

TILL COMPETENCE FRAMEWORK

Erasmus + **TILL: a European Qualification of Teacher Competences for Lifelong Learning**

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The main purpose of TILL project is to develop, test and propose, at the European level, a **teacher qualification**, focused on the development of **learning competences in pupils** through **culturally relevant, motivating, and joyful learning**.

After a review of teachers qualification policies and practices, contained in Intellectual Output 1, this document (Output 2) focuses on:

identifying those elements of competence that are rarely available in official qualifications/academic curricula for teachers, even if they contribute to promote lifelong learning

Development of Intellectual Output 2:

This is a theoretical review of the transversal skills that are essential for contributing to the generation of “**Learning to Learn**” approach, useful to support the **lifelong learning**.

We started from an analysis of the **complexity** of the **educational system**, claiming the need to transfer **cognitive, metacognitive, emotional** skills and **competences into learning**, rather than into content, to arrive to describe a series of key **skills** and **attributes** that can be measured and enhanced in teachers.

To consider teaching as simply transferring knowledge from a transmitter to a receiver is extremely obsolete and sterile.

This is why it is more urgent than ever to reflect on what are the **key competences** that **teachers** should possess to face the challenge of training aware and capable citizens who are able to engage in lifelong learning.

A large amount of research in the field of metacognitive training, in particular, shows that teachers (and society) can **replace the less functional convictions about learning with more efficient ones.**

The latest research on educational psychology has highlighted how important it is to **know how to think** and to **know how to learn** rather than simply “knowing” (Bjork & Yan, 2014; Murray, 2014). Researchers focused on the **process** of learning rather than on the content.

This implies greater reflection on the thinking process, on the construction of knowledge and on the systems with which people know and regulate their own learning.

Teachers can play a key role in making school an effective learning environment where students are helped in developing **autonomy** and **ownership** of their learning experience, through the leverages of **motivation**, **pleasure** and understanding of the **sense of what they learn**.

School has significant effects on the **well-being** of children.

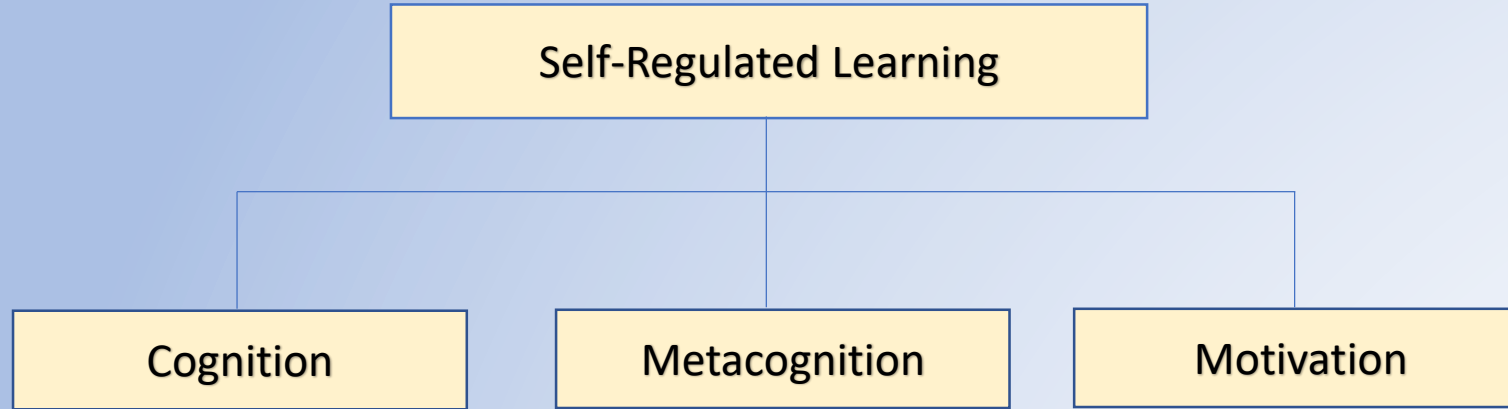
For this purpose, theories that propose a metacognitive vision of learning and teaching are analyzed by considering individual differences and emotional-motivational aspects, all psychological variables that contribute to generating self-regulated learning.

With **Constructivist Learning Theories**, it emerges the idea that students should take responsibility for their own learning and should play an **active role** in the learning process; they are considered as active **constructors** of their own understanding and knowledge (Zimmerman, 2001).

Today's society requires students to be able to learn in a **self-regulated** way during and after schooling and throughout their entire working life.

Self-regulated students as *metacognitively, motivationally, and behaviourally active participants in their own learning process, who self-generate thoughts, feelings, and actions to reach their learning goals* (Zimmerman, 2008; Jossberger et al., 2010).

Schraw (2006) describes **3 areas** of psychological functioning in which **self-regulated** learning can appear: **cognition, metacognition and motivation/affect**.



Cognition refers to different cognitive strategies, applied to learn and perform a task (information processing). **Metacognitive** strategies are used to control and regulate cognition. **Motivation** and affect concern motivational beliefs about capacity to learn, such as **self-efficacy** beliefs, personal **epistemological** beliefs, interest, affective reactions to oneself and to the task.

We believe that the role of **metacognition** is particularly important because it enables individuals to **monitor** their **knowledge** and skill levels, **plan** and allocate limited learning resources with optimal efficiency, and **evaluate** their learning state.

Finding	Implication	Reference
Metacognitive skills develop	They can be learned	Baer, Hollenstein, Hofstetter, Fuchs, & Reber-Wyss, 1994
Students who have been taught metacognitive (self-regulated learning) skills learn better than students who have not been taught these skills	It is possible to produce better learners by teaching metacognitive skills	Zimmerman & Schunk, 2001
Students with good metacognitive skills are better critical thinkers, problem-solvers, or decision makers than students who are not	It is possible to produce better critical thinkers by teaching metacognitive skills	Ewell-Kumar, 1999
Both content knowledge and metacognitive skills are essential for learning	Learning may be enhanced when instruction (1) provides explicit content knowledge while (2) asking students to use metacognitive skills to operate on that knowledge	Bransford et al., 1986; Perkins, 1987

Finding	Implication	Reference
Metacognitive training can increase students' self-confidence and sense of personal responsibility for their own development	Increased self-confidence and a sense of increased personal responsibility may provide motivation for learning	Schunk, 1990
When students perceive an emphasis on mastery goals in their classroom, they report using more metacognitive learning strategies	Classrooms in which “covering the content” is emphasized over understanding can deprive students of the opportunity to learn and master learning skills	Ames & Aflher, 1988
Students in problem-based learning classrooms have been found to have higher levels of intrinsic goal orientation, task value, use of elaboration learning strategies, critical thinking, metacognitive self-regulation, effort regulation, and/or peer learning compared with control-group students	Problem-based learning environments may enhance metacognitive skills relative to conventional instructional environments	Sungur & Tekkaya, 2006
Beliefs about learning significantly impact the quality of learning strategies and learning outcomes in general	Students whose reflective judgment skills are more developed are likely to be better learners	Bråten & Stromso, 2005; Muis, 2007

A variable that seems to be crucial within the metacognitive approach concerns cognitive **strategies**.

There are many strategies which, depending on the phase in which they are applied, can be divided into **acquisition** strategies, **reading** strategies and **memory** strategies.

BUT: STRATEGIES CAN BE USEFUL, USELESS OR EVEN HARMFUL

The choice and the efficacy of strategy depends on the student's **cognitive and learning style** (Cadamuro, 2004; Cornoldi, 1991).

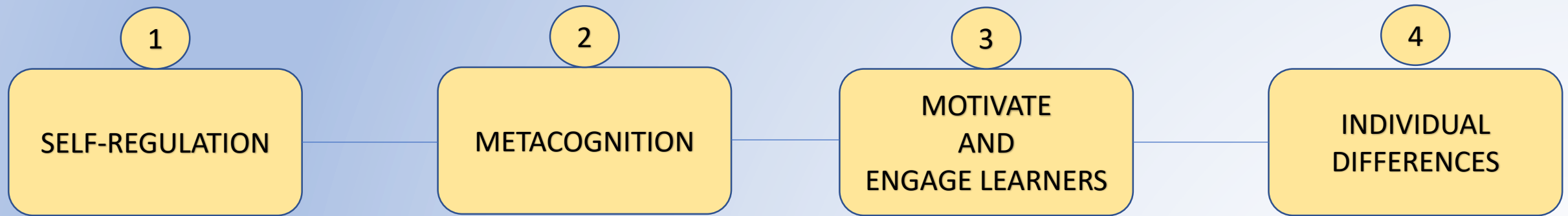
The core competences and the adaptive approach

Building on the results of the previous project phases and on desk research, the UNIMORE Team proposed in April 2018 a set of 6 areas of competences:

- 1) Self-regulation
- 2) Teach to Learn
- 3) Individual differences
- 4) ICT
- 5) Metacognitive skills
- 6) Emotional-motivational component

Based on the comments of partners and the need to avoid possible overlapping among competence areas, the proposal focuses on the following **4 blocks**, aiming to validate them through **stakeholder consultations** and **focus groups**, and possibly add new “modules” if the need emerges in the following phases of the project.

Here follows a first attempt to articulate the contents of the 4 “building blocks” of the proposed qualification.



Elements regarding the use of ICT, the stimulus of creativity, the mastery of learning strategies and assessment strategies, the use of extra-school resources should all be covered by the 4 “modules” according to their specificities. Importantly, the possibility to make them evolving into “modules” is not excluded in principle.

1. SELF-REGULATION

It refers to **proactive processes** that students use to acquire academic skills, such as **setting goals, selecting and deploying strategies**, and **self-monitoring** one's effectiveness.

Students with better self-regulation skills learn more with less effort and report **higher levels of academic satisfaction** (Chung, 2000; Paris & Paris, 2001; Pintrich, 2000; Zimmerman, 2001) and academic **achievement** (Chang, 2007), since they facilitates the transition from dependent to autonomous learners.

Teachers with self-regulated learning skills are more likely to adopt the principles of self-regulation in their teaching practice in order to increase their pupils' motivation and performance.

Teachers should be able to:

- Help learners to manage their own learning
- Support and guide learners to reflect on their learning
- Design learning experiences that foster and value personal initiative and link the school with family, business, local and broader community (also through the use of ICT tools and social networks)
- Create learning environments in which students actively use ICT to organize, research, interpret, analyze and represent knowledge
- Explain the teaching strategies they are using and stimulate students' feedback on their preferred strategies for dealing with different kinds of contents and situations
- Reinforce the appropriate use of teaching/learning strategies and promote the controlled use of learning strategies by students, as well as the comparison among strategies

- ❑ Engage students in learning experiences that, by integrating concepts and ideas across disciplinary areas and linking to the world beyond the classroom, facilitate generalization and cross-context transfer of learning processes and outcomes
- ❑ Involve students in examining their role as learners and develop a commitment to lifelong learning
- ❑ Provide clear criteria for students to compare their results to standards
- ❑ Describe and demonstrate the use of self-evaluation strategies.

2. METACOGNITION

Metacognition is the individuals' **knowledge** regarding cognitive function (Flavell 1979) - i.e. what a person knows about how her/his and other people's minds function - and **regulation**, consisting in the different forms of control that can be implemented before, during and after the execution of a task (Brown 1987) - i.e. the activities that guide and supervise the individual's cognitive processes.

It is one of the most relevant **predictors of learning** (Lee & Stankov, 2013).

Knowledge about: persons, tasks, strategies.

Regulation: planning, selecting, monitoring, evaluating.

Planning involves the selection of appropriate strategies and the allocation of resources and includes goal setting, activating relevant background knowledge, and budgeting time.

Monitoring includes the self-testing skills necessary to manage learning.

Evaluation refers to appraising the products and regulatory processes of one's learning.

Teachers should be able to:

- ❑ Understand the importance of cognitive processes, differentiated learning strategies and individual preferences as key elements of learning
- ❑ Facilitate, support and promote students' awareness and reflection on their learning processes, so that they can apply them in different contexts and tasks
- ❑ Stimulate students' autonomous thought processes in order to create full mastery of their learning process, the competence to learn
- ❑ Recognise learning outcomes independently from the contexts in which they have been acquired

- ❑ Recognize, value and promote the connection between learning activities conducted within the classroom and learning experiences that occur outside school
- ❑ Provide learning experiences in which students use higher order thinking skills to solve problems and discover new meanings and understandings
- ❑ Engage students in planning, monitoring and self-assessing their learning processes through learning experiences that involve risk taking, critical thinking, independent research of information and social construction of ideas and concepts.

3. MOTIVATE AND ENGAGE LEARNERS

The management and use of cognitive resources, which are limited, depend on the level of motivation and on how well the person feels to be able to deal with the situation.

In this perspective, the nature of the student's learning goals, **attributions**, **self-efficacy** and **epistemological beliefs** are critical.

Self-efficacy refers to the degree to which an individual is **confident** that he or she can perform a specific task or accomplish a specific goal (Bandura, 1997).

Epistemological beliefs consist in beliefs about the origin and nature of knowledge.

Concerning epistemological aspects, a particularly relevant theory is the one which distinguishes two **implicit theories of intelligence**: learners who have an “**entity**” theory view intelligence as being an unchangeable, fixed internal characteristic; learners who have an “**incremental**” theory believe that their intelligence is malleable and can be increased through effort (Dweck, 2000).

Attribution theory: a classification on the basis of a person’s tendency to explain events by favouring an **internal** or an **external locus of control**.

An **internal locus of control** refers to internal characteristics, i.e. responsibility lies with the person (effort and ability), whereas an **external locus of control** places responsibility on outside causes (difficulty of the task, luck and so on).

Attribution processes in the school environment are very important because they influence students’ **performance, persistence, task selection, emotions and expectations**.

Teachers should be able to:

- Demonstrate genuine care and respect for students as unique individuals with interests, concerns and intellectual potential
- Provide challenging tasks that enhance students' abilities
- Use personalized strategies for motivate students
- Organize and monitor a supportive classroom environment
- Assist students to create sound relationships and empathy with others
- Implement classroom management strategies that enable students to progressively take responsibility for their own behavior
- Encourage learners to experiment new approaches and divergent thinking
- Recognise and reward learners' effort, not only objective performance.

4. BUILD ON INDIVIDUAL DIFFERENCES

There is now plenty of evidence showing that individuals elaborate information in **different ways** and learn by using **different strategies** (Kolb, 1974; Riding & Cheema, 1991; Sternberg, 1997).

Every person has his/her own individual way to learn and to solve problems.

These personal cognitive strategies are called “**cognitive styles**” and “**learning styles**”.

Cognitive style is defined as a method of information processing, which persists over time and is generalized to different tasks (Boscolo, 1981).

Cognitive and learning styles represent a bridge between cognition and personality and seem to have important implications in understanding, predicting, improving and assessing educational **achievements** (different types of assessments require different types of cognitive abilities which may or may not be compatible with a student’s way of thinking).

In order to encourage significant learning for each individual, a **rich and varied educational environment** should exist in which each pupil is able to represent things in a number of different ways.

This means that school material should be presented using **different symbolic systems** (visual, verbal, symbolic, formal etc.) and require students to take advantage of different types of activities (concrete, sensual, imaginative etc.).

In this sense, an important contribution can be provided by **new technologies**, that allow information to be integrated into different codes.

Teachers should be able to:

- ❑ Recognise learners' profiles from a learning strategy perspective and shape didactics keeping individual differences in mind
- ❑ Make learners aware of the existence of different cognitive and learning strategies, and help them to identify their preferences
- ❑ Present materials using different communication systems (visual, verbal, symbolic, formal, etc.) and require students to experiment different kinds of learning approaches
- ❑ Encourage students to adopt learning approaches that they are able to master (including the autonomous use of ICT tools and resources) and to correct ineffective habits; help students to cope with unfamiliar learning strategies
- ❑ Acquire and use a large repertoire of assessment methods in order to meet the differentiated students' profiles, and encourage students to report on how they assess their own learning achievements.

Proposal for validation

Selected “modules” will be presented to a series of stakeholders’ meetings (one in each project partners’ country) to collect:

- ✓ Views on the overall relevance and structure of the proposed qualification, including the opportunity to consider other elements of competence
- ✓ Detailed comments on each of the four modules, including suggestions for the re-formulation of all competence elements
- ✓ Comments on the assessment and certification procedures that will be proposed for testing the new qualification.

Next operational steps

After the validation phase that will be conducted through the stakeholder consultation, the framework will be reviewed to accommodate the most relevant suggestions. The assessment tools will then be developed/adapted according to the need; the implementation roadmap to put the new qualification in place will be drafted and included in the final Qualification Framework document (end of 2018).

After that, a group of teachers will pilot the new qualification. The process will be monitored and reviewed according to the evaluation results, then the new qualification will be proposed to interested teachers and competent education authorities.