DC4LT

Digital Competence Assessment Framework & Tool for Language Teachers

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Summary

This document reports the overall outcomes of the work on digital competence assessment for language teachers. The remainder of this report is structured as follows. First, we define what digital literacy and digital competence means. Then, we present the results of a systematic literature review conducted in order to explore, first how digital literacy and digital competence are defined, and then, to discover which known digital literacy assessment frameworks and tools exist that could facilitate the assessment of teachers' digital skills with a special focus on language teachers' digital skills evaluation. Next, we present the "DC4LT Assessment Framework" that was developed in the context of this intellectual output II and can help us outline the digital skills that language teachers should acquire, providing us also with specific criteria to evaluate them. This assessment framework promotes a new set of 'skills pyramid', of six levels, that describes from the most basic to the most advanced, all skill that language teachers need to possess. This framework can be also used as a reference to guide language teachers who wish to develop, not only their digital competence, but also to support their students in developing broader digital literacy skills. In the second part of this report, we present the DC4LT Self-Assessment Tool specifically addressed to language teachers, and we finally conclude the report with the main conclusions and future steps.

The research presented in this report were undertaken in the frame of the project: Digital Competences for Language Teachers (DC4LT https://www.dc4lt.eu/). This project has received funding from the European Union's Erasmus Plus programme, grant agreement 2018-1-NO01-KA203-038837.

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PART A: THE DC4LT ASSESSMENT FRAMEWORK

1. Introduction

In the age of digitization, there is a growing need for teachers to acquire new sets of skills and competences such as digital skills, in order to face the new digital challenges that they encounter in their work and in their daily life. In fact, according to the EU Digital Agenda (European Commission, 2010) digital literacy is one of its seven pillars, while the Council of Europe (2006) defines digital competence as one of the eight key competences for lifelong learning needed in the 21st century and its development should be perceived in accordance with the idea of lifelong learning. The OECD report [OECD, 2009) also expressed the big need not only to integrate information and communication technologies (ICT) into schools' curricula, but also to invest in training teachers to use them for teaching and to help students to learn.

Teachers' needs for continuing professional development (CPD) in ICT are discussed and thoroughly analysed in many interesting EU reports. According to the "Survey of schools: ICT in Education" (EU, 2013), most EU schools lacked the appropriate infrastructure and had low frequency use of ICT in the foreign language (FL) classroom. A high percentage of 70% of teachers did not consider themselves as 'digitally' confident or able to teach digital skills effectively. Furthermore, in the report "Education and Training Monitor 2019" (EU, 2019b), teachers state that 'ICT skills for teaching' is one of their greatest training needs. In the last decade, there has been significant investment in digital equipment and infrastructure in schools. Still, many schools in the EU lack access to high-speed internet. Additionally, the "2nd Survey of schools: ICT in Education" (EU, 2019a) has shown that apart from the variety of equipment-related obstacles (i.e., insufficient number of computers, tablets, insufficient Internet bandwidth or speed, etc.) the most serious obstacles that teachers face are Pedagogy-related obstacles such as lack of adequate pedagogical skills of teachers; insufficient technical support for teachers; insufficient pedagogical support for teachers; lack of adequate content/ material for teaching; lack of content in national language; difficulty of integration of ICT in the curriculum; lack of pedagogical models on how to use ICT for learning. These findings show that there is a big need for teachers to acquire the digital skills needed in order to cope with all the ICT related challenges.

During the last two decades there has been a continuous debate on defining what digital competence, digital skills or digital literacy are, along with a strong effort on developing a framework that could encompass all key elements needed in order to assess teachers' digital competence successfully. In the following sections, we outline how digital literacy and digital competence is defined based on our extensive literature review. Then, we present well known digital literacy frameworks that could facilitate the assessment of teachers' digital skills. Next, we present the "DC4LT assessment framework" which can help us define the context of digital skills of language teachers, as well as specific criteria to evaluate them. In the second part of this report, we refer to teachers' digital literacy assessment tools. Finally, we present a proposal for a digital literacy assessment tool specifically addressed to language teachers.

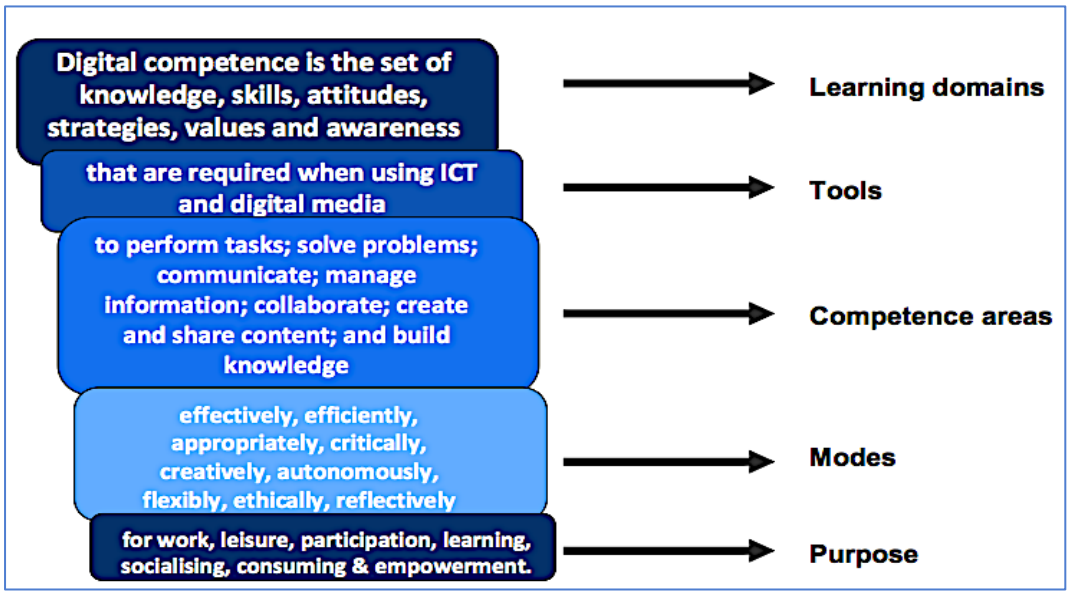
This research is part of the research conducted in the framework of the DC4LT Erasmus+ project (https://www.dc4lt.eu) which aims at defining the profile of the digital competent language teacher and facilitating language teachers' digital self-assessment.

2. Defining Digital literacy and digital competence

How can we concretely define digital competence and digital skills? Digital competence is interpreted in various ways in policy documents; academic literature; and teaching/learning and certification practices. Various documents by the European Commission, initiatives and Communications refer to Digital Literacy, Digital Competence, eLiteracy, e-Skills, eCompetence, use of ICT underpinned by basic skills in ICT, basic ICT skills, basic computer skills, ICT user skills. Academic papers add to this already long list of terms extra terms such as 'technology literacy' (Amiel, 2006), 'new literacies' (Coiro, et al., 2008), or 'multimodality' (Jewitt & Kress, 2010); and underline how digital literacy is interconnected with media and information literacy (Andretta, 2007; Bawden, 2001; Buckingham, 2006; Hartley, McWilliam, Burgess, & Banks, 2008; Horton, 1983; Knobel & Lankshear, 2006; Livingstone, 2003).

According to Ferrari (Ferrari, 2012), Digital competence is defined as a set of knowledge, skills, attitudes, strategies, values and awareness that are required for using ICT and digital media. As figure 1 depicts, a digital competent person can perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation learning, socialising, consuming, and empowerment.

The majority of frameworks are based on skills' development and on the ability to use a specific set of tools and/or applications. As the above definition highlights, skills are only part of the learning domains that are included in Digital Competence; and the ability to use specific tools or applications is just one of the several competence areas that need to be developed by users in order to function in a digital environment (Ferrari, 2012).



Newman (2008) also proposes looking at digital literacy as the use of critical thinking skills in the context of technology use. According to this, digital literacy can be understood as requiring both technical skills and critical thinking skills. In the following diagram (Fig. 2), critical thinking skills are seen as an attribute of information literacy. Newman (2008) states that the focus is more on thinking rather than on technical skills and in fact, in the "information literacy review" it is sometimes used as a synonym for digital literacy.

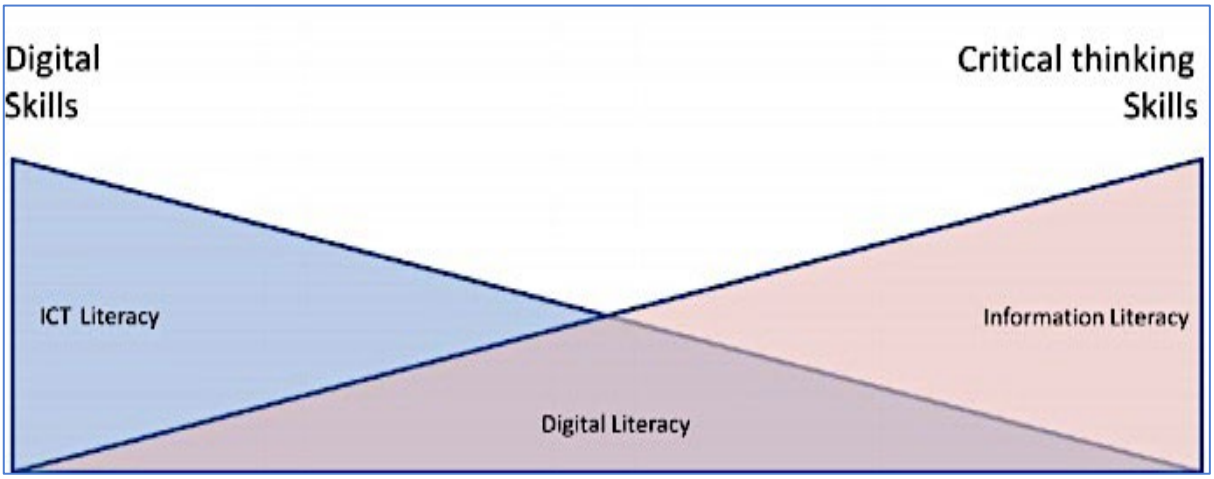


Figure 2. *A review of digital literacy in 0 – 16 year olds: evidence, developmental models, and recommendations.* Newman T. (2008).

Digital literacy comprises a set of basic skills which include the use and production of digital media, information processing and retrieval, participation in social networks for creation and sharing of knowledge, and a wide range of professional computing skills (UNESCO, 2011).

Digital Literacy refers to the skills, attitudes, and knowledge required by educators to support learning in a digitally rich world. To be digitally literate, educators must be able to utilise technology to enhance and transform classroom practices, and to enrich their own professional development and identity. The digitally literate educator will be able to think critically about why, how and when technology supplements learning and teaching (Hall, Akins & Fraser, 2014).

According to Ala-Mutka (2011), it is not easy to define what digital literacy is. Figure 3 depicts how the typical definitions make the concepts overlap considerably. There are various interpretations of the same concepts, and this makes it very difficult to arrive in a general agreement about the exact overlap in relation to different digital competence areas.

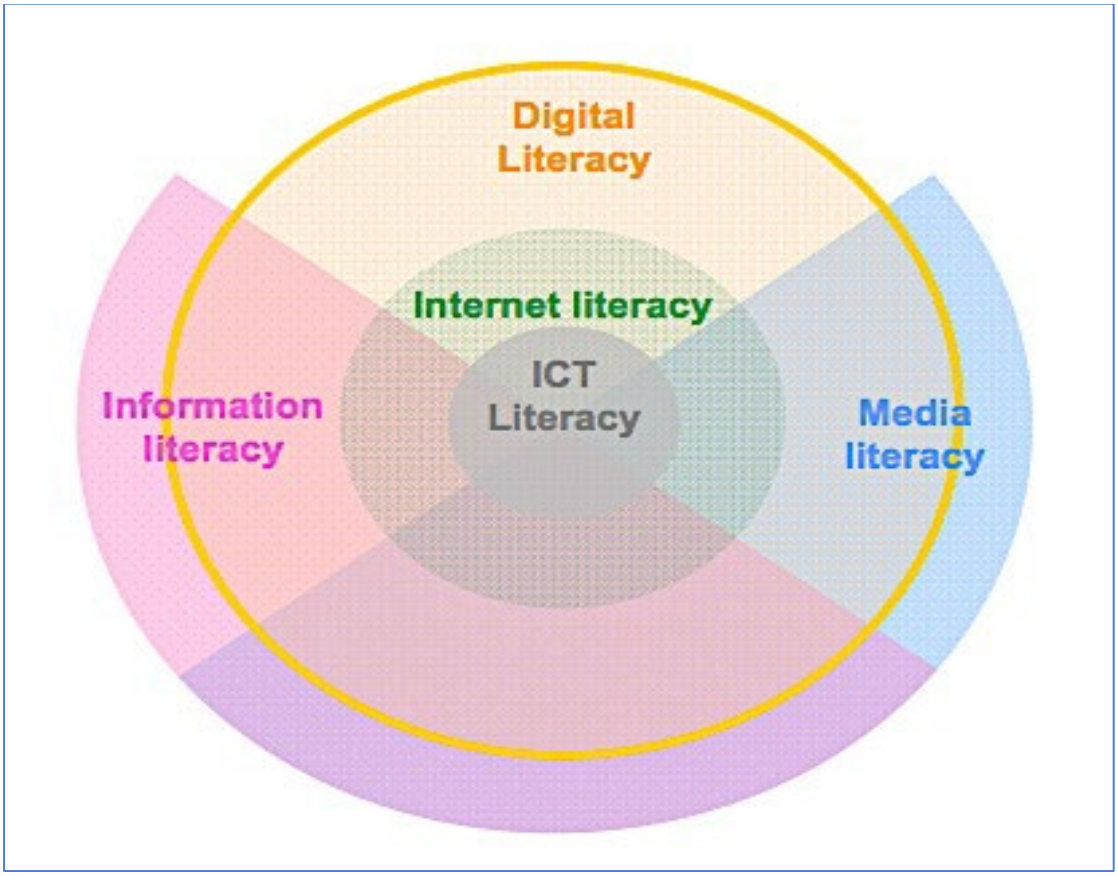


Figure 3. Mapping digital literacy together with other related main concepts (Ala-Mutka, 2011).

More concretely, by analysing the above figure we can further think the following points:

- ICT literacy is generally considered as the narrowest digital concept and is mostly focused on technical knowledge and usage of computers and software applications.
- Internet literacy is mainly related to the technical knowledge and skills that someone should possess in order to successfully function in networked media environments.
- Information literacy and media literacy are two concepts which largely overlap but they have their differences, as well. Media literacy is more about having the skills to interpret, use and create media for one's own benefit and participation, while information literacy is more about finding, organising and processing information (Ala-Mutka, 2011).

3. Digital competence frameworks: A brief overview of literature

3.1. Digital competence frameworks and assessment tools for language educators

During the last two decades there has been a continuous debate on defining what digital competence, digital skills or digital literacy are, along with a strong effort on developing a framework that could encompass all key elements needed in order to assess teachers' digital competence successfully.

To that end, extensive research (Bundy, 2004; Puentedura, 2006; Mishra & Koehler, 2006; UNESCO, 2008; UNESCO 2011, Reedy & Goodfellow; 2012; Hinrichsen & Coombs, 2013; Klebansky & Fraser, 2013; Krumsvik, 2014; JISC, 2014; Government of British Columbia, 2015; DBE, Republic of South Africa, 2015; Kelentrić, Helland & Arstorp, 2017; International Society for Technology in Education, 2017; OECD, 2018; UNESCO, 2018; NAACE, 2021; Falloon, 2020) has been carried out in this area which proposed various digital literacy frameworks and assessment tools that could facilitate the assessment of teachers' digital competence. In most cases, the proposed frameworks have many differences (i.e. structure, proficiency levels, overall perspective) but also similarities (i.e. common components, focus on skills development).

A well-known framework that nowadays is widely used by European educators is the "Digital Competence Framework for Educators" (DigCompEdu) which classifies the main components of the digital competence - twenty-two (22) various competences - in six (6) basic areas: i) Professional Engagement; ii) Digital Resources; iii) Teaching and Learning; iv) Assessment; v) Empowering Learners; and vi) Facilitating Learners' Digital Competence (Redecker, 2017). The DigCompEdu research study is built on previous work (Ferrari, 2013; Kampylis, Punie & Devine, 2015; Vuorikari, Punie, Carretero & Van den Brande, 2016; Carretero, Vuorikari & Punie, 2018) which aimed at defining the European citizens' Digital Competence (DigComp1.0; DigComp2.0; DigComp2.1) in general, and the Digitally Competent Education Organizations (DigCompOrg).

Other frameworks which are also used by many educators worldwide are: the framework for ICT literacy proposed by the American Educational Testing Service (Educational Testing Service, 2002); the SAMR framework (Puentedura, 2006); the Technological Pedagogical Content Knowledge TPACK Framework (Mishra & Koehler, 2006); the UNESCO ICT Competency Standards for Teachers, (UNESCO, 2008); the Jisc's Digital Literacies Framework (JISC, 2014); the Common Digital Competence Framework for Teachers (INTEF, 2017); the Professional Digital Competence Framework for Teachers in Norway (Kelentrić, Helland & Arstorp, 2017); the UNESCO ICT Competency Framework For Teachers, (UNESCO, 2011 & 2018); and the Teacher Digital Competency (TDC) framework (Falloon, 2020) (Table 1).

Digital Competence Frameworks for Educators	
Digital Competence Frameworks	**Author/ Organisation**
British Columbia's Digital Literacy Framework	British Columbia (2015)
Digital Competence of Educators (DigCompEdu)	Redecker (2017)
Framework for ICT literacy	ETS (2002)
Teacher Digital Competency (TDC) framework	Falloon (2020)
Jisc's Digital Literacies Framework	JISC (2014)
Common Digital Competence Framework for Teachers	INTEF (2017)
International Society of Technology in Education (ISTE) Standards for Teachers	ISTE (2018)
Professional Digital Competence Framework for Teachers in Norway	Kelentrić et al. (2017)
Digital literacy standard curriculum, version 4. Teacher's generic ICT-skills and concepts	Microsoft (2016)
Technological Pedagogical Content Knowledge TPACK Framework	Mishra & Koehler (2006)
Digital literacy & computer science curriculum framework	MIT (2016)
Web Literacy	Mozilla (2014)
Digital and information literacy framework	Open University (2012)
SAMR framework	Puentedura (2006)
UNESCO ICT Competency Standards for Teachers	UNESCO (2008)

Table 1. An overview of main digital competence frameworks for educators.

Besides the frameworks that target mostly teachers' digital competence, there are also tools that focus mostly on the assessment of students' ICT skills, such as the PISA 2021 ICT Conceptual Framework (OECD, 2018), which aims at documenting students' use of ICT and understand the diverse ways in which ICT is introduced in school, or the British Columbia's Digital Literacy Framework (Government of British Columbia, 2015) which defines the digital competencies of children age 5-18. But which are the Digital literacy frameworks for language educators?

3.2. Digital competence frameworks and assessment tools for language educators

Teaching languages online is different from teaching other subjects online because it entails different skills such as the creation of highly interactive language environments that could address the language practice needs of language learners (Compton, 2009). But which are the digital skills that language teachers need to acquire, and how could these teachers self-assess their digital

competence? Digital competence is a highly important competence for all teachers and especially for language teachers.

With regard to digital literacy frameworks and assessment tools designed specifically for language teachers, there is limited research. The Framework for Online Language Teaching Skills (Compton, 2009) is a well-known framework that proposes three (3) assessment dimensions (technology, pedagogy, and evaluation) and three (3) different competence levels aiming at orientating language teachers online training programmes. This framework is built on Hampel and Stickler's (2005) "skills pyramid" framework, which intended to identify the key competences of an online language tutor proposing a pyramid of skills with seven key competences ranging from lower-level general skills (e.g., basic ICT competence) to higher level skills (i.e. facilitation of communicative competence) (Figure 4).

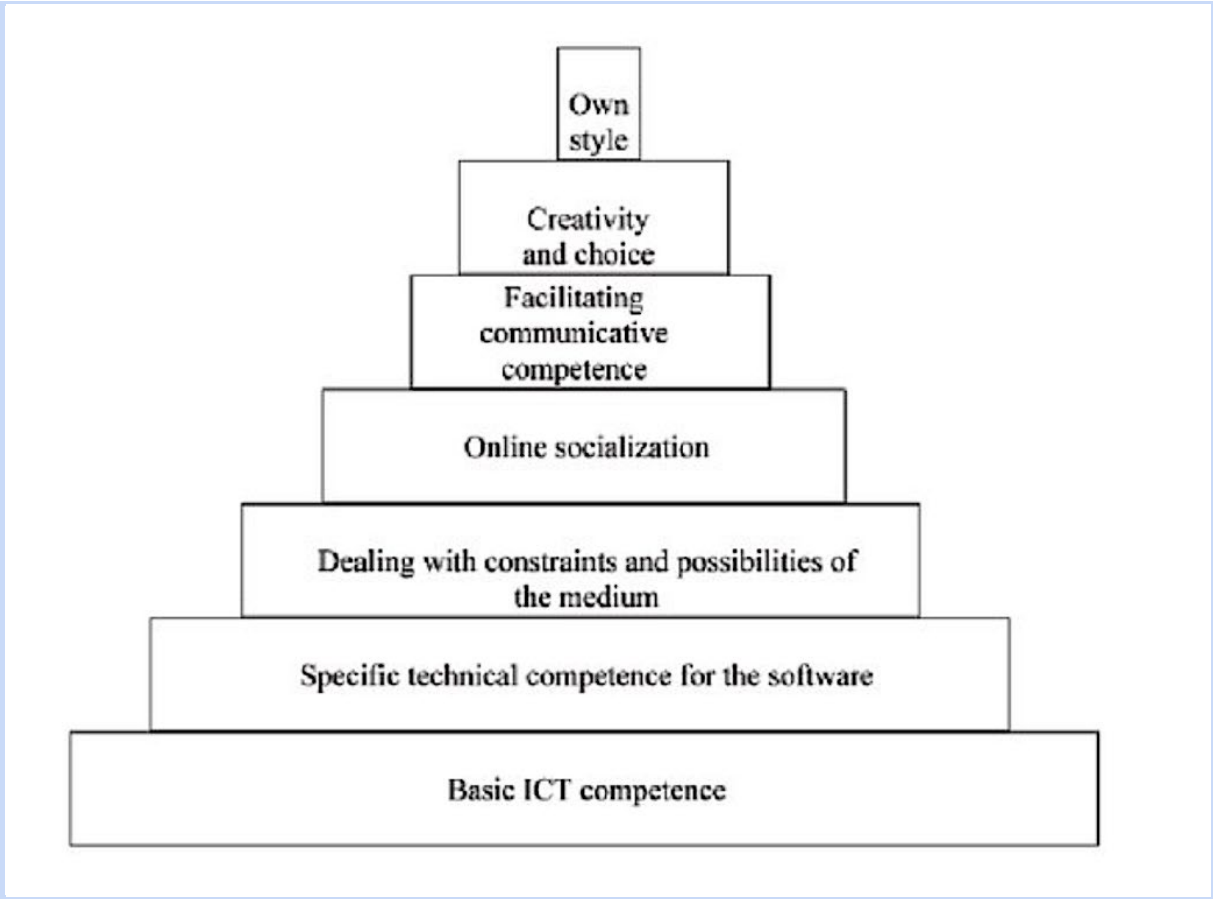


Figure 4. *Skills pyramid (Hampel & Stickler 2005)*

Most of the proposed digital literacy frameworks and tools had a common perspective and were designed for English Language Teachers (Table 2). Such frameworks include the BALEAP Competency Framework for Teachers of English for Academic Purposes (BALEAP, 2008), the TESOL technology standards framework (TESOL, 2009), the Framework for Quality Professional Development for Practitioners Working with Adult English Language Learners by the Center for Adult English Language Acquisition (CAELA) Network (2010), the CPD Framework for Teachers of English by the British Council (2011), and the Cambridge English Teaching Framework (Cambridge English, 2018). On the contrary, both the 2digi Digital Literacy Assessment Tool created by the 2digi project (2digi, 2018) and the EAQUALS (Evaluation and Accreditation of

Quality in Language Services) framework (2013) addressed the training needs of teachers of different languages. More specifically, the 2digi project offers a self-assessment tool that applies for all language teachers who wish to assess and document their digital literacy, while the EQUALS framework describes a variety of skills and competences that language teachers need to acquire during their professional development including digital skills.

Digital Competence Frameworks for Language Educators	
Digital Competence Frameworks	Author/Organisation
2digi Digital Literacy Assessment Too	2digi (2018)
BALEAP Competency Framework for Teachers of English for Academic Purposes	BALEAP (2008)
CPD Framework for Teachers of English	British Council (2011)
Framework for Quality Professional Development for Practitioners Working with Adult English Language Learners	CAELA (2010)
Cambridge English Teaching Framework	Cambridge English (2018)
Evaluation and Accreditation of Quality in Language Services	EAQUALS (2013)
TESOL technology standards framework	TESOL (2009)

Table 2. *An overview of main digital competence frameworks for language educators.*

4. THE DC4LT ASSESSMENT FRAMEWORK

4.1. Background Preparatory phase for the design of the DC4LT Assessment Framework

In the previous section, we briefly presented the results of the literature review that we conducted with the aim to explore and identify assessment frameworks and tools available to assess teachers' digital competence with emphasis on language teachers worldwide. The literature review is connected to the other phases of the general research that we have run in the context of the DC4LT project, which envisages creating a theoretical framework and useful tools that are needed in order to support language teachers to find their own path in becoming digitally competent. Figure 5 illustrates the adopted research methodology.

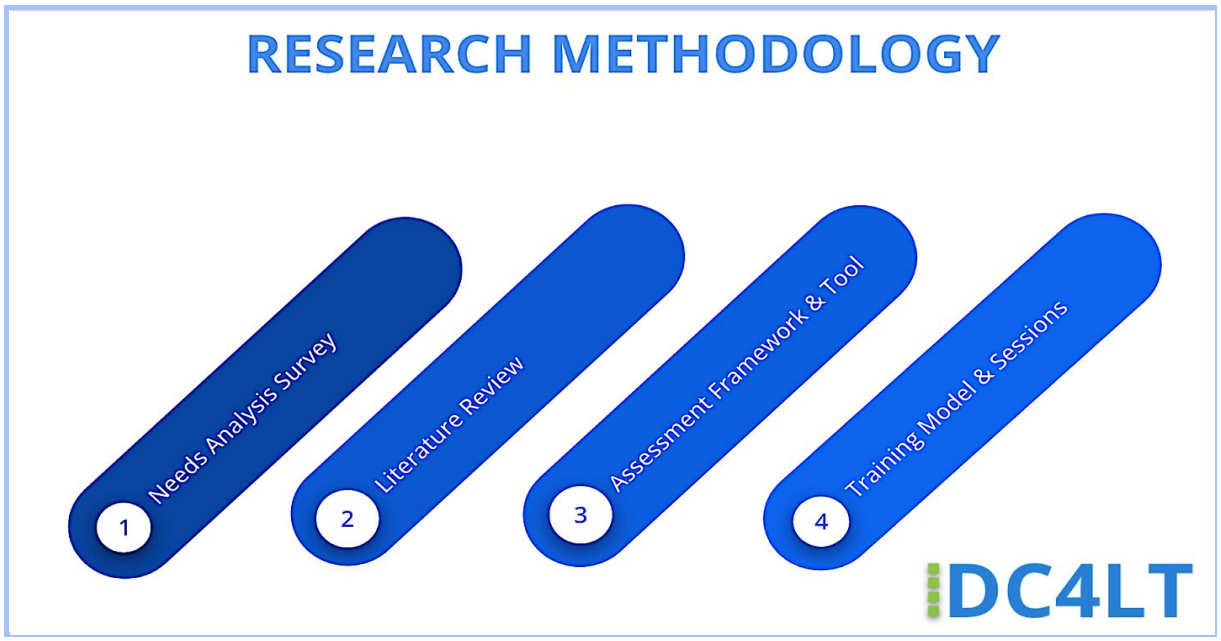


Figure 5. *The four (4) phases of the DC4LT research methodology.*

DC4LT consortium which was organised in four (4) phases: a) Needs Analysis Survey; b) Literature review; c) Digital Competence for Language Teachers (DC4LT) Assessment Framework and Tool; and d) Training Model & Sessions. During the first research phase, a survey was conducted, the DC4LT Needs Analysis Survey, which investigated how language teachers use digital technologies, their attitude towards these technologies, their related skills and competencies, their satisfaction and training needs, and the institutional support that they receive (Fominykh et al., 20119; Fominykh et al., 2021). In total, 283 language teachers from 43 countries and from all levels of education participated in the survey. Additionally, to this survey, the DC4LT team has conducted a market study and a review of policies and strategies in areas related to digital competences and language education with the aim to map the market's needs for digital competent language teachers, as well as the existing policies and strategies (Talmo et al., 2020) which are related to the topic.

Taking into account the data collected during the first two phases of the research, considering in other words, both language teachers' needs for digital literacy training, as well as specific

components of the aforementioned digital literacy frameworks and tools, we designed the DC4LT Assessment Framework and a conceptual draft of the DC4LT Assessment Tool. Those in return inspired the design of the DC4LT Training Model and training sessions. In fact, the six objectives of the DC4LT Training Model were drawn from the six broad categories of the DC4LT Assessment framework for language teachers (Perifanou, 2022) which will be presented in the following paragraphs.

4.2. The design of the DC4LT Assessment Framework

The main aims of the DC4LT Assessment Framework (Fig. 6) were first to identify the key digital skills needed to be acquired by language teachers. The design of the basic components of the DC4LT Assessment Framework were inspired by selected frameworks such as the EAQUALS Framework (EQUALS, 2016), the Common European Framework of Reference for Languages (Council of Europe, 2015) the European Framework for the Digital Competence of Educators (Redecker, 2017), and the Cambridge English Digital Framework for Language Teachers (Cambridge, 2008). The proficiency levels of the DC4LT Assessment Framework were also inspired by the "Framework for Online Language Teaching Skills" (Compton, 2009) as well as by Bloom's Taxonomy (Bloom et al., 1956) which explains the subsequent cognitive stages of any learning progress, from "Remembering" and "Understanding", to "Applying" and "Analysing", and finally to "Evaluating" and "Creating".

More concretely, the DC4LT Assessment Framework promotes a new set of 'skills pyramid' of three (3) levels of difficulty, novice (A1-A2), proficient (B1-B2) and expert (C1-C2). Each skills category of this framework describes, from the most basic to the most advanced, the knowledge and skills that language teachers need to acquire in order to be digitally competent. "Knowledge" refers to the understanding of theory while "Skills" are seen as the abilities to put the knowledge into practice.

According to Ferrari (2012), "when knowledge is learned passively, without skills, it is often only learned at a superficial level and therefore not readily transferred to new environments. Deep understanding and actionability for the real-world will occur only by embedding skills within knowledge domains, such that each enhances the other". Skills represent "How we use what we know."

The proposed levels of proficiency progression for language teachers' digital competences profile are the following (Table 3):

Novice (A1-A2) -> Language teachers at this level are competent replicators. They can assimilate new information and develop basic digital practices;
Proficient (B1-B2) -> Language teachers at this level are aware practitioners. They can apply, further expand and reflect on their digital practices;
Expert (C1-C2) -> Language teachers at this level are expert facilitators. They pass on their knowledge, critique existing practice and develop new practices.

Table 3. *Levels of proficiency according to the DC4LT Assessment Framework.*

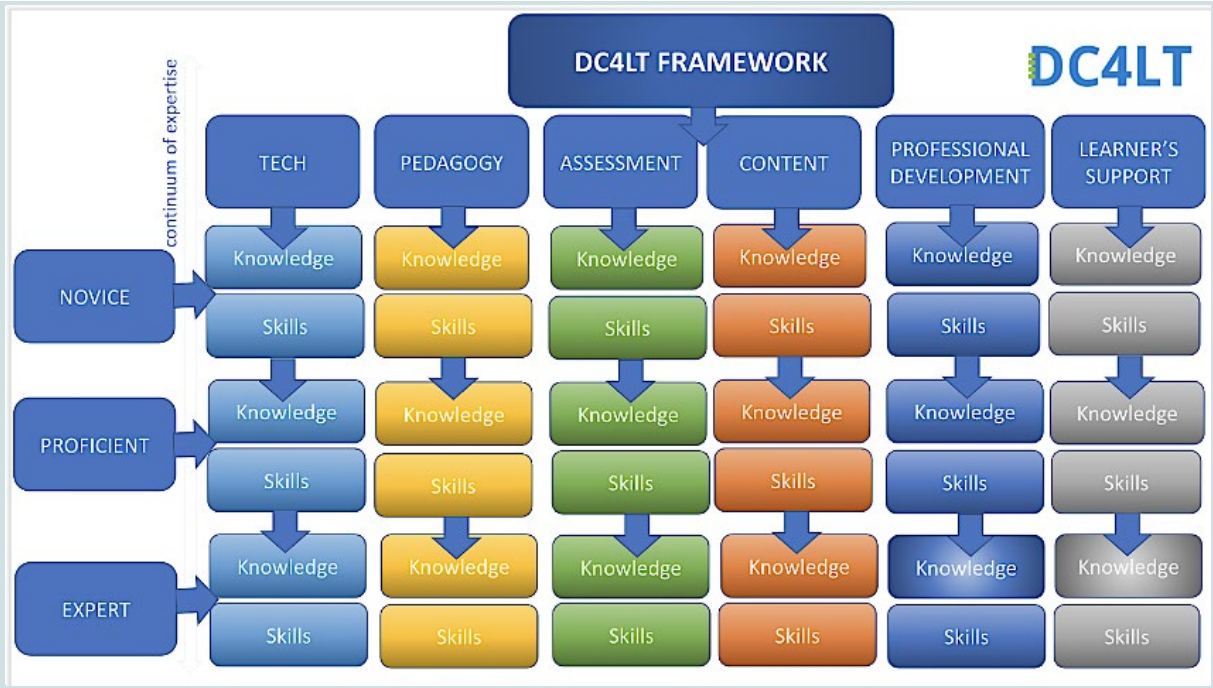


Figure 6. The *DC4LT Assessment Framework* (Perifanou, 2022).

The main components of the DC4LT Assessment Framework include six main categories and their subcategories (thematic areas) (Figure 6). The six (6) main categories are the following: 1) Technology, 2) Pedagogy, 3) Assessment, 4) Content, 6) Professional development, and 7) Learners' support. Each category includes a set of five (5) concrete subcategories (Table 4).

The first category is entitled "Technology" and includes the description of three levels of proficiency related to the efficient use of technology in the context of language education. Each level comprises a different level of knowledge and skills that a language teacher should have on specific topics such as: 1) digital tools and devices; 2) tools for language education; 3) social media and collaboration platforms; 4) netiquette and 5) security issues.

The thematic topics treated in each of the six (6) DC4LT assessment framework's components are various and are presented all together in the following table (Table 4).

TECHNOLOGY	PEDAGOGY	ASSESSMENT	CONTENT	PROFESSIONAL DEVELOPMENT	LEARNER'S SUPPORT
Digital Tools & Devices	Pedagogical Approaches/Methods in Technology Enhanced Learning	Digital assessment of Language Learning skills	Search, evaluate & find digital language content	Organisation & communication	Facilitate learners to develop ICT for practicing language skills
Digital tools in Language Education	Pedagogical Approaches/Methods in Digital Language Learning and Teaching	Digital assessment strategies to monitor/assess language learners' progress	Use and store digital language content	Professional collaboration	Guide learners to develop and manage their digital identity
Social Media & Classroom collaboration platforms	Interactive Language Learning supported by technology	Digital assessment strategies to assess Language learners' achievements	Modify & create digital language content	Self-assessment & reflective practice	Guide learners to find, use, create and share language digital material respecting legal rules
Netiquette/Ethics	Collaborative Language Learning supported by technology	Learning Analytics strategies for Supporting Language Learning	Manage & share digital language content	CPD	Facilitate learners to foster communication & interaction skills
Security	Autonomous Language Learning supported by technology	Modes of digital feedback	Copyrights	Collaborate in projects with native speakers	Facilitate learners to foster collaboration skills

Table 4. The *DC4LT Assessment Framework's thematic topics.*

The range of the tools and the level of difficulty in their use varies and progressively rises from the novice to expert's level. The following Table 5 presents an example.

TECHNOLOGY
I have the Knowledge to
• use and evaluate a limited/ adequate/ wide variety of software and devices that is needed for administration or organisational communication with colleagues and learners (managing time, tasks etc.); • use and evaluate a limited/ adequate/ wide variety of software and devices that is needed for preparing lesson materials and handouts for language teaching addressing specific linguistic needs (foster writing, listening, etc.); • use and evaluate information management (find, save, store, access and share) at a limited/ adequate/ wide variety of social media and classroom collaboration platforms; • have a basic/ good/ excellent understanding of netiquette, ethics, safety, privacy and security issues (digital identity, resources) • operate a wide range of software from low to high difficulty (i.e. to use *PowerPoint, Moodle*); • use a limited/ adequate/ wide range of digital tools to communicate with colleagues and learners (e.g., email or instant messaging, social media platforms, forums).·

I have the Skills to
• use a limited/ adequate/ wide range of digital tools to manage time and tasks (e.g. Monday.com; Youtrack, etc.) • find, explore, use a limited/ adequate/ wide range of digital tools for language learning (online dictionaries, voice recording tools, online flashcards, forums, etc.); • search, discover, use, create and share Open Educational Resources (OERs) using a limited/ adequate/ wide range of tools such specific OER repositories (e.g. Merlot) or search tools (The Mason OER Metafinder- MOM), or OER online creators (e.g. OER commons Author tool, etc.) or OER attribution builders (Open Washington Attribution builder). • use a limited/ adequate/ wide range of digital tools (e.g, google docs, onedrive) in order to save, store, organize, access and share digital files; • use a limited/ adequate/ wide range of social media (Facebook, etc.) and other classroom collaboration platforms (e.g., Edmodo) in language classroom; • have a basic/ good/ excellent understanding of issues connected to netiquette and digital identity; • to implement data protection rules (copyright, piracy, file-sharing and plagiarism) and online security (manage passwords, anti-virus software, etc.) with no/ medium/high difficulty.

Table 5. Example: Descriptors of the *DC4LT Assessment Framework's "Technology" component.*

Accordingly, the second category which refers to "Pedagogy" presents the pedagogical perspective of the use of technology in the language learning context and descriptors of the three different proficiency levels. Each of them comprises a variety of pedagogical/instructional methods in Applied Linguistics from the most basic to the most innovative.

PEDAGOGY
I have the Knowledge of
• limited/adequate/wide variety of innovative theories and methodologies that support Technology Enhanced Learning (TEL) • limited/adequate/wide variety of innovative theories/methods/approaches/strategies that can help language teachers integrate/implement successfully digital technologies in language teaching addressing specific language needs for target groups at exploratory level/ good level/very good level. • limited/adequate/a wide variety of innovative pedagogical techniques to support language learner in interactive digital environments (i.e. social media) • limited/adequate/wide variety of/innovative pedagogical techniques to match digital tools and resources to learner's profiles supporting autonomous and collaborative language learning.
I have the Skills to
• understand a limited/ adequate/ wide variety of/innovative theories that support TEL (i.e. constructivism, connectivism, blended learning, flipped classroom, etc.); • find, (re)use language teaching scenarios/good practices (i.e. OERs/OEPs) in language classroom or/and share with the wider community of language teachers easily/ with some difficulty/ or no difficulty at all;

- understand with a lot of difficulty/with some difficulty/easily how to integrate successfully limited/ adequate/ wide range of digital tools and resources in language classroom applying a basic/a big variety of/innovative pedagogical methodologies (inquiry based learning, game based learning, tandem language learning, active learning, content based learning, etc);
- to adapt the use of technology to the level and the learners' educational needs in order to address specific language needs (reading, writing, listening, speaking, vocabulary, pronunciation, content based learning, etc.) at an exploratory/ very good level/advanced level;
- to explain at a basic/good/advanced level to language learners the choice of a particular digital tool or resource (i.e. use of podcasts as a common source for tracking different recordings with different accents and registers) from a pedagogical perspective;
- to understand with a lot of difficulty/with some difficulty/easily how to use platforms which support interactive language learning environments (i.e. use of FB as communication tool in a task based activity) from a pedagogical perspective;
- to understand with a lot of difficulty/with some difficulty/easily how to promote differentiated/autonomous/ collaborative learning in blended and/ or online language learning contests with a limited/adequate/wide range of digital tools and resources;
- to understand with a lot of difficulty/with some difficulty/easily how to use a limited/ adequate/wide range of digital tools and resources from a pedagogical perspective in order to provide continuous support to students in blended and fully online language learning environments.

Table 6. Example: Descriptors of the *DC4LT Assessment Framework's "Pedagogy" component.*

The third category is "Assessment" and offers descriptors related to the knowledge and skills that language teachers need to acquire in order to organize the digital assessment processes (multiple choice questions, open-ended questions, fill the gap, take home exam, project, , write essay, group work, written/oral, peer assessment, informal/formal, spontaneous/planned, brief/extended). This category includes a set of different assessment digital tools of various difficulty levels, as well as digital assessment methods and strategies which vary from the most basic to the most innovative.

ASSESSMENT
I have the Knowledge of
• basic/adequate/wide range of digital assessment methods, techniques, and tools in order to assess Language Learning skills; • basic/adequate/wide range of digital assessment methods, techniques, and tools in order to assess Language Learning skills; • basic/adequate/wide range of digital progress assessment strategies and tools to monitor/assess language learners' progress; • basic/adequate/wide range of digital progress assessment strategies and tools to monitor/assess language learners' progress; • basic/adequate/wide range of digital summative assessment strategies and tools to assess Language learners' achievements; • basic/adequate/wide range of digital summative assessment strategies and tools to assess Language learners' achievements;

• basic/adequate/wide range of Learning Analytics strategies and tools for Supporting Language Learning; • basic/adequate/wide range Learning Analytics tools and metrics for Supporting Language Learning; • basic/adequate/wide range of synchronous methods, techniques, and tools (e.g., chat, videoconference) in order to provide instant digital feedback; • basic/adequate/wide range of asynchronous methods, techniques, and tools (e.g., email, messenger, google drive, LMS) to provide digital feedback; • basic/adequate/wide range of cognitive, emotional, motivational digital to provide digital feedback; • basic/adequate/wide range of immediate or delayed digital feedback methods
I have the Skills to
• analyze and evaluate basic/adequate/advanced digital assessment methods, techniques, and tools of Language Learning skills (grammar, syntax, reading, writing, listening, speaking) • create digital basic/adequate/advanced assessment methods, techniques, and tools of Language Learning skills (grammar, syntax, reading, writing, listening, speaking) • analyze and evaluate basic/adequate/advanced digital progress/formative assessment strategies (e.g., impromptu quizzes, one-minute paper, exit tickets, clicker questions, homework) to monitor/assess language learners' progress • create basic/adequate/advanced digital progress/formative assessment strategies to monitor/assess language learners' progress • analyze and evaluate basic/adequate/advanced digital summative assessment strategies (e.g., final exams, final project, final essay, standardized tests) to assess Language learners' achievements • Create basic/adequate/advanced digital summative assessment strategies to assess Language learners' achievements • analyze and evaluate basic/adequate/advanced Learning Analytics tools and metrics for Supporting Language Learning • Create basic/adequate/advanced Learning Analytics tools and metrics for Supporting Language Learning • analyze and evaluate basic/adequate/advanced Modes of digital feedback • Create basic/adequate/advanced Modes of digital feedback • analyze and evaluate basic/adequate/advanced grading methods and tools to grade Language learners' achievements • create basic/adequate/advanced grading methods to grade Language learners' achievement.

Table 7. Example: Descriptors of the *DC4LT Assessment Framework's "Assessment" component.*

The fourth category offers descriptors that define the knowledge and skills that a language teacher should possess in order to be able to search, discover, (re)use, create and share digital language material and respect copyright law.

CONTENT
I have the Knowledge of
• basic/adequate/advanced methods and techniques to search and find digital language content and/or language Open Educational Resources (OER);

- basic/adequate/advanced methods and techniques to evaluate digital language content and/or language OER;
- limited/adequate/wide range of libraries, databases, and repositories to search and find digital language content;
- basic/adequate/wide range of quality frameworks and tool to evaluate digital language content and/or language OER;
- basic/adequate/wide range of repositories to use digital language content and/or language OER;
- basic/adequate/wide range of storage places (e.g., hard disk, USB stick, cloud) to store digital language content and/or language OER;
- basic/adequate/ hosting sites to store digital language content and/or language OER;
- basic/adequate/wide range of translation tools to translate digital language content and/or language OER;
- basic/adequate/wide variety of tools to modify or combine digital language content and/or language OER;
- basic/adequate/wide variety of tools (e.g., video editor, to create digital language content and/or language OER;
- basic/adequate/wide variety of methods (e.g., directories, bookmarks, tags) to organize digital language content and/or language OER;
- basic/good/very good management of digital language content and/or language OER on open sharing platforms to collaborate with the students or colleagues;
- basic/adequate/wide variety of methods to manage various versions when updating digital language content and/or language OER;
- basic/adequate/wide variety of methods to maintain current digital language content and/or language OER;
- basic/adequate/wide variety of social media channels open language teachers communities of practice to share digital language content and/or language OER;
- basic/good/very good ethical use of digital language content and/or language OER;
- basic/good/very good use of Creative Commons licenses for managing digital language content and/or language OER.

I have the <u>Skills</u> to

.

- analyze and evaluate search methods and techniques for finding digital language content and/or language OER at a basic/good/ advanced level;
- analyze and evaluate libraries, databases, and repositories for finding digital language content and/or language OER at a basic/good/ advanced level;
- create search methods for finding digital language content and/or language OER at a basic/good/ advanced level;
- use quality frameworks and tools for evaluating digital language content and/or language OER at a basic/good/ advanced level;
- create quality frameworks and tools for evaluating digital language content and/or language OER at a basic/good/ advanced level;
- analyze and evaluate storage places for storing digital language content and/or language OER at a basic/good/ advanced level;
- create methods for keeping on digital language content and/or language OER;
- analyze and evaluate tools for modifying or creating digital language content and/or language OER at a basic/good/ advanced level;
- (co) create basic/adequate/high complexity digital language content and/or language OER;
- manage digital language content and/or language OER;

• share digital language content and/or language OER with students or other language teachers; • Use and attribute Creative Commons licenses digital language content and/or language OER.

Table 8. Example: Descriptors of the *DC4LT Assessment Framework's "Technology" component.*

The next category is "Professional development" and includes a set of knowledge and skills that language teacher should possess in order to organize his/her work and to continuously grow professionally with the support of specific digital tools for professional development that could support their communication and networking with other colleagues of the field as well facilitate them in finding group training or self-assessment opportunities.

PROFESSIONAL DEVELOPMENT
I have the Knowledge of
• basic/adequate/wide range of synchronous methods, techniques, and tools (e.g., chat, videoconference) in order to provide instant digital feedback to students and communicate with my colleagues; • basic/adequate/wide range of asynchronous methods, techniques, and tools (e.g., email, messenger, google drive, LMS) to provide digital feedback to students and communicate with my colleagues; • where and how to get information on continuous professional development opportunities because I use open communities of practice at a basic/good/advanced level using a range of synchronous and asynchronous tools
I have the Skills to
• manage and organise my working tasks using a limited/adequate/ wide variety of tools with a lot of difficulty/with some difficulty/easily. • orientate students and provide them with continuous support in blended and fully online language learning environments with a lot of difficulty/with some difficulty/easily. • manage and organise professional collaborations using limited/adequate wide/ variety of tools with a lot of difficulty/with some difficulty/easily. • grow professionally via open communities of practice of language teachers with a lot of difficulty/with some difficulty/easily. • find online training opportunities with a lot of difficulty/with some difficulty/easily. • self reflect on my teaching practice with a lot of difficulty/with some difficulty/easily. • do self-evaluation using online digital skills with a lot of difficulty/with some difficulty/easily. • participate in national and international events collaborating in projects with native speakers with a lot of difficulty/with some difficulty/easily.

Table 9. Example: Descriptors of the *DC4LT Assessment Framework's* "Professional development"

The last category is "Learner's support" and offers descriptors which explain the various knowledge and skills needed in order for a language teacher to be able to facilitate learners' paths

in exploring and using ICT in their learning process and develop in this way their digital and 21st century soft skills.

LEARNER'S SUPPORT
I have the Knowledge of
• how to facilitate learners to develop ICT skills how to support them to practice their language skills with a lot of difficulty/with some difficulty/easily; • how to guide learners to develop and manage their digital identity • how to guide learners to find, use, create and share language digital material respecting legal rules; • how to facilitate learners to foster communication & interaction skills; • how to facilitate learners to foster their intercultural collaboration skills.
I have the Skills to
• support learners in using a a limited/ adequate/ wide variety of/ tools during their learning process with a lot of difficulty/with some difficulty/easily; • guide them in exploring innovative ways of learning and practice a language using basic/adequate/wide range of synchronous methods, techniques, and tools; • provide information on using online learning and blended learning environments; • use basic/adequate/wide range of asynchronous methods, techniques, and tools (e.g., email, messenger, google drive, LMS) to provide digital feedback; • support learners on how to find, (re)use easily/ with a lot of difficulty/with some difficulty/easily; • provide continuous feedback to learners using a variety of tools with a lot of difficulty/with some difficulty/easily.

Table 10. Example: Descriptors of the *DC4LT Assessment Framework's* "Learner's support" *component.*

In the fourth research phase, we designed a conceptual draft of a digital assessment tool, the DC4LT digital Assessment Tool, which is based on the DC4LT components. It is shaped as a rubric that includes a set of "I know "and "I can" statements for each subcategory and can help language teachers to self-evaluate their digital skills.

CONCLUSIONS

Acquiring digital competence is a multifaceted dynamic goal for language teachers to pursue in their professional development and the DC4LT Assessment Framework aims at supporting them by providing a self-reflection tool that outlines the thematic categories of knowledge and skills that they need to acquire in order to become digitally competent in a period that digital skills are needed more than ever before. The DC4LT Assessment Framework is composed from the following categories: 1) Technology, 2) Pedagogy, 3) Assessment, 4) Content, 6) Professional development, and 7) Learners' support. Each category includes five subcategories. In the 2nd part of this report, we will briefly present the DC4LT digital Assessment Tool.

2. PART B. The design of the "Digital Competence for Language Teachers" Self-Assessment Tool: a proposal

1 Introduction

This section focuses mostly on the description of the design and development of the DC4LT Self-Assessment Tool that is complementary to the DC4LT Assessment Framework which provides the descriptors of each DC4LT evaluation component.

2. Prior research

Based on the data retrieved and analysed during the systematic literature review on digital competence frameworks and tools it was found that there is a variety of digital assessment frameworks and tools which have addressed the digital competence assessment needs of different groups but few are dedicated to language teachers' digital competence assessment. Many digital competence assessment tools are based on known digital competence assessment frameworks such as the Digital Competence of Educators (DigCompEdu) Self-assessment Instrument (Ghomi & Redecker, 2019) which is mapped on the European Digital Competence Framework for Educators known as DigiCompEdu (Redecker, 2017) or the Microsoft Certified Educator (MCE) digital assessment tool which is based on the UNESCO ICT Competency Framework for Educators (2018).

Overall, all the digital competence assessment tools that were collected and analysed had different and similar characteristics: For example, there were a) several types (e.g., self-assessment tool or not, online assessment tests or printable tests, written or oral tests, interactive with multimedia or with no interaction at all, formal or informal) and b) various formats (e.g., questionnaires, rubrics, checklists), c) they were free or paid, d) they offered a type of accreditation (i.e., certification, badge), or they e) provided a quantitative or qualitative assessment (total score, written feedback or just a time for self-reflection). The digital competence assessment tools found were not many and were mostly provided by well-known organisations or they were developed in the context of research projects.

Representative examples are the Cambridge English Digital Framework (Cambridge, 2017) which has been developed by the Cambridge University's experts in the field, in consultation with practicing language teachers and trainers and it is offered online and for free. Another example is the 2digi tool (https://2digi.languages.fi/) which was developed by the FILNEC, the association of Finnish language centres, in the context of a 3-years national project which aimed at assisting language teachers in their transition from an analogue world to a digital one. The following section presents the development of the DC4LT Self-Assessment Tool.

3. The design of the DC4LT Self-Assessment Tool

One of the main research questions which drove the design of the DC4LT Self-Assessment Tool was if there were any digital competence assessment tools which could facilitate the self-assessment of language teachers' digital skills? The methodology adopted was first to explore and find the digital competence assessment frameworks and tools available worldwide for various target groups (i.e. citizens, schools, organisations, students, employees, teachers, etc.). Then, we selected and analysed those which addressed mostly the digital needs of teachers, students and schools and at a later stage we identified those that were created only for language teachers as aforementioned in the previous section. Furthermore, we explored and collected assessment frameworks and tools which focused on the overall assessment of language teachers skills and we identified those which included also the digital skills among other skills. Based on specific criteria (e.g., thematic skills' areas or dimensions of teachers' digital competences, type of assessment, accreditation) we have analysed the most common components used in these frameworks and in line with the CALL theories and the online teaching theories, we have finally selected the key components needed in order to carefully design the DC4LT Self-Assessment Tool.

The DC4LT Self-Assessment Tool is mapped on the DC4LT Assessment Framework and for that reason its components (Fig.8) are in accordance with the DC4LT Assessment Framework's components.

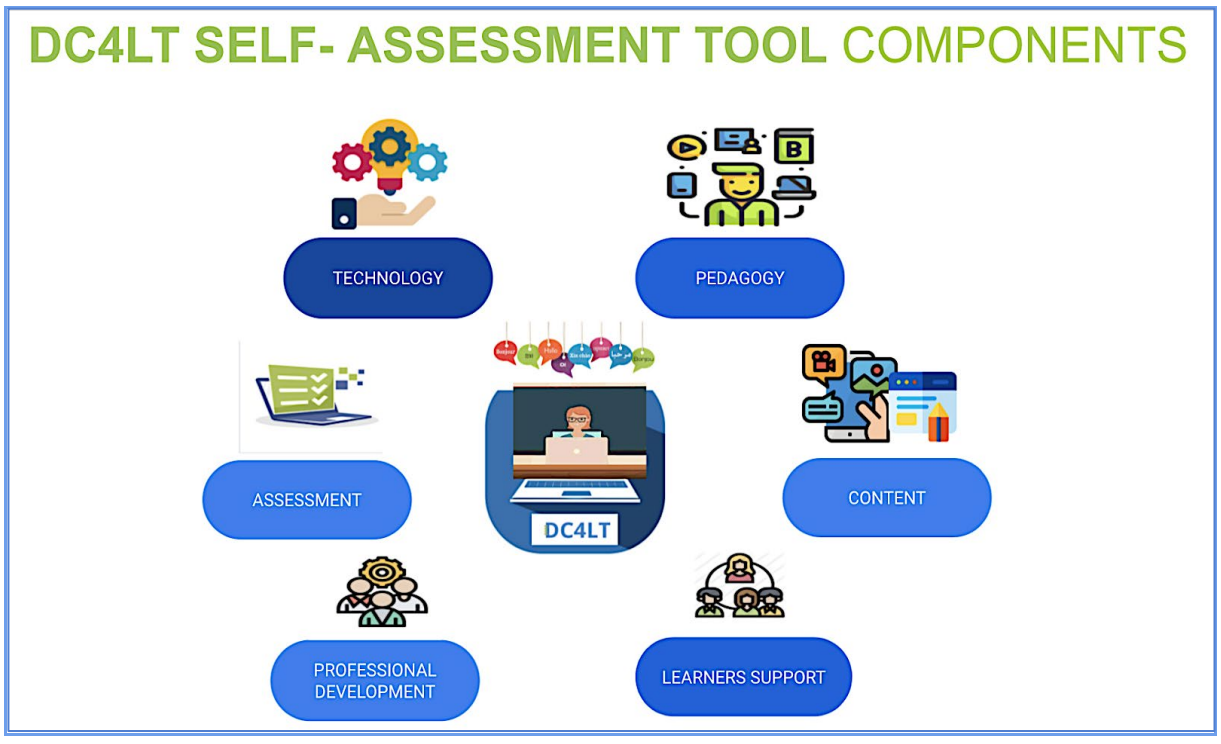


Figure 8. The DC4LT Self-Assessment Tool Components.

This assessment tool has the format of an online evaluation rubric (Table. 11) that consists of six (6) core assessment dimensions and three (3) proficiency level skills (novice, proficient, expert). Each dimension represents a different category and contains a number of subcategories. The teacher who takes the DC4LT Self-Assessment Test can use it as a self-evaluation/reflection checklist.

Teachers that take the test can consult the DC4LT Framework's descriptors to understand better what skills they should possess for each main category and then decide if they can be awarded 1, 2 or 3 points depending on their proficiency level (from the lower to the more advanced proficiency).

DC4LT

SELF-ASSESSMENT RUBRIC

	NOVICE Points 1	PROFICIENT Points 2	EXPERT Points 3	SCORE
TECHNOLOGY				
• Digital Tools & Devices • Digital tools & resources in Language teaching • Social Media & Classroom collaboration platforms • Netiquette/Ethics • Security	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors			
PEDAGOGY				
• Pedagogical approaches to Technology Enhanced Learning • Pedagogical Approaches in Digital Language Learning and Teaching • Interactive Language Learning supported by technology • Collaborative Language Learning supported by technology • Autonomous Language Learning supported by technology	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors			

ASSESSMENT		
• Digital assessment of Language Learning skills • Digital assessment strategies to monitor/assess language learners' progress • Digital assessment strategies to assess Language learners' achievements • Learning Analytics strategies for Supporting Language Learning • Modes of digital feedback	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors	
CONTENT		
• Search, evaluate & find digital language content • Use and store digital language content • Modify & create digital language content • Manage & share digital language content • Ethics	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors	
PROFESSIONAL DEVELOPMENT		
• Organisation & communication • Professional collaboration • Self-assessment & reflective practice • CPD • Collaborate in projects with native speakers	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors	
LEARNERS SUPPORT		
• Facilitate learners to develop ICT for practicing language skills • Guide learners to develop and manage their digital identity		

• Guide learners to find, use, create and share language digital material respecting legal rules	**Self-Assess your KNOWLEDGE & SKILLS** Check the DC4LT Framework descriptors	
• Facilitate learners to foster communication & interaction skills		
• Facilitate learners to foster collaboration skills		
	TOTAL SCORE	

Table 11. The DC4LT Self-Assessment Tool (Rubric/checklist)

The same tool could also have an interactive format. This idea will be further explored in future. Teachers can take 6 Self-Assessment Tests linked on the rubric, one for each category, that have the form of a set of and "I know" and "I can" statements which are progressing from the lower to the more advanced proficiency level and each positive statement earns different scores (1-3) depending on the different proficiency level (Novice, proficient or expert). In this case the system records automatically all the scores. The questionnaires are based on the DC4LT framework descriptors. Below there is an example of the questionnaire and the rest of the pages of the questionnaire are available at the Appendix I.

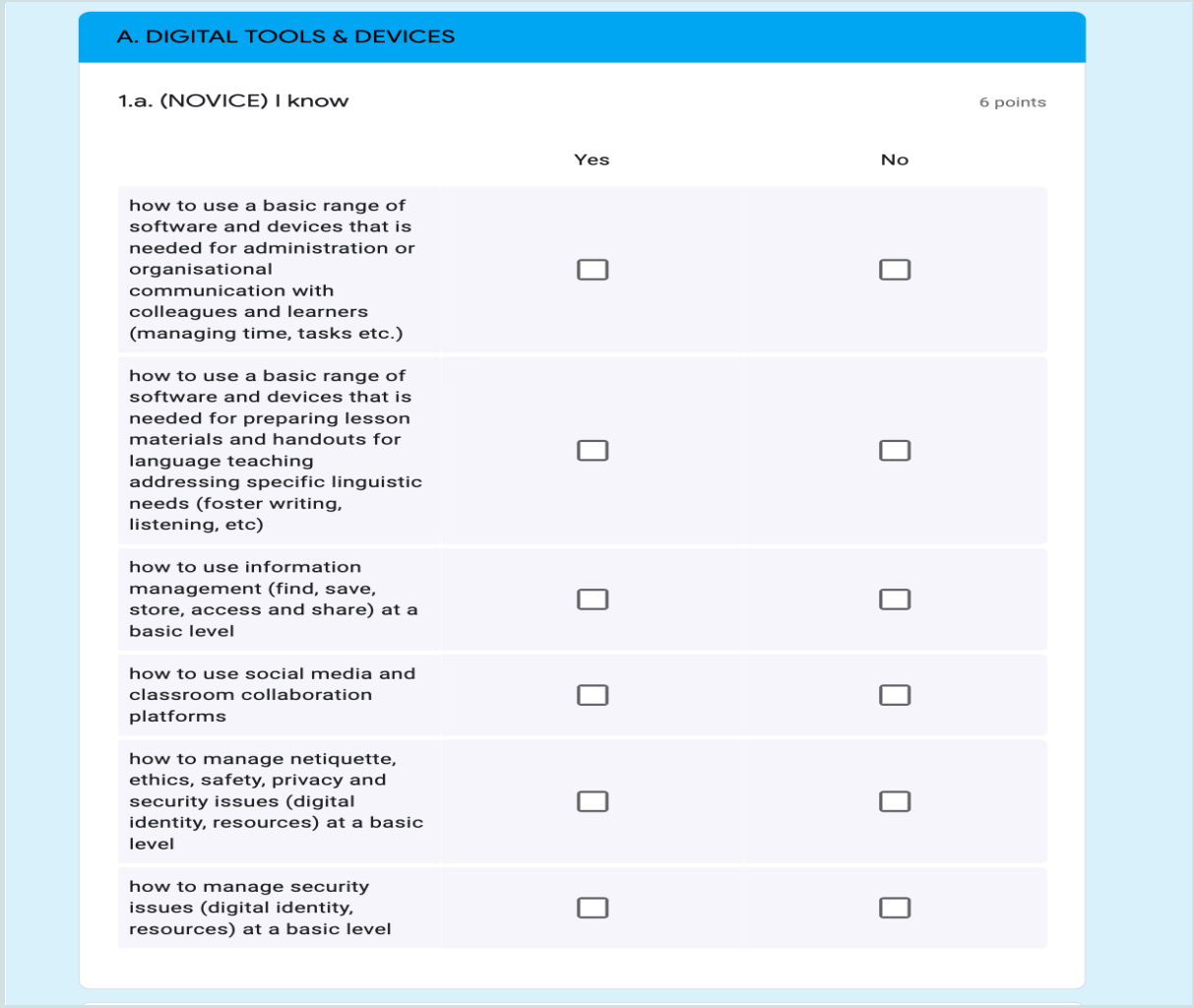


Figure 8. The DC4LT Self-Assessment Tool (Interactive format)

The final score is formed by the total of the six (6) subscores obtained and it is visualised on a Radar Chart (Fig. 2) which is automatically generated at the end of the evaluation process. A Radar Chart is an easy way for visualizing and analyzing skills and competences. In this way, after taking the DC4LT Self-Assessment Tool language teachers will be able to check their performance and track their own progress. The language teacher who takes the digital competence self-Assessment test can download, print or receive by email his/her evaluation score.

The tool used for the questionnaires can be Google forms in combination with specific tools like the "skill radar", an add-on tool for Google or other tools like Questionpro that also enables automatic creation of skill radar charts for individuals and teams.

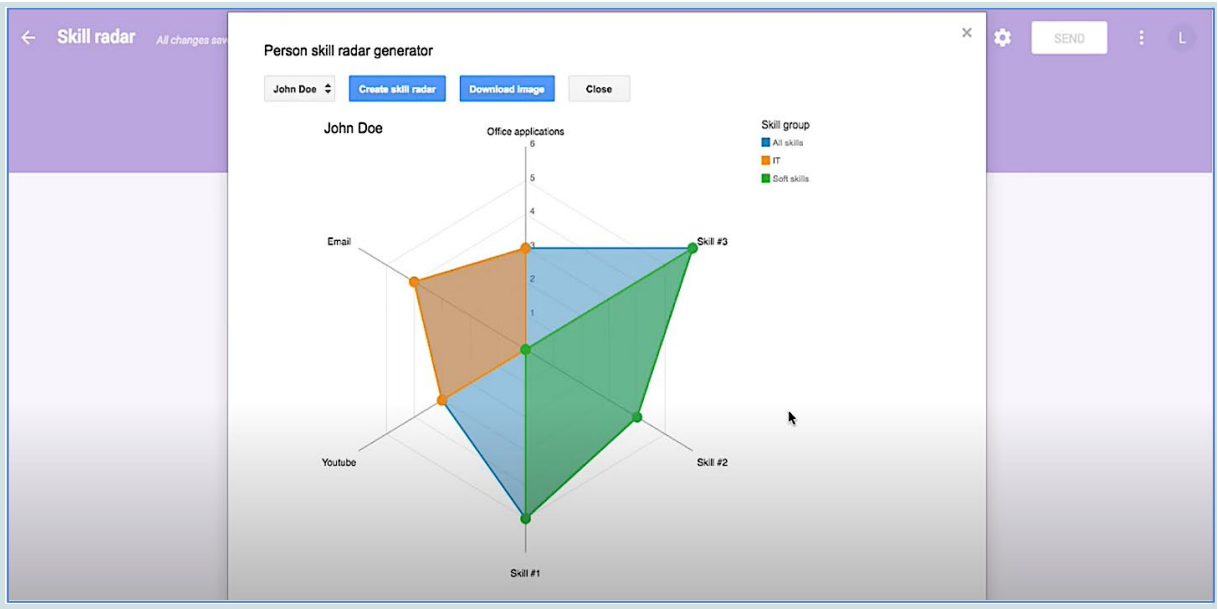


Figure 8. Radar Chart automatically generated by the "Question pro" tool upon completion of a questionnaire.

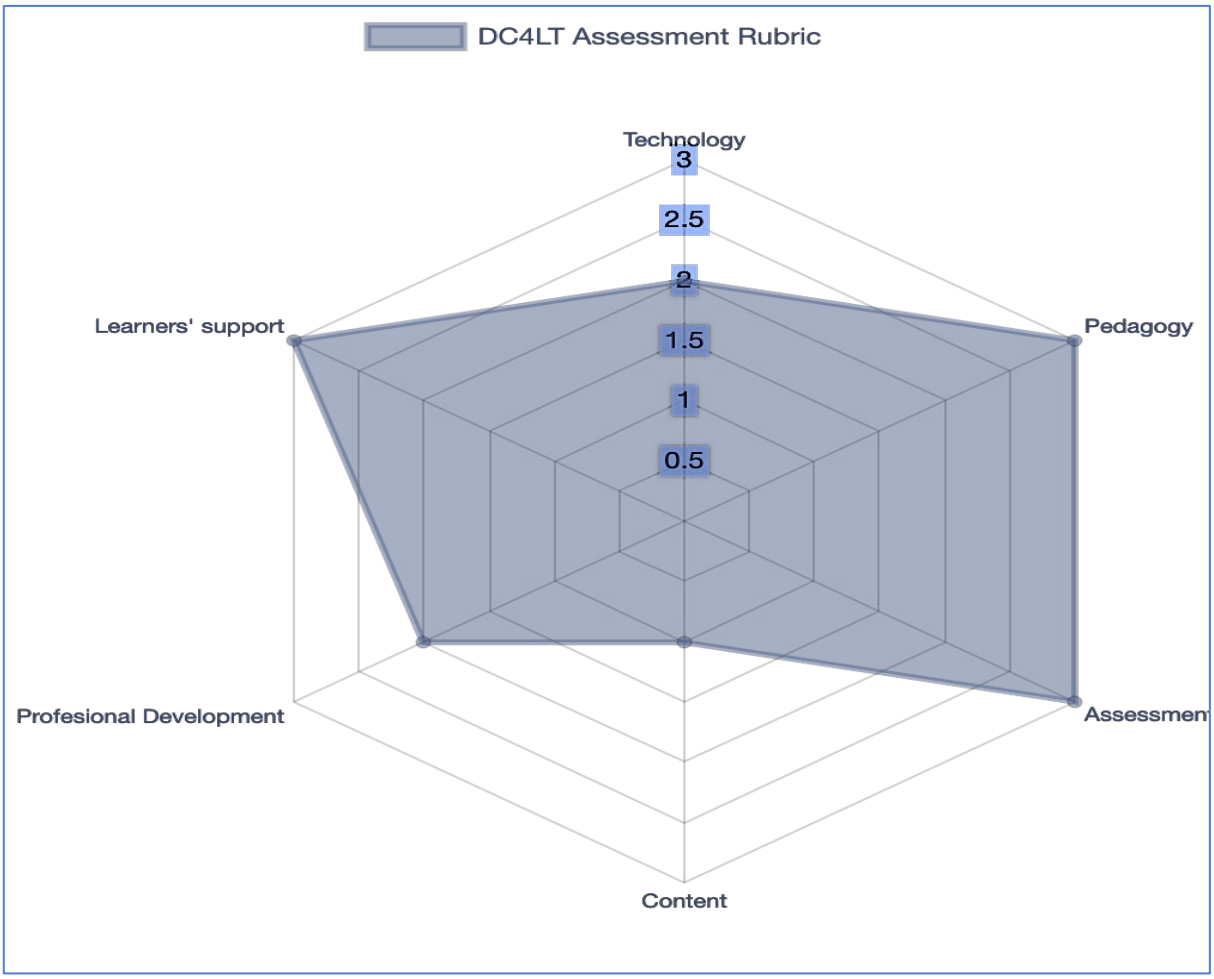


Figure 9. Radar Chart that represents the digital competence evaluation final score.

The interactive version of the DC4LT Self-Assessment Tool is based on the DC4LT Assessment Framework which adopts a holistic skillset's perspective and proposes a well-balanced combination between theoretical knowledge and practical skills. The DC4LT self-tests contain competence and knowledge statements which refer not only to the efficient use of digital tools and their integration in the teaching process, but also to the right use of tools and methods for assessment, digital content creation and sharing, teachers' professional development, and learners' support.

Conclusions

Defining the profile of the digitally competent language teacher and providing him/her with useful self-assessment tools is a challenging research goal. In this section, we have presented two different versions of the *DC4LT Self-Assessment Tool,* one with a simple format of an evaluation checklist and one interactive that will be further explored in future research.

RECOMMENDATIONS

Taking under consideration both language teachers' needs for digital literacy training, as well as specific components of the aforementioned digital literacy frameworks and tools, were designed both the DC4LT Assessment Framework and Self-Assessment Tool.

Results have shown that there is a big variety of digital frameworks for educators proposed by official organisations and researchers (e.g., the DigiCompEdu framework offered by the European Commission - Joint Research (Redecker, 2017); the Teachers ICT Competency Framework for Teachers (UNESCO, 2011), as well as numerous assessment tools that envisage to assess the digital skills of different groups of people such as citizens, students, employees, teachers and school managers. However, as far as language teachers are concerned, it is clear that there is a low variety of digital frameworks and tools designed specifically for language teachers that can define the profile of a digitally competent language teacher.

Our research has also shown that creating a Digital Competence Assessment Framework and Self Assessment Tool tailored to the needs of Language Teachers is a big challenge. The design and topics of the DC4LT framework, as well as the DC4LT training model were all evaluated positively in both series of webinars by the participants and proposed changes were applied. We will continue exploring this very interesting research area.

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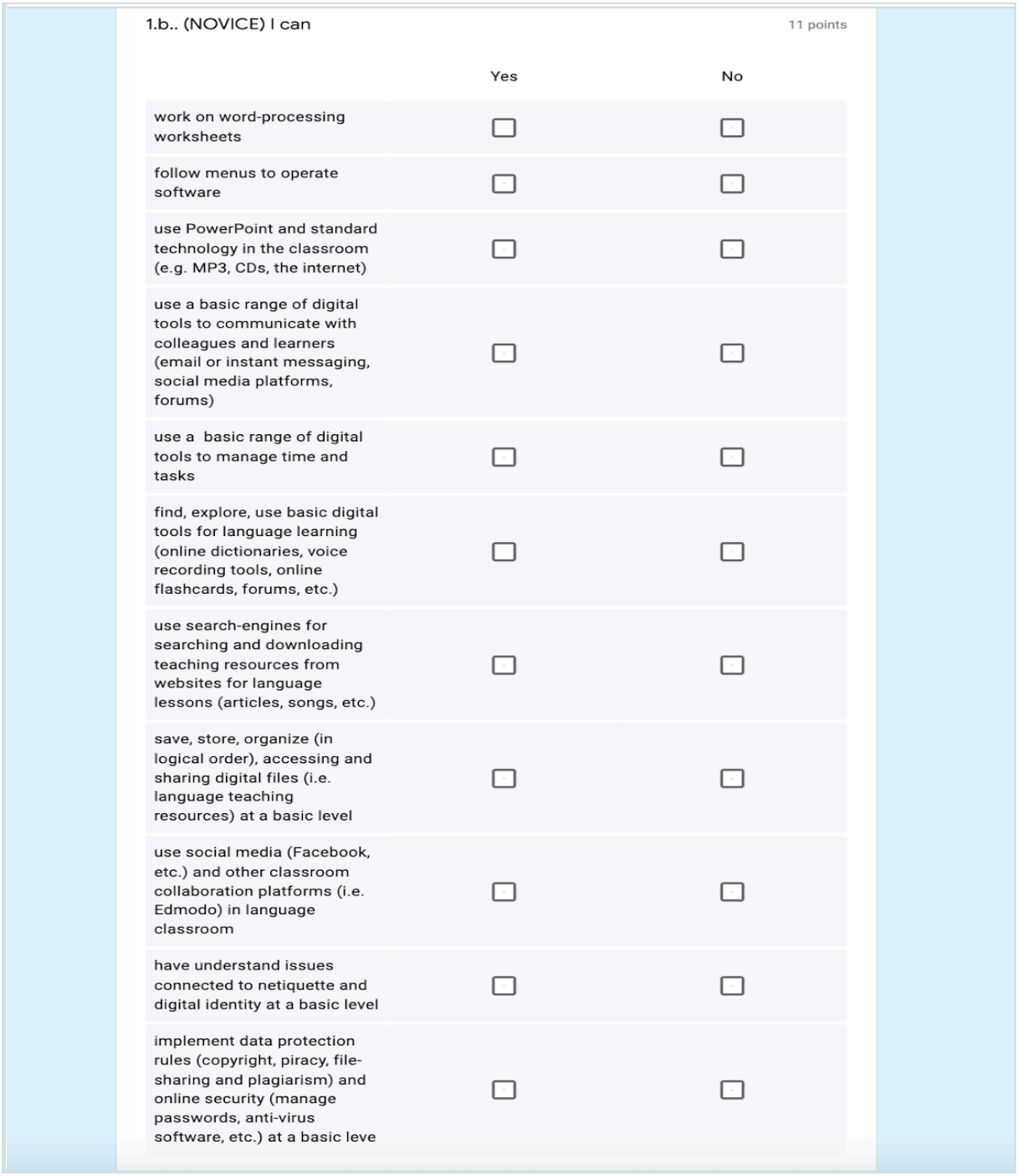
APPENDIX I

Example of the DC4LT Self-Assessment Tool (Interactive format)



1.b.. (NOVICE) I can — 11 points

	Yes	No
work on word-processing worksheets	☐	☐
follow menus to operate software	☐	☐
use PowerPoint and standard technology in the classroom (e.g. MP3, CDs, the internet)	☐	☐
use a basic range of digital tools to communicate with colleagues and learners (email or instant messaging, social media platforms, forums)	☐	☐
use a basic range of digital tools to manage time and tasks	☐	☐
find, explore, use basic digital tools for language learning (online dictionaries, voice recording tools, online flashcards, forums, etc.)	☐	☐
use search-engines for searching and downloading teaching resources from websites for language lessons (articles, songs, etc.)	☐	☐
save, store, organize (in logical order), accessing and sharing digital files (i.e. language teaching resources) at a basic level	☐	☐
use social media (Facebook, etc.) and other classroom collaboration platforms (i.e. Edmodo) in language classroom	☐	☐
have understand issues connected to netiquette and digital identity at a basic level	☐	☐
implement data protection rules (copyright, piracy, file-sharing and plagiarism) and online security (manage passwords, anti-virus software, etc.) at a basic leve	☐	☐

2.a. (PROFICIENT) I know

12 points

	Yes	No
how to use a very good range of software and devices that is needed for administration or organisational communication with colleagues and learners (managing time, tasks etc.)	☐	☐
how to deal with most technical aspects and uses of most digital devices i.e data projectors, interactive whiteboards (IWBs) and software for preparing advanced language material (i.e creating media, audio and video files, and embedding images)	☐	☐
how to manage information management (find, save, store, access and share) at a very good level level	☐	☐
how to use digital equipment, mobile devices, the internet and relevant software to support blended language learning	☐	☐
how to use suitable digital technologies to address particular language learning needs & learning situations in face to face and online language learning environments including social media	☐	☐
how to manage netiquette, ethics, safety , privacy and security issues (digital identity, resources) at a very good level	☐	☐

2.b. (PROFICIENT) I can

20 points

	Yes	No
use google drive and other software to organise language lesson tasks and to communicate with learners or use more advanced software like Trello to organise admin work and communication with colleagues	☐	☐
handle images, DVDs, and sound files to be used in language classroom	☐	☐
create lessons with downloaded texts, pictures, graphics, etc.	☐	☐
use the IWB, projectors and other devices creatively	☐	☐
deal with tech problems of the digital equipment in language classroom	☐	☐
use data projectors for language lessons involving internet, DVD in order to address specific linguistic needs i.e. deliver grammar or text presentations, etc.	☐	☐
recommend appropriate online materials and tools to language students i.e. online dictionaries to support writing assignments, voice recording tools to practice language pronunciation and speaking skills, online flashcards to practice/learn vocabulary, forums to practice writing skills, etc.)	☐	☐
deal with online language learning environments	☐	☐
set and supervise individual on-line work and collaborative work using a variety of communicative tools	☐	☐
have a basic understanding of issues connected to netiquette and digital identity at a very good level	☐	☐
implement data protection rules (copyright, piracy, file-sharing and plagiarism) and online security (manage passwords, anti-virus software, etc.) at a very good level.	☐	☐

3.a. (EXPERT) I know

18 points

	Yes	No
how to use highly innovative and complex digital and communication technologies that is needed for administration or organisational communication with colleagues and learners (managing time, tasks etc.)	☐	☐
how to use learning management systems (LMS) and internet platforms, and their application in supporting autonomous and interactive language learning at small and large scale (MOOCs)	☐	☐
information management (find, save, store, access and share) at an advanced level level	☐	☐
how to use the various uses of mobile learning devices and applications for language learning	☐	☐
how to manage netiquette, ethics, safety , privacy at an advanced level	☐	☐
how to manage security issues (digital identity, resources) at an advanced level	☐	☐

3.b. (EXPERT) I can

27 points

	Yes	No
use any standard web and computer software, including media-related applications	☐	☐
evaluate and using more advanced digital technologies, i.e. learning management systems (LMS), web 2.0 tools, mobile learning devices and applications for languages learning,	☐	☐
develop digital technology-rich language learning programmes and online courses	☐	☐
design blended learning modules using an LMS e.g. Moodle	☐	☐
use in highly innovative ways social media, classroom collaboration platforms and other digital tools in language classroom	☐	☐
pass expertise to colleagues (being a role model) by showing them how to exploit the teaching potential of new media (e.g. mobile phones, IWBs etc.) .	☐	☐
train students to participate in IWB use, use of mobile phones, use various software, etc. for language learning	☐	☐
collaborate with teachers and students on innovative projects which are creative and are supported by emerging technologies (having the role of pioneer)	☐	☐
orientate colleagues and learners on issues connected to netiquette and digital identity at an advanced level	☐	☐
implement data protection rules (copyright, piracy, file-sharing and plagiarism) and online security (manage passwords, anti-virus software, etc.) at an advanced level.	☐	☐

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