

# Virtual Teachers' Toolbox

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## The Pedagogical Framework

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### **The VTT-Box Pedagogical Framework**

#### **A guide for teachers to build their Moodle courses**

**Key words:** E-tivities, Heutagogy, Moodle, Scaffolding

Learning theories have developed a body of principles which now define contemporary learning environments. In general, these principles aim to develop independent learners who have the ability to envisage their own goals, pursue their own investigations and participate in collaborative processes of planning and knowledge construction. Technology has also radicalized learning by offering new resources to teaching and new ways of interaction between people. Teacher and student collaboration, as well as the interaction between students can now extend beyond the classroom. Learners have a variety of multimedia resources that can help them enrich the amount of information they have available and gain a better understanding of the topic they study. Moreover, technology gives learners the tools to plan and map their own learning, follow their interests and check their progress.

In agreement with the above framework quality online learning has now to display the following ten characteristics according to Alley and Jansek (2001, pp. 5–6, in Eberle, 2013):

1. Knowledge is not to be transmitted but rather constructed. That means that instead of presenting learners with a fact and then ask them to memorize it, we should rather ask them to find things out themselves, using a variety of resources and sources of information and then try to apply new knowledge to different situations. Apart from construction we can have co-construction, in which case we ask students to carry out their study working in groups, solving problems and creating things together (see also Pasqualino Barchiesi, Battistoni, & Murgia, 2012).
2. Learners can take responsibility for their own learning, which means to pick up their goals, carry out their investigation in the way they feel is most appropriate, and finally check the results of their study. They can also go back as many times as they consider to be necessary in order to repeat something or complement their learning (see also Roth & Jornet, 2017).
3. The above condition has an additional result, that of giving the capacity to the learners to choose and study matters which are of interest to them, and therefore, it increases internal motivation (Slavin, 2018).
4. Moreover, choice means also that the learners can work according to their learning style or according to their thinking mode. They can pick up the resources that are most likely to make things more understandable to them; work things out in the best way they can (which is, follow their own learning patterns and modes of thinking); carry out analysis and synthesis according to what they are trying to achieve; present their results in their own particular ways, etc. (see also Slavin, 2018; Gardner, 2011) .



5. Reflection is proved to be a vital process of learning, so every course of study needs to accommodate it. In other words, in quality courses there should time that students would be encouraged to reflect on their learning and remodify this process if necessary (see also De Jong, 2011; Graesser, D'Mello, & Cade 2011).
6. The web learning experience should also be combined and/or complemented by active learning experiences. In this case, students will have to carry out physical tasks before they come back to report their results (see also Graf, Kinshuk, Zhang, Maguire, & Shtern, 2012).
7. Collaborative activities should be a substantial part of the online course.
8. It would be beneficial if a "spiral" process enabled the learners to review, revise and apply again knowledge they gained at prior stages (see also Brown, 2012; Shuell, 2012).
9. A quality online course should also accommodate a process of detecting and rectifying inaccuracies in prior learning, or false impressions and misconceptions (although this proves to be a deeper cultural process (see, for example, Roth & Jornet, 2017)).
10. Finally, the primary instructor should be able to guide the whole process and help students through difficulties either of technical or of general nature. This means that instructors should be competent both on the use of technology and on the subject matter they want to teach.

All the above are taken into account and VTT-Box adopts an a heutagogical approach that has two major dimensions: the role of educators and learners, and the gradual familiarization with technology and processes. Derived from the contemporary debates and educational research these two dimensions ensure that VTT-Box employs a wholistic pedagogy that takes into account the different parameters of learning. In what follows we are going to discuss each dimension in more detail.

#### **A. The role of educators and learners - Three steps to self-determined learning**

Heutagogy is another word describing self-determined learning. It is about a situation in which the learners exercise choice over the goals, the content and the methodology of their learning (Kenyon & Hase, 2013; Blaschke, 2012). Kenyon and Hase (2013) argue that "heutagogy should not be considered as being the prime method of learning for all situations. There still is an essential role for the more didactic, pedagogical, forms of teaching where the learner must develop certain skills or knowledge in order to get started in a completely new area" (p. 11). In other words, they warn teachers and instructors that learners are not always ready to pursue self-directed learning, and in this case educators must strategically combine approaches to teach them the necessary skills. Heutagogy is valuable when it comes to extend student's skills and bring their work to an advanced level. Educators then are advised to stage their students' progression to maturity (see Kerry, 2013; Blaschke, 2012):

##### **i. Pedagogy – the beginning of a learning path**

At the beginning, the learner depends on the teacher who has the full responsibility on what is going to be learned, where, when and how. This is frequently necessary so that we ensure that students develop all the required skills and knowledge, they

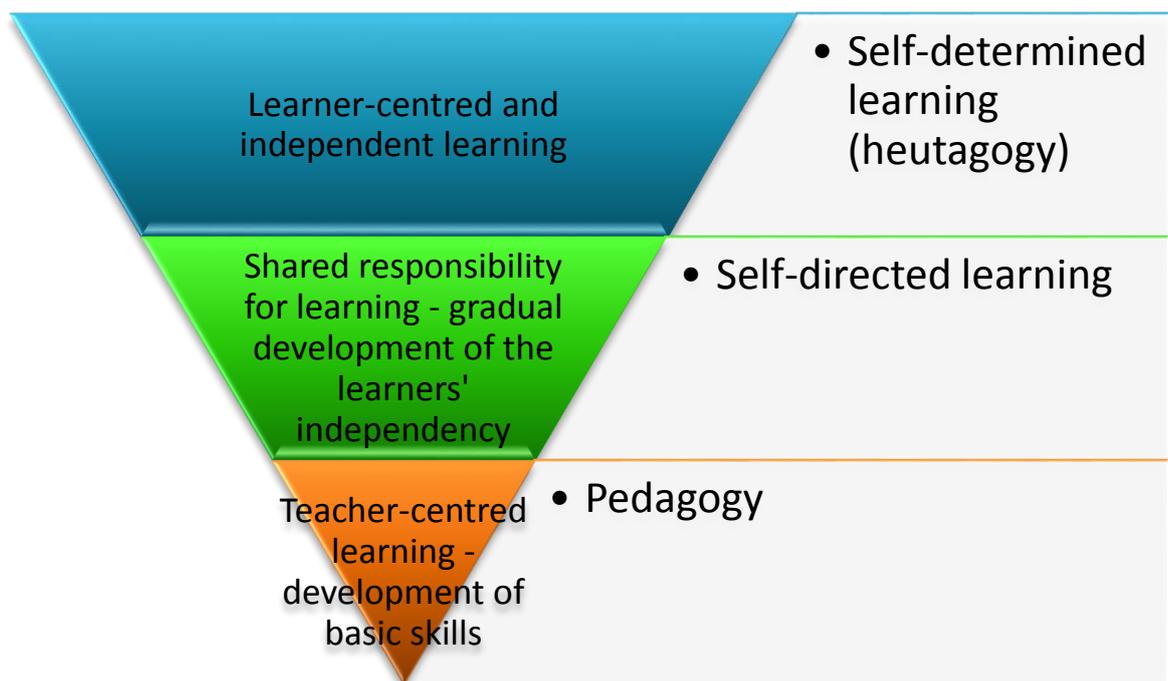
claim the essential competencies that will enable them to carry on. This stage is very common in schools.

**ii. Self-directed learning<sup>1</sup> – the shared responsibility to learning**

At this stage, the teachers encourage students to take shared responsibility for their learning. Educators are there to support students in developing their independence, therefore, they teach them how to investigate, and they help them relate the content to their experiences and lives. The curriculum is developed according to the learners' needs and interests and methodologically is based mainly on problem-solving.

**iii. Heutagogy – self-determined learning**

At the stage of self-determined learning, the learners take even more responsibility for their learning. The instructor is there to function as a facilitator and build constructive dialogues with the learners. However, the learning path (from the learning goals down to the assessment) is customized by the learners themselves. Students are now determining their learning needs, focus on the content, carry out the research and present their results. They even negotiate the terms and criteria which are going to be used for assessing both the process and products of their learning. This means that heutagogy is not an “alternative” methodological approach but rather “a useful extension that provides a valuable and different approach to learning” (Kenyon & Hase, 2013, p. 11).



**Figure 1:** The gradual progression to heutagogy

We understand that heutagogy has two significant implications that educators need to take into consideration: First, the heutagological approach counts very much on the learners'

<sup>1</sup> For self-directed learning researchers actually use the term “andragogy” which literally means “leading of a man” (educating a male) – from the Greek ανδρ (male) - and αγωγή (leading – education). It refers to male education since there was no organized schooling for women in ancient Greece. We strongly suggest the avoidance of the term which may be considered to have a sexist connotation.

maturity and second, the success of its implementation depends on how much the learners are prepared to take ownership of their learning. This highlights the necessity of the previous two stages and the need for proper planning that will ensure that learners can respond to the demands of an online course that counts on their skills and determination.

### B. E-tivities for familiarization with technological and methodological features

The quality of online learning seems to be bound not only to the method of learning but also to the familiarization of the learners with the technical tools, i.e. the internet, the platform, the particular learning objects there are going to use, etc., as well as the process of collaborating with each other. Collaborating in an online environment is quite different from live collaboration in the physical space (e.g. the class, the conference room, the lab, etc.). The differences are a few including some of the following:

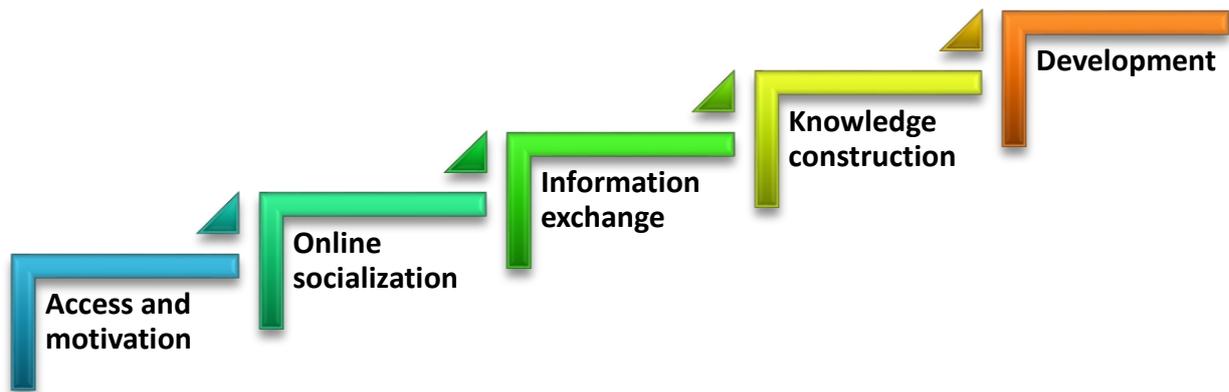
| Face-to-face interaction   | Online learning & collaboration   |
|--|---|
| <b>Students' contributions are:</b>  |   |
| <ul style="list-style-type: none"> <li>• <b>Oral</b></li> <li>• <b>Short</b></li> <li>• <b>Immediate</b></li> <li>• <b>Based on memory</b></li> <li>• <b>Abbreviated</b></li> <li>• <b>Recorded on a flipchart, whiteboard, chalkboard</b></li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Written</b></li> <li>• <b>Full records</b></li> <li>• <b>Thoughtful</b></li> <li>• <b>Available for reflection</b></li> <li>• <b>More permanent, available to print or saved by other means</b></li> </ul>  |
| <b>Tutors</b>  |   |
| <ul style="list-style-type: none"> <li>▪ <b>Might join for a while</b></li> <li>▪ <b>Make a short contribution to the discussion</b></li> <li>▪ <b>Move to another group</b></li> <li>▪ <b>Cannot listen to everything that is said during group discussion</b></li> <li>▪ <b>Might deliver the handouts</b></li> <li>▪ <b>Facilitate the live discussion</b></li> </ul> | <ul style="list-style-type: none"> <li>▪ <b>Can read everything recorded in a chat or forum discussion</b></li> <li>▪ <b>Does not disturb the discussion if they join in</b></li> <li>▪ <b>Can make comments on everything that is said</b></li> <li>▪ <b>Can post the handout &amp; comment on it</b></li> <li>▪ <b>Become mediators between the content and the learners</b></li> </ul> |

**Table 1:** *Differences in group discussion and learning – based on a story by Don Cooper (Salmon, 2004, p. 8)*

It is evident that an online learning environment offers a particular experience of interaction to the participants which differs from the live encounter with people. Is everybody familiar with this situation? It has been noted that a lot of online courses might record delays and dropouts due to the difficulties users meet in their effort to adapt to the demands of the learning environment (see, for example, Bolliger & Martindale, 2004; Lynch, 2002). The time learners need to familiarize themselves and become confident users and participants in a course depends on a variety of factors such as the age, the experience, the technical knowledge and skills, among others (see, for example, O'Brien & Toms, 2008; Sun & Zhang,

2006). In any case, an induction period seems to be a necessary step and increases the success rates of online learning (Lynch, 2002).

*E-tivities* are activities that involve two or more people engaged in online collaboration. Salomon (2004, p. 11), has gone to a great length to develop a five-stage model of a structured scaffolding process which helps learners to pace through online programs.



**Figure 2:** Escalating learners' familiarization with technology and processes (Salmon, 2004, p. 11).

As we can see in Figure 2, the stages support learners to move from mere access to the full development of activities through collaboration with the others. This demands both technological and methodological familiarization. That is, students need to become familiar both with the use of technology and the numerous ways of communicating and collaborating with other learners. Salmon accepts that less experienced users will need more time to go through the initial two or three stages, while others (usually the more experienced with technology) will shift through the top at a speedy pace. Both groups will have to understand the terms and conditions of online asynchronous or synchronous interaction before they embark on more in-depth investigations and free development of ideas. Briefly, each of these five stages facilitates the following functions:

**Access and motivation:** At stage 1 individuals' access is established, and participants are offered an induction to the course.

**Online socialization:** Learners set up their online identities (profiles), get to know each other and find people to begin interaction with.

**Information exchange:** Students start to exchange information and collaborate (on some short and easy tasks maybe)?

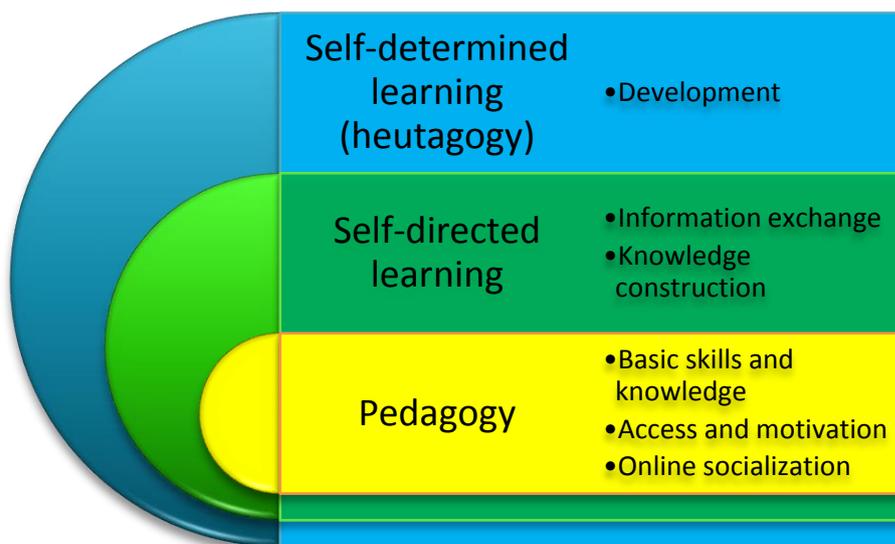
**Knowledge construction:** Group discussion and collaboration grow in length, depth and difficulty.

**Development:** Learners exercise choice, search for "more benefits from the system to help them achieve personal goals and reflect on the learning process" (Salmon, 2004, p. 11).

### Merging the two dimensions together

We can now see how heutagogy can be benefitted by the contribution of escalating e-tivities. E-tivities contribute to the maturation of learners and the development of their confidence in using the online environments so that they progress through self-determined learning.

Graphically the two approaches could be depicted as follows:



**Figure 3:** *Structured e-tivities lead the way to heutagogy*

Having mastered the basics of content and technical use, learners gradually move towards increased interaction and collaboration. At the higher stage of self-determined learning, learners are free to pursue their interests and drive the development of their own ideas. Proportionally heutagogy should occupy most of the course time, as researchers have argued that higher proportions of analyzing, evaluating and creating, (which are higher order thinking skills), need to occupy learners (see, for example, Miri, David, & Uri, 2007; Salmon, 2004). However, taking into account that different learners have different learning styles and can move in different paces, learning courses can enable everyone to take their time and feel fairly comfortable before they move on to the next stage (Salmon, 2004).

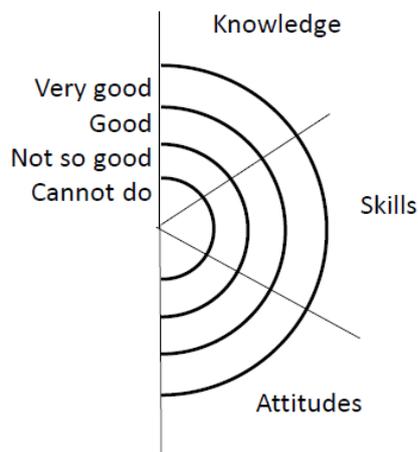
### Reflection and self-assessment

The quality of e-learning is also related to the assessment procedures and criteria. Learners need to be aware of the criteria and to use self-assessment as a means of mastering the learning process themselves. Planning, organizing content and the steps of learning are highly bound to the students' needs. Assessment lies at the heart of autonomous and flexible learning, since it can help students become more aware and tailor their training to suit their personal needs.



Mandala is a graphic depiction which aims to increase the learners' control, satisfaction and, ultimately, motivation. It enables self-assessment to take place at a regular pace throughout a course, as a formative assessment, to provide "just-in-time feedback" as well as at the end of the course in the form of summative assessment (Anderson, 2008, p. 66).

Students can ...  
(Description of the competence)



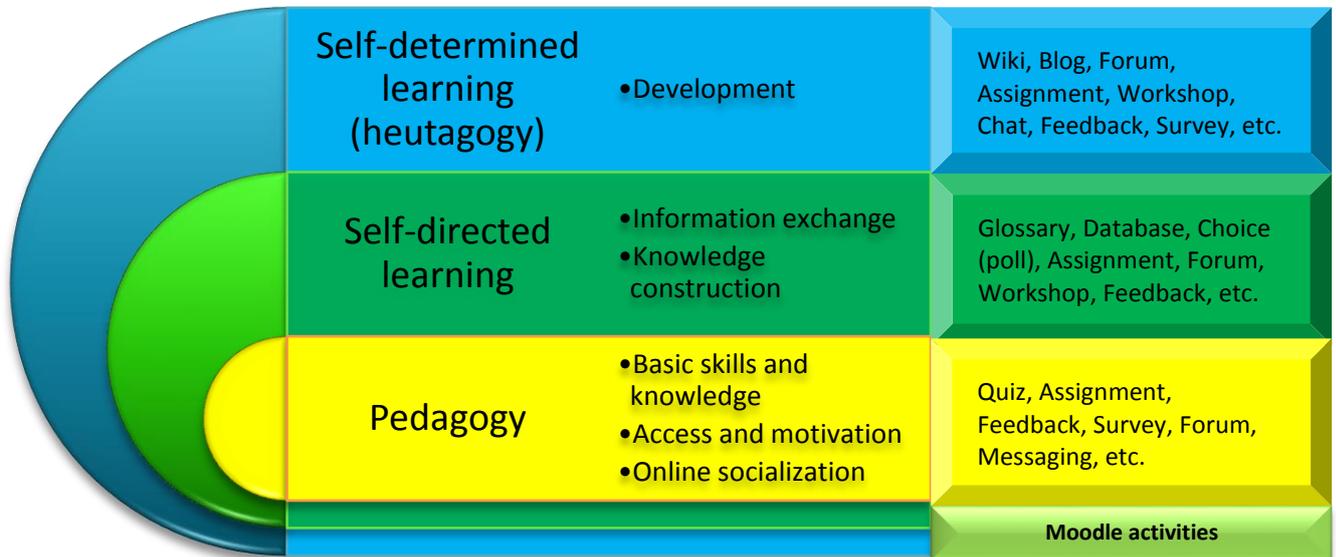
**Figure 4:** *The Mandala self-assessment graph*

The above graph enables learners to track their development in terms of knowledge, skills and attitudes. Learners can colour the section that corresponds to their achievement in the three parameters (knowledge, skills, attitudes), and go back again and again assessing and colouring the full graph at stages. The success of the above process is very much depending on the clarity of the learning targets and the criteria which learners strive to accomplish (Parker, 2008).

### **A Moodle environment for heutagogy**

Moodle is an open source platform that enables educators (teachers, instructors, trainers, etc.) to build their own courses combining different elements (plug ins). These plug ins are like lego blocks that create a total that combines different types of activities. Students and learners of every kind, can access the platform at their own time and pace (and that's what makes it asynchronous) and carry out activities according to plan. There is a variety of activities that educators can pick and mix to match both individual and collaborative tasks. This means that students can either work in groups (e-tivities) or all alone (activities). Activities can also be opened-ended or close-ended which, again, helps educators design a lesson according to the target. That said, we can classify the different activities and resources of Moodle according to the three stages aiming at self-determined learning. Close-ended and individual activities, for example can be handier at the stage of pedagogy and open-ended, collaborative activities can become a preference for heutagogy.

We have here some kind of suggestion:



**Figure 5:** Moodle activities recommended at each stage

Apart from activities, Moodle provides a choice of resources, that educators can add to the course to support students' learning. It has also a variety of other features that enable both educators and learners to keep track of their progression, such as gradebooks, activity reports, roles and profiles etc.



Overall, and ideally the course should include the following components:

| Basic elements                      | Features of VTT-Box courses  |
|-------------------------------------|--|
| Course identity                     | Title of the course  |
|                                     | Creator, Profile of the creator  |
|                                     | Language, Date of creation, Last update  |
|                                     | Subject/topic(s)   |
|                                     | Course outline   |
|                                     | Audience, Grade, Age-range   |
|                                     | Links to other subjects  |
| Subject content & learning targets  | Content and its main dimensions  |
|                                     | Rationale  |
|                                     | Learning targets   |
| Activities/e-tivities               | Resources, preparation for the activities, where activities will take place    |
|                                     | Estimated length   |
|                                     | Prerequisites  |
|                                     | Stages (if any)  |
|                                     | Assessment   |
|                                     | Activities/e-tivities  |
|                                     | Collaborative tasks  |
|                                     | Assignments/quizzes/other learning products                                    |
| Complementary information           |  |
| Assessment/Evaluation               | Self-assessment, collaborative assessment (for learners), summative assessment |
|                                     | Course evaluation  |
| Additional information              | Resources  |
|                                     | Bibliography   |
|                                     | Online resources   |
|                                     | Multimedia   |
| Attachments/miscellaneous resources | Extension work   |
| Attachments/miscellaneous resources | Other complementary material (e.g. games)                                      |

**Table 2:** Building elements for courses



## Where do we go from here?

Experiment and explore. Build and test. Create your courses and start facilitating learners! And don't forget to be creative! Make your courses motivating, engaging and purposeful!

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