust, always bearing in mind the respect and privacy of each participant.



WARNING: Although there are services that offer space to create courses in Moodle platform, e.g. Freemoodle (<http://www.freemoodle.org/>) and MoodleCommons (<http://moodlecommons.org/>), for security reasons, its use is not recommended for under aged students. If you are not given total protection about personal information of your students please do not use those services.

Edmodo (<https://www.edmodo.com/>) is an online learning management platform, similar to Moodle, though some of their features are different. You can use it to organise and manage tasks for individuals and groups and it integrate apps for Android and iPhone. Edmodo allows the connection and synchronization of other resources, for example in Google Drive. One can access to it from different operating systems and desktop platforms, laptops and tablets. With Edmodo one can create a positive relation with students' parents by offering them access to assessment results, calendar events and tasks.



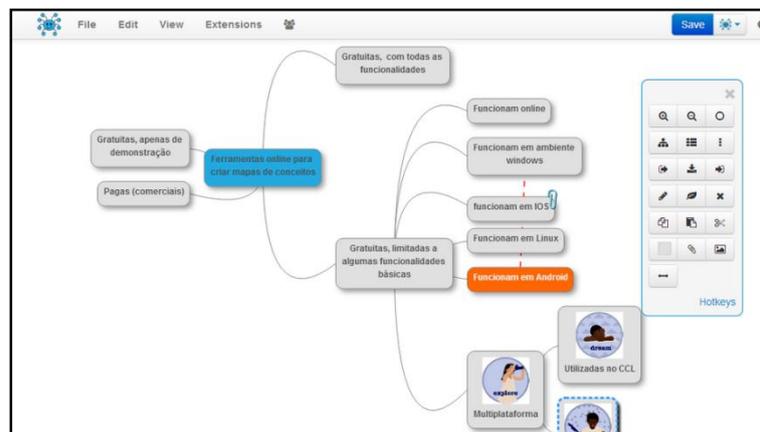


Map

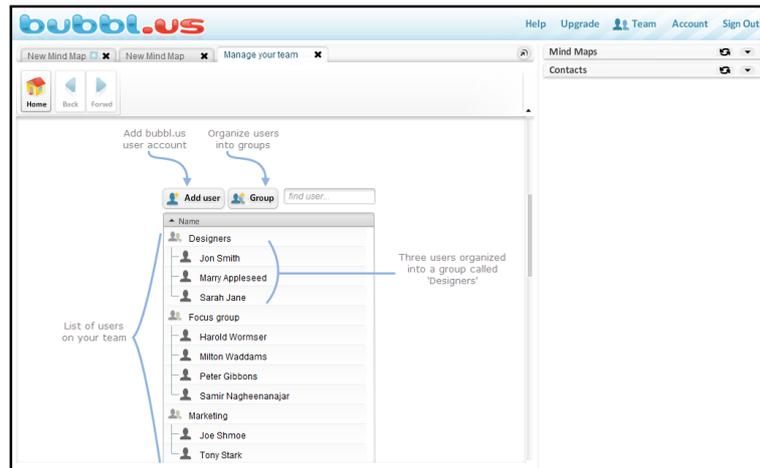
In this activity students organize their learning tasks in a logical way and share them later with each other. Working in small groups, students can use existing tools in Virtual Learning Environments like Edmodo or Moodle or can take advantage of tools like Padlet, Popplet and Lino-it, as shown above, or make use of other tools to build concept maps.

Online tools you might use:

MindMup (<http://www.mindmup.com>) is an online application to construct concept maps; it easily integrates with Google Drive. You can collaboratively edit, share and export concept maps in different formats (e.g. PNG, HTML, FreeMind).



Bubbl.us (<https://bubbl.us/>) is not just an online tool to build concept maps but its Premium features allow the teacher to organize and manage group work. Beyond general editing features, it also allows you to edit concept maps, share them with other users, defining access levels and embed them in web pages. The ties of the map can contain attached files uploaded from the computer or from the web and links.



With Gliffy (<http://www.gliffy.com>) you can create a huge variety of diagrams, from flux diagrams to technical drawings. Therefore it can become a tool with educational value for planning group activities and creating organizational charts about information collecting and mapping. Apart from its ease of use and the possibility of collaborative editing by different users, it can also be integrated with Google Drive, uploading files from MS Visio, and online sharing and exporting image formats like JPG and PNG edited with Gliffy and SVG. An alternative could be Creately (<http://creately.com/>)



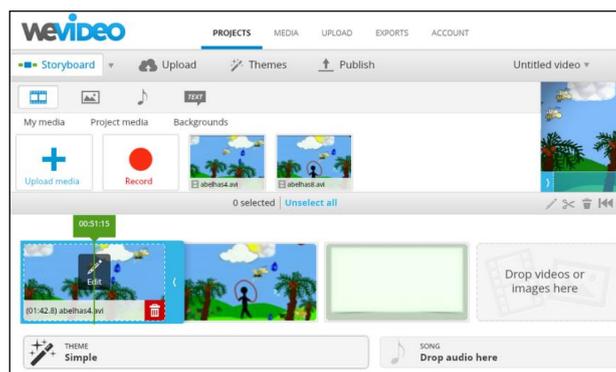


Make

With the use of tablets, video cameras and apps for recording audio and video, annotation editing software is now very useful, enabling students to take notes and record information to deepen knowledge about the issue being studied. The teacher should encourage the use of recording tools, monitoring the process, questioning the groups in the classroom and fostering discussion among them while supporting, evaluating and suggesting strategies or alternative tools.

Online tools you might use:

WeVideo (<https://www.wevideo.com/>) is an online video editing enabling the use of your own resources (sources of video, images and audio). The interface is simple and intuitive. Once the video is finished, it can be published directly on some video platforms like YouTube or Vimeo or shared online through Google Drive or DropBox for instance.



Loopster (<http://www.loopster.com>) is an online application for nonlinear editing of videos, using a traditional interface. Resources like audio, video and images can be transferred from the user's computer. The storage capacity is 2.5 GB but the lifetime of the resources is one month only. After editing, the system renders the video and sends an email message with a link to the video. Users can decide if the publication is public, personal, or restricted.





Ask

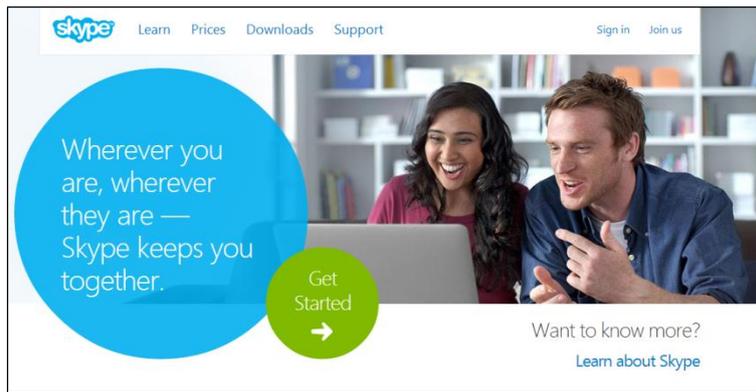
Ask activities aim to get feedback from other students, specialists and teachers, about the work in progress. It is an activity calling for online debate and presentation, where students' family, other people outside school and experts can take part. The student's role is presenter of the content, whilst those invited to give feedback have advisory and evaluation role. In this activity each participant should have a well- defined role. It is possible to organize activities among the groups to raise individual commitment.

Online tools you might use:

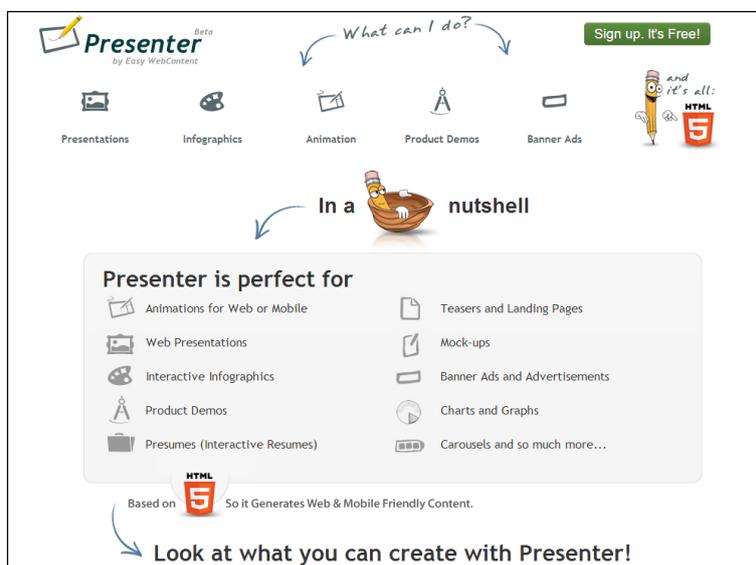
Google Hangouts (<http://www.google.com/intl/en/+learnmore/hangouts/>) is a communication platform that works in the browser by videoconference. One can make a video call with up to 10 friends at the same time, learn from experts, see what other people have to say, and take part in communities focused on similar interests and activities.



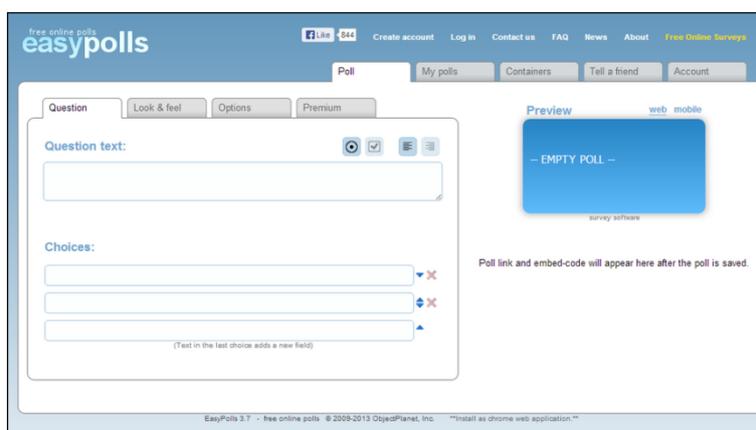
Skype (<http://www.skype.com>) is a communication system about internet available for computers, tablets, telephones, television sets, and video game consoles. Through Skype one can make video calls and voice calls to another person using Skype, send text messages (chat) and share files. Its premium version allows multipoint videoconference and file share.



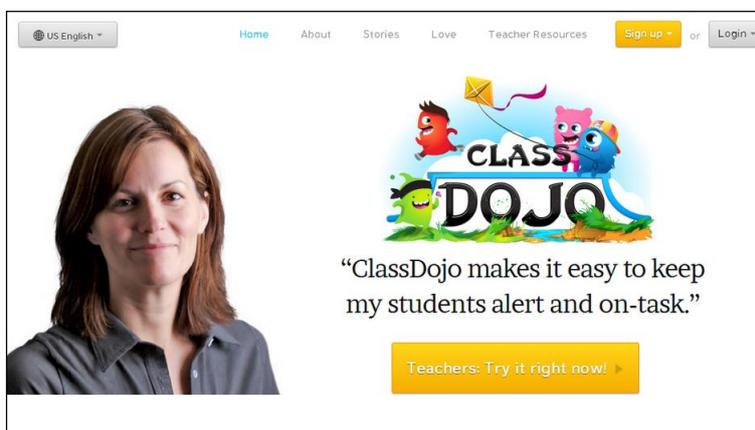
EWC Presenter (<http://www.ewcpresenter.com/>) is an application that lets you design and publish interactive content without knowing HTML5 programming code.



EasyPolls (<http://www.easypolls.net/>) is a very effective and comprehensive system to conduct online polls. Students can use this feature to decide on various options or to choose the subjects of their discussions.



ClassDojo (<http://www.classdojo.com/>) is an online class manager that tracks students' progress. Teachers can use it to record student learning and share it with them and with their families, while maintaining a level of assessment and information that is updated and accessible. Students can access a set of reviews and information about their performance which contributes to self-regulation of their attitudes and behaviors. Family members can also track the progress of students, accessing information and records that the teacher registers on the platform.



Re-make

In the Re-make activity students edit and revise their work taking into account feedback from the previous activity (Ask), using the tools suggested for the Make activities. Students might need tutorial support from the teacher to understand and assimilate the feedback they got. The teacher should also monitor the activity as students formulate actions and redesign tasks, motivating them to improve their proposals. Students take on the role of producers of the educational content and teachers are their assessors.

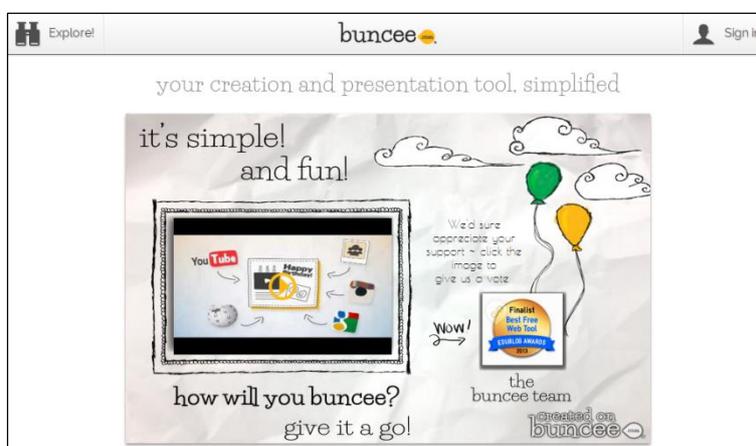


Show

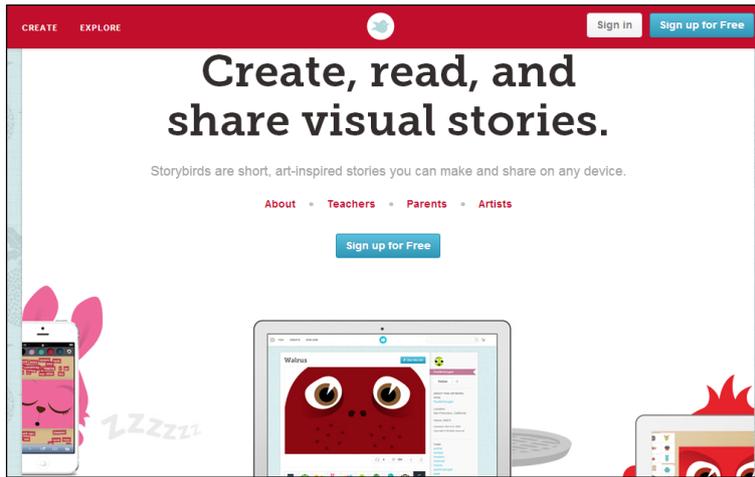
The main objectives of competence development in online publications like reports, research results or other papers are brought together in Show activities, the final part of the project. This involves presenting the results to other groups, at a public or online exhibition of learning paths and the process that led to the final result. Video production, blog creation, digital books publication, e-books, sites or digital portfolios will promote the individual development of different competences. At the same time as developing the self-esteem of students, showing can be an inspiration to others, and give meaning and value to their productions. As always, it is important to reflect on the process and its results, always looking for future improvements and new development possibilities. The publication of the products arising from the projects can be done via a variety of distribution channels like YouTube, WordPress or Blogger, etc.

Online tools you might use:

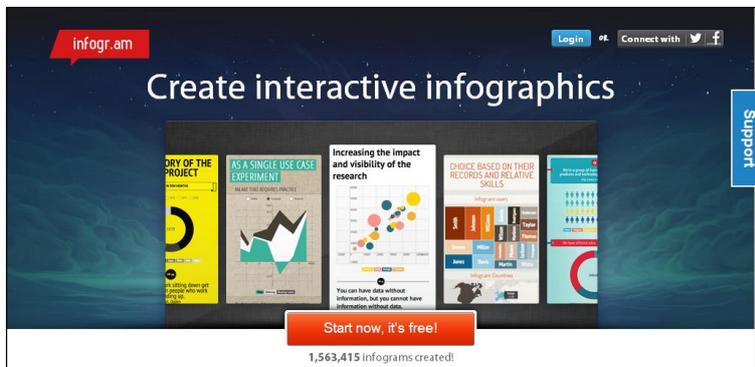
Buncee (<http://www.buncee.com/>) allows you to create rapidly slides with text, drawings, pictures, videos and share them. It can be used to invite friends or relatives to take part in public sessions of school work presentations or to show projects, sites, etc.



Storybird (<http://storybird.com>) is a tool with visual storytelling that can be used to create and share stories online.



With Infogr.am (<http://infogr.am/>) you can create interactive infographics. Students can use this tool to record the working process, evolution or a timeline of the development of their prototypes.



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