

The MENTEP project (2015-2018) addresses the need in Europe for teachers to be able to innovate using ICT in their classroom and for improved data on teachers' digital competence. MENTEP investigates the potential of an online self-assessment tool (SAT) to empower teachers to progress in their Technology - Enhanced Teaching (TET) Competence at their own pace.



Digital Pedagogical Competence

Widespread use of digital technology to support active and personalised learning to improve learning outcomes remains limited in Europe's schools, despite more than 20 years' efforts in teacher education. As the OECD note: "Teachers have not yet become good enough at the kind of pedagogies that make most of technology" (Schleicher, A. 2016).

Is it time for a new approach to support teachers' digital pedagogical competence development? How could an online self-assessment tool support teachers' reflection on their practices, self-directed learning and, in the long term, the acquisition of new competencies and improved practices?

TET-SAT (Technology Enhanced Teaching Self-Assessment Tool), developed as part of the MENTEP policy experimentation, aims to analyse the conditions able to leverage teachers' internal motivation to become more effective by developing their digital pedagogical competence.

What is Digital pedagogical competence? *"The proficiency in using ICT in teaching, applying pedagogic and didactic judgment, and being aware of its implications for learning."*

Diana Laurillard, *Teaching as a design science*, 2012

TET-SAT is an online self-assessment tool that aims to help teachers:

- Develop digital pedagogical competence
- Engage more actively in reflecting on their pedagogical practice using ICT, stimulated by a structured self-assessment exercise providing feedback according to five levels of progression
- Self-direct their learning and develop their competence whenever they want, at their own pace, extending professional development opportunities to informal online learning environments
- Establish a personal competence profile which can be compared to other teachers
- Access a tailored ecosystem of European and national training resources to further develop their competencies according to need or interest.

TET-SAT aims to trigger self-reflection, identify learning needs and initiate actions develop competences. Online self-assessment can be used as part of an iterative and formative process in which learners set goals, test ideas, monitor progress and define new goals.

The tool was developed to meet the need identified by ministries of education in 13 European countries for a user friendly and reliable tool to monitor teacher competence, built on teacher self-reflection and empowerment, its evolution and professional development needs over time.

The value - and challenge - of online self-reflection and -assessment

Digital pedagogical competence is a complex concept and is influenced by personal factors (e.g. attitudes and views towards the use of ICT) and context (e.g. curricula requirements, infrastructure). Objectively assessing it calls for a variety of assessment instruments. Nevertheless, if carefully designed, self-assessment can be a powerful instrument for teachers to reflect actively on their practice. TET-SAT engages teachers in processing and evaluating information provided in self-assessment items describing a general teaching situation and linking it to their practical everyday teaching situation. This is without a doubt a challenge. Self-assessment therefore depends very much on the teaching profession's own reflexive and critical capacities with regard to their own practice and performance.

Online self-assessment is particularly challenging for two reasons. First, the capacity to regulate one's own learning (i.e. self-regulated learning) is essential for success in online learning environments. Teachers using TET-SAT need to have a certain level of self-efficacy (including ICT use) in order to function independently. Second, the assessment of technology-enhanced teaching (TET) competence is a new area and there are few exemplars against which learners can gauge their progress (Looney, 2015). Despite numerous studies on the weaknesses of self-assessment in terms of its subjectivity (participants over- or underestimating their real competence), there is a notable paucity of studies that examine the self-assessment of teachers' digital competence (Maderick et al. 2015). Tools which can facilitate online self-assessment include e portfolios, rubrics and checklists setting out criteria to identify progress and areas for improvement (Looney, 2015).

From frameworks to practical instruments and tools for teachers

In recent years a number of international, European and national frameworks describing the digital competence of teachers have emerged. The UNESCO ICT competence framework for teachers (2011, currently being revised; an updated version is due in 2018) has been widely used internationally to inform policy documents, curriculum design and shape professional development. The European Commission's Joint Research Centre recently finalised DigCompEdu, a European Framework for the digital competence of educators.

At national level, countries such as Austria, Norway and Spain have developed new frameworks for teachers' pedagogical competence. Practical tools for teachers to evaluate how effectively they are embedding ICT into their practice have been produced in Estonia and Ireland (forthcoming). Belgium (Flanders) has developed an empirically tested



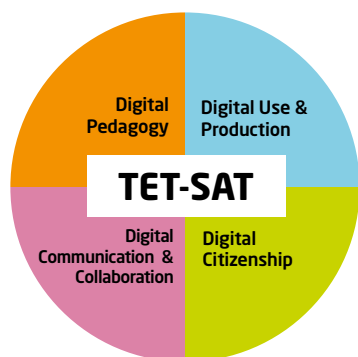
instrument to measure pre-service teachers' ICT competence, and in Germany there is a competence model to measure pedagogical media competence of pre-service teachers.

Frameworks usefully describe the components of digital pedagogical competence and categorise them. However, in most cases they are conceived only at a conceptual level, and are less directly useful to teachers. There is certainly a dearth of validated instruments to assess teachers' digital pedagogical competence. Empirically tested self-assessment instruments such as TET-SAT can fill this gap.

TET-SAT was designed to take into account existing competence frameworks and evidence from OECD and other organisations on how technology can support pedagogies that focus on learners as active participants with tools for inquiry-based pedagogies and collaborative workspaces.

The MENTEP policy experimentation (February 2015-March 2018) is undertaking for the first time in Europe a rigorous impact assessment of a self-assessment tool for teachers' digital pedagogical competence. The experimentation phase involved experimental and control groups. 1,000 teachers from 50 schools in 11 European countries were randomly selected to participate in the field trials, which ran from October 2016 to June 2017. One of the main outcomes of the project will be a tested, modular and adaptable self-assessment tool (TET-SAT) which can be adapted and enriched according to needs in different countries. The results of the MENTEP policy experimentation will be presented at the final project conference in Brussels, 27 March 2018.

How TET-SAT works



TET-SAT assesses four dimensions of digital pedagogical competence: digital pedagogy, digital content use and production, digital communication and collaboration and digital citizenship.

Each dimension comprises up to four sub-areas, 15 subareas in total. Each subarea states one or several competencies, each of which is described according to FIVE levels of progression: Starter, Beginner, Capable, Proficient, Expert. Teachers are invited to position themselves for each competence choosing a statement that most closely describes their practice.

The image below shows the five self-assessment descriptors¹ in the dimension of Digital Pedagogy within the first sub-area 1.1.1 Develop, implement, reflect and redesign ICT supported teaching and learning strategies with ICT learning design competence. Other competencies in the area of Digital Pedagogy include teachers' capacity to design personalized student activities; to design collaborative

Question 1
 Question 2
 Question 3
 Question 4
 Question 5
 Question 6
 Question 7
 Question 8

Develop, implement, reflect and redesign ICT-supported teaching and learning strategies with ICT

I have limited or no experience of using ICT for teaching or learning purposes in the classroom.

I implement ICT as a tool to support common teaching methods and tasks, and can adapt my teaching to create new learning experiences for my students.

I use ICT to support teaching and learning. I need more competence to implement ICT to improve my teaching and my students' learning.

I develop ICT-supported teaching and learning strategies to enhance my teaching and reflect on a regular basis on the meaningful use of these strategies.

I reflect upon my ICT-based teaching through critical and systematic assessment of the teaching and learning processes and redesign my teaching strategies accordingly.

¹ Each self-assessment item represents a specific competence level ranging from level 1 (starter) to level 5 (expert). During the field trials, teachers who tested the TET-SAT, were confronted with a mixed order of self-assessment items, not following the order from lowest to highest level.

learning activities with ICT; implement ICT in cross-curricular approaches; to guide students in the use of ICT for self and peer assessment; or to support metacognition strategies and practices with students.

After answering the 30 questions, teachers receive personalised feedback: an overall average score (as a percentage) including a brief explanation of their level, and the percentage for each sub-area. At the bottom of the page teachers receive suggestions for how to develop their competences using national and European ecosystems of training resources mapped against the competence areas of the tool.

TET-SAT

Based on the answers you provided, your overall score is: **98%** (Compare with others)



What does your score mean ?

Impressive! You have reached level 5 of digital competence. You have an outstanding expertise in using ICT for teaching and learning and use ICT naturally to foster systematic change based on continuous reflection.

Although you are expert, do keep up to date with the latest developments, and continue reflecting on your teaching. Maybe inspire and help others develop their digital competence. Share your ideas and practices with a wider network of colleagues.

Check out the training resources provided below.

Legend



Compare with others

For each area, you can click on the 'Compare with others' link. When you click on the link, you will see how your results compare to those of all teachers from your country or to other European teachers who already filled in this self-assessment tool.

Figure 1: TET-SAT feedback

Users can also see how their responses compare with those of teachers in their country and with all teachers who have completed TET-SAT.

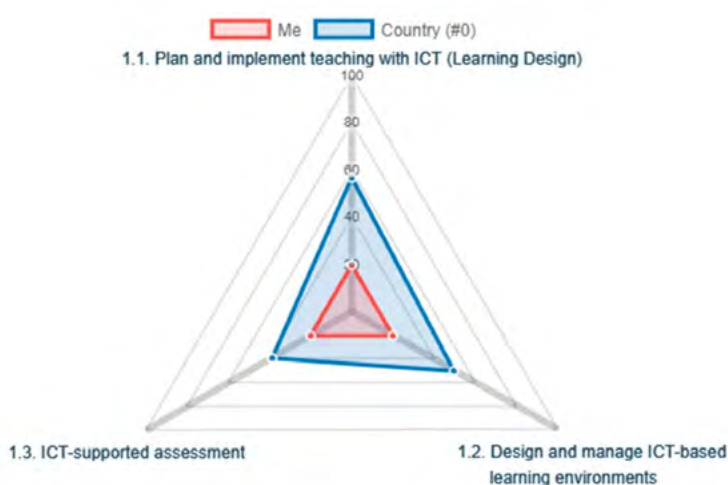


Figure 2: Comparing scores with others nationally and globally

"The positive aspect for me was that the questions relate to the process of using ICT in your teaching, which I think is very important. When we need to answer each question, we need to think a lot about our position and for me it is very important. The TET-SAT feedback was very useful to detect my weaknesses and to improve the knowledge in ICT. I liked a lot the feedback with graphics and the comparison with other teachers in my country."

A Portuguese MENTEP teacher's view using TET-SAT

Peer learning and the creation of authentic exemplars

Self-assessment of pedagogical competences works if items relate to an authentic setting of teaching and learning practices. Peer assessment is a way to strengthen the validity and reliability of self-assessment (validity being how well a test measures what it is intended to measure, and reliability being if it produces similar results under consistent conditions).

The MENTEP approach recognises that knowledge of what counts as a competent TET (Technology-Enhanced Teaching) professional is changing continually in response to the technological and societal contexts of education and that many of the people who are generating this knowledge are the teachers themselves. Therefore, in addition to the TET-SAT field trials, two MOOCs (massive open online courses) for teachers took place in autumn 2017 to involve them in a new form of collaborative learning that can support knowledge building in a professional community. This approach includes to collaboratively develop teacher professional standards for Technology Enhanced Teaching. The aim is to maximise the relevance and impact of TET-SAT by engaging the teaching community directly in the process of generating practical exemplars of the core areas of the tool. Some competences in the TET-SAT are general (e.g. I use ICT to support common teaching methods) and can also be self-assessed. Others (e.g. Students, under my guidance, use collaborative online tools to collaborate with each other in-and outside of school) are complex and can be demonstrated for example through a learning design including screenshots. These can then be peer-assessed.

Teachers participating in the MOOC learn how to use TET-SAT, submit exemplars, and create their own portfolio of how their teaching practice develops in response to using the TET-SAT tool. The course can be accessed at the European Schoolnet Academy (<http://www.europeanschoolnetacademy.eu/>).

“Mostly I didn’t have problems with finding examples in my own teaching practice and all in all I find TET-SAT very clearly defined. However, TET-SAT made me realize how vast and extensive is the area of ICT. The biggest problem I face is that as a non ICT teacher I spend a lot of time building up students’ ICT skills before we can really focus on the subject topic that I plan to cover in my lesson.”

MENTEP MOOC participant from Slovenia

European Schoolnet Academy

Sign in Register

Home Course catalogue F.A.Q. About

Progressing Technology-Enhanced Teaching - MENTEP

Home:

As a second step, you are invited to describe examples from your own teaching to illustrate the 5 competence levels, from beginner to expert, of the tool.

To enroll in this course you first have to register as a user on the European Schoolnet Academy platform. To register, please click the button below.

Register

Start date

Monday, 13th November 2017

Duration

The course will run for 4.5 weeks, with a total number of 3 modules (one module per week) and 1.5 extra grace weeks at the end of the course. The workload estimated is 3-4 hours per week.

The MENTEP project developed TET-SAT, a new online tool for teachers to self-assess their technology-enhanced teaching, thanks to the participation of more than 7000 teachers from 10 countries to the project. Would you like to be among the first teachers in Europe to try out this new tool – and actively contribute to improving it? This MOOC offers the possibility to test the new tool and to take advantage of concrete guidance and the possibility of exchanging teaching ideas and examples online with other teachers across Europe.

What next?

Self-assessment of teachers' pedagogical competence is a promising new approach to encourage teachers' self-reflection and intrinsic motivation to develop their pedagogical ICT competencies. It has the potential to result in more relevant, effective or innovative use of ICT in schools. In this process it is important to recognise that each teacher is different and differences in prior knowledge, in values and beliefs about teaching and learning circumstances mean that teachers have different professional development needs (Shulman and Shulman, 2004). Therefore, there is no 'one size fits all' solution. Self-assessment instruments should offer feedback and the possibility for teachers to engage in various types of development activities related to national standards and individual interests and needs.

MENTEP directly engages with teachers in the process to take ownership of self-assessment tools and to contribute with exemplars of practice underpinning the competence areas, which will bring tools alive and make them more sustainable. Teachers participating in the MOOC present their ideas related to the TET-SAT as meaningfully structured pedagogical patterns relating to their everyday practice. The co-construction of new practices by practitioners themselves linked to capacity building activities is a promising approach.

The final version of the self-assessment tool as developed in MENTEP will be released in May 2018. The MENTEP TET-SAT is freely available as an Open Educational Resource and can be adapted and embedded in national education portals linked to a wider system of tools, resources and support offered to teachers. It can be also used as a dashboard collecting valuable data on training needs at school, local, regional, national or European level.

References:

- Laurillard, D. (2012). *Teaching as a design science*, Building pedagogical patterns for learning and technology, Routledge, New York.
- Looney, J. (2015). Online self-assessment with MENTEP: A review of the literature. European Schoolnet.
- Maderick, J.A. et al. (2015). *Preservice Teachers and Self-Assessing Digital Competence*. Journal of Educational Computing Research, Sage.
- Schleicher, A. (2016). *Teaching Excellence through professional learning and policy reform: Lessons from around the world*, International Summit on the Teaching Profession, OECD Publishing, Paris.
- Shulman, LS and Shulman, JH (2004). How and what teachers learn: a shifting perspective. Journal of Curriculum Studies 36(2): 257-27.

MENTEP partners



European Schoolnet, BE
www.eun.org



CNDP - National Centre for
 Pedagogical Documentation, FR
www.reseau-canope.fr



CPI - Cyprus Pedagogical Institute, CY
www.pi.ac.cy/pi/index.php?lang=en



CTI - Computer Technology Institute &
 Press "Diophantus", EL
www.cti.gr



FBK-IRVAPP - The Research Institute for
 the Evaluation of Public Policies, IT
<http://irvapp.fbk.eu>



DZS - The Centre for International
 Cooperation in Education, CZ
www.dzs.cz



FNBE - Finnish National Board of Education, FI
www.oph.fi



DGE - Directorate-General for Education, PT
<http://dge.mec.pt>



HITSA - Information technology
 Foundation for education, EE
www.hitsa.ee



INDIRE - National Institute for Documentary
 Research and Innovation in Education), IT
www.indire.it



INTEF - Ministry of Education, Culture and Sport, ES
<http://educalab.es/intef>



Ministry of Education and Culture, CY
www.moec.gov.cy/en/index.html



Senter for IKT i utdanningen -
 Norwegian Centre for ICT in Education, NO
<https://iktcenteret.no>



STIL - Agency for IT and Learning, DK
www.stil.dk



UPC - Education Development Centre, LT
www.upc.smm.lt



ZRSS - National Education Institute, SI
www.zrss.si

Follow MENTEP



<http://mentep.eun.org>



#MENTEP



Erasmus+

The MENTEP project is a European Policy Experimentation funded by the European Commission via the Erasmus+ programme. This publication reflects the views only of the authors and it does not represent the opinion of the European Commission, and the European Commission is not responsible or liable for any use that may be made of the information contained therein.