EPICT CERTIFICATION SYLLABUS AS MEAN TO ATTEST DIGCOMPEDU COMPETENCES

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Introduction

This paper presents the EPICT Certification Syllabus (European Pedagogical ICT Licence) and its value in concretely describing the competences of the recent DigCompEdu Framework of Competences for Educators.

In November 2017 the Joint Research Center (JRC – the European Commission's science and knowledge service committed to providing independent scientific advice and support to EU policy), delivered the final version of a framework focused on describing what it means for educators to be digitally competent. This represents an important announcement at European level because it defines the elements to consider when individual educators or training organisations start to plan professional development programs in that field.

For the past 13 years, The European Pedagogical ICT Licence (EPICT) and outside Europe (IPICT) has successfully provided a competence certification. The syllabus, having originally been developed as a result of a European eContent Project, is current and is updated annually informed by the research and professional work of the partners of the Consortium.

EPICT provides a very valuable and useful means to articulate the high level descriptions of the digital competences contained within the DigCompEdu Framework.

With this paper we intend to present the mapping of EPICT Syllabus with DigCompEdu and two case histories in order to share the results of EPICT Consortium experience in Europe.

The EPICT Certification

The EPICT Certification is managed by the EPICT European Group which started as a Consortium in 2005 at the end of the European eContent project "EPICT – European Pedagogical ICT Licences". The output of the project was the development of a Syllabus of competences for educators to describe what knowledge and skills teachers need to use digital tools to reach pedagogical goals: not an *ECDL* syllabus, but a pedagogical approach to use digital means at School.

The EPICT European project not only produced the Syllabus but it developed and rolled out both a training model and set of learning materials in English and in the languages of participant

Countries – Italy, Greece, Hungary. These learning materials were based on the original Danish version. The eContent project had the aim to "stimulate the development and use of European digital content via global networks and to promote linguistic diversity in the Information Society 2001-2005".

The EPICT Group now consists of three partners in Europe and one outside Europe: in Italy (the Department of Informatics Bioengineering Robotics and Information Systems – DIBRIS of University of Genoa), in UK (EPICT UK), in Greece (Menon Greece), and in Sri Lanka (IPICT Lanka). We had partners in Austria, Switzerland, Malta, Albania, Australia and India where the EPICT experience has merged with national programs.

Partners who join the group receive the complete syllabus and start to participate in national and central updating of the syllabus and materials. EPICT national node is licensed from the Consortium to confer the EPICT Certification in their Countries.

The EPICT Certification is directed towards educators at all levels of education.

The EPICT Syllabus and Framework

The EPICT Syllabus started from the syllabus of a training program delivered in Denmark around year 2000. At that time the *digital tools* educators might use at school were automation, office software, emails and forums and the only more interactive and dynamic type of digital tools were digital games akin to the one children might play with their *Nintendo gameboy*. At that time e-learning portals were difficult to implement at school level and were used only in some advanced training programs managed by research centres and universities.

But instead of the appearance, the EPICT project put in evidence the *pedagogical value* of that *office* and *informal tools*: the use of a word processor in class helps teachers to develop communication skills in their students; the use of spreadsheets helps teachers to develop in their students' analytic intelligences; working together on the development of a video as well as improving communication skills, helps to develop collaboration competences; and so on.

The EPICT Syllabus defined the pedagogical goals educators may reach using ICT and thus made explicit the competences needed in order to guide students to reach them.

In the past thirteen years' technologies in the hands of students and citizens in general, grew in number and types: 2.0 technologies, simulation technologies, coding and educational robotics, interactive whiteboards, mobile devices entered Schools and made the need for e-safety very important when using digital tools in class and outside.

The EPICT Framework

In 2010 the EPICT group started work in order to organise the EPICT Syllabus into a more comprehensive framework. The work was presented at 16° International Conference on Technology Supported Learning & Training, Online Educa Berlin and was built upon the following schema: UNESCO ICT-CFT Competency Framework for Teachers, the *e-learning*

Competency Framework for Trainers and Teachers developed by EIfEL, the Competency Framework developed by the Institute of IT Training (IITT), now Learning & Performance Institute (LPI), the IT Trainer – Eucip (European Certification of Informatics Professionals), the Becta Self Review Framework, the Common European Framework for Teachers Professional Profile in ICT for Education, – uTeacher project, the ATC21S (Assessment and Teaching of 21st Century Skills) – Cisco Systems, Intel Corporation and Microsoft Corporation, the Digital Competence specifications draft by the Institute for Prospective Technological Studies (IPTS), – Joint Research Centre (JRC) European Commission.

The EPICT Syllabus was mapped with a description model following the guidelines provided by the Practical Guide proposed by Declan Kennedy and colleagues and the Guidelines for describing units of learning outcomes developed by Bundesministerium für Bildung und Forschung.

The result was the identification of five areas of competence and 12 competences. We broke down each competence into smaller units corresponding to the Modules of our Syllabus.

Table 1:

Macro-Area	Competence	Competence Breakdown	EPICT Modules
Pedagogical competencies	Planning for teaching & learning	Knowledge of curriculum and objectives Selection of content Selection of method Special Needs	Pedagogical Module Module 10
	Pedagogical reflection on ICT	Pedagogical reflection on ICT use in relation to subject, general pedagogical and didactic issues Continuing Professional Development	Pedagogical Module Module 9
	Teaching practice	Continuing Professional Development Classroom management Reflection and evaluation	Pedagogical Module Module 9 Module H Module 14, 16
Information competencies	Information Search and retrieval	Search and retrieval of digital resources All strategies for accessing digital information/content	Module A
	Cata Capture and processing	Capture/generate data using digital tools Process data to create information	Module 2, 6, 6
	Information Processing	Analyse and organize information Evaluate and assess information Develop innovative uses of information and problem-solving strategies	Module, A, 2, 6
	Information presentation	Select a suitable format for presenting information Present information on paper Present information digitally	Modules B – 1 - 3 – 4 – 13 - 14
Social Competencies	Communication and collaboration	Communicate and collaborate in virtual environments and face-to-face using digital communication and collaboration tools	Module C, 4
	Safety	Protection of devices, data, heath, environment as safe and responsible attitude to the use of technology	Module 15
Organizational competencies	School Development	Collaborate on and develop the school as a learning organization using digital tools for communication, collaboration and information exchange:	ModuleC, 9

Digital Technology Competence	Storage and Retrieval	Technical competence	
			The ICT tools we provide inside the EPICT e-learning platform
	Technical Problem-Solving	The ability to perform technical trouble-shooting	

Later we focused on the UNESCO ICT CFT framework and the result is a picture that put EPICT Modules along the continuum of the UNESCO framework. Teachers may express competences at different levels, depending on the type of technologies and the kind of pedagogical method they use: from Digital Literacy approach to Knowledge Creation approach passing through the Knowledge Deepening approach.
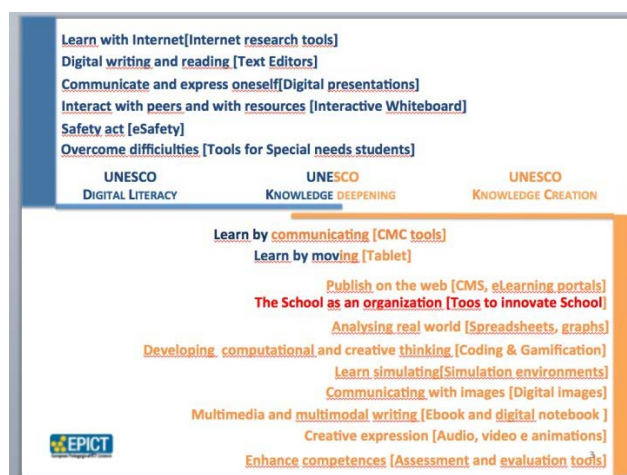

Figure 1. EPICT Modules mapped on UNESCO ICT CFT

EPICT Certifications as a means to attest DigCompEdu Competences

The EPICT syllabus is the document that the EPICT group used to consolidate its body of knowledge. Now from December 2017 we have the final version of the official European framework of competence DigCompEdu, which describes the competences that must be held by teachers and educators. DigCompEdu is direct expression of the European Commission (which has commissioned the work at its official research centre – the JRC, Joint Research Centre), and it incorporates in a mature way the knowledge developed during years by the experiences of Digital School carried out by researchers and school practices.

DigCompEdu identifies 6 areas of competences described in 22 particular competences: it represents a high -level description of what a teacher must be able to do in order to use ICT in teaching competently.

EPICT Modules Syllabus and DigCompEdu

EPICT Modules provide a concrete and usable tool to deeply describe the DigCompEdu high-level competences. As in previous years, we compared our Modules Syllabus with the teachers' ICT competences framework developed in the field of digital school research. We have recently subjected our syllabus to the comparison with DigCompEdu and the result confirms the validity

of the work we have done and we continue to carry out in order to support the development of the 21st Century School.

Figure 2 presents the EPICT Modules mapped on DigCompEdu, and in our Countries, we are testing the first attempt to use EPICT Certifications as concrete tool to attest DigCompEdu competences

	PROFESSIONAL ENGAGEMENT				DIGITAL RESOURCES			TEACHING				ASSESSMENT			EMPOWERING LEARNERS			FACILITATING LEARNERS' DIGITAL COMPETENCE				
	Organizational communication	Professional collaboration	Reflective practice	Digital CDP	Selecting digital resources	Organizing, sharing and publishing DR	Creating and modifying DR	Instruction	Teacher-learner interaction	Learner collaboration	Self-directed learning	Assessment formats	Analysing evidence	Feedback and planning	Accessibility and inclusion	Differentiation and personalization	Actively engaging learners	Information and media literacy	Digital communication and collaboration	Digital content creation	Responsible Use	Digital problem solving
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	6.5
[Search on the net]				X	X	X	X	X							X		X	X				X
[Write and read digital]				X			X	X						X	X		X			X		X
[Learning through CMC]	X	X		X		X		X	X	X	X			X	X		X		X	X		X
[Digital assessment]			X	X				X			X	X	X	X			X					X
[Communicate with images]				X			X	X									X			X		X
[Analyzing the reality]				X				X									X			X		X
[Digital Presentations]				X			X	X		X							X			X		X
[Publish and Communicate]								X												X	X	X
[Immersive Technologies]				X				X									X			X		X
[Multimedia Writing]		X		X			X	X		X	X						X			X		X
[Design school innovation]		X	X	X				X									X					
[ICT 6 Special Needs]				X				X			X				X	X	X			X		X
[Coding & Robotics]				X				X									X			X		X
[Audio, video and animations]				X				X									X			X		X
[Teaching with Interactive Board				X	X	X	X	X	X								X	X	X			X
[eSafety: make education safe]				X	X	X	X	X	X								X	X	X		X	X
[Teaching with mobile tools]				X	X	X	X	X	X	X							X	X	X	X		X
[Pedagogical module]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Figure 2. EPICT Syllabus Modules mapped on DigCompEdu

EPICT Certifications as means to attest DigCompEdu competences

EPICT Certifications provide a concrete and authoritative tool to attest teachers' competences. First of all, the certification method was proven within the European EPICT Project during years 2003 – 2005 and it was approved by the audit at the end of the project activities.

EPICT Certifications are still running in Europe and in the world and the EPICT Syllabus and certification method was the starting point for new national initiatives in Countries who were partners of the EPICT Consortium.

The EPICT Consortium continues to offer sound tools to train, assess, certificate teachers' pedagogical competences in the use of ICT which have been proven and updated over 13 years.

The next section illustrates the EPICT Certification experiences in two Countries: UK and Italy.

Successful Case history: EPICT Certification in Italy

In Italy from the end of the EPICT European Project, EPICT courses and EPICT Certifications are delivered from University of Genoa. Masters courses are then available to teachers who gain a Certification, which is useful to professional development. From 2013 courses based on EPICT Syllabus and with final University certification, are delivered by training institutions based in different parts of Italy.

In Italy around 2000 teachers have gained an EPICT Certification since 2005: This may seem a modest number but not if compared with the complete and long learning journey the Certification requires and the fact that professional updating was not mandatory for Italian teachers until the end of 2016.

After completing their EPICT courses, teachers may join the EPICT Teachers Association and continue informal training in the professional community.

The Italian Editorial Board that develop Italian learning materials on the basis of the EPICT Syllabus collaborates with experts who give to the pedagogical part of the modules the corresponding technical provision. This is the case with the Interactive Board didactic Module developed with the support of experts from AICA (Associazione Italiana per l'Informatica e il Calcolo automatico); the case of the Coding & Robotic Module developed with the support of Scuola di Robotica a national recognised association for educational robotics; the case of eSafety module developed and written with the collaboration of experts at Genoa local Police district.

Successful Case history: EPICT eSafety Certification in UK

The EPICT Licence certification programme has been running in the UK since 2005. Over that time, many thousands of educators have completed certificates in various technology use.

The Editorial Board of the UK has worked with experts such as University Schools of Education including Manchester Metropolitan and Edge Hill along with various Associations and interest groups. A close relationship has been fostered over the years with both Central Government in London and Edinburgh and Local, Federal Government in regional areas.

The EPICT eSafety Certificate is currently the most popular course with Schools also able to build towards a School Certificate. The teachers prove their competencies by documenting actual safety work within their school thus the programme is workplace based and relevant (http://www.epict.co.uk)

References

1. Sugliano, A. M., Ingesman, L., & Pulkkinen, J. (2010, December). *Teachers' Competences and Competence Frameworks.* Atti ONLINE EDUCA BERLIN 16° International Conference on Technology Supported Learning & Training, Hotel Intercontinental Berlin.