

Digital Competences in Language Education

Teachers' Perspectives, Employers' Expectations,
and Policy Reflections

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Report

Digital Competences in Language Education:
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Executive Summary

This report informs about the state of digital skills in the language teaching profession. The report aims to raise awareness about the topic for better decisions in educational policies and in the implementation of these policies.

We present a *review of European and selected national policies related to the digital skills of language teachers*. The policies highlight the importance of digital literacy for everyone. Digital competencies and skills of teachers are seen as requirements for the digitalization of education in general and for the successful adoption and use of technology-based educational practices.

The report also contains the results of the *digital competence assessment survey for language teachers*. The survey assessed how language teachers use digital technologies, their attitude towards these technologies, their related skills and competencies, their satisfaction and required improvement, and the institutional support they receive. The results indicate that language teachers use various instructional models in their daily practice. The lack of training is an important factor that prevents the teachers from using certain technology-based methodologies, in contrast to the lack of infrastructure was not a strong factor. Language teachers generally consider that digital technologies enhance learning and are beneficial for the classroom.

The teachers who responded to the survey describe themselves as intermediate in using digital technologies rather than either experts or novices. More than two-thirds of the teachers are not satisfied with their level of digital language teaching expertise, while 95% of them believe that they can improve their digital language teaching expertise by participating in an external digital literacy training program.

Employers of approximately half of the language teachers organize training for advancing digital skills. However, two-thirds of the respondents, who receive such training at their organizations, report that the training sessions happen irregularly or as rarely as once per year. At the same time, the majority of the teachers describe the training held at their employing organizations as effective and the skills they received are applied in practice.

The report further presents the results of the *job market study for language teachers*. The study was conducted in 11 countries to check if the policies in digitalization and education have a direct impact on language teaching jobs. The results indicate that only 15% of all job announcements for language teachers mention digital competences or skills in the list of requirements. From those announcements that require digital competences or skills, only one third specify what exact skills are needed.

Overall, the Digital Competences in Language Education report provides four perspectives on the digital competences of language teachers, individual, organizational, national, and European. Even though there are several policies implemented at the national and European levels, only a few are detailed enough to specify the organizational details for the implementation of digitalization and the methodological use of digital technologies. Thus, this is left to the organizations or even the individual teacher. Most organizations have not yet detailed their digitalization strategies to the level of specifying what digital skills their new language teachers should have. Staff training opportunities to advance digital skills are mostly organized rarely or on an ad-hoc basis. At the same time, most teachers find such training useful for their professional development and express a positive attitude towards the use of digital technologies in language teaching.

This report summarises the work undertaken during the initial phase of the project: Digital Competences for Language Teachers (DC4LT).

Part 1. Introduction

1.1. Motivation

Equipping European citizens with digital competencies is at the core of the EU strategy. Digital Competence was included as one of the eight essential skills, in the Recommendation on Key Competences for Lifelong Learning. In the EC's 2010 Digital Agenda for Europe, Digital Literacy is one of its seven pillars. Furthermore, one of the major outcomes of the Second EU survey of schools¹ is the urgent need not only to integrate Information and Communication Technologies (ICT) into schools' curricula but to invest in training teachers. Results have shown that six out of ten European students are taught by teachers that engage in professional development activities about ICT in their own time.

Even though it is acknowledged by the EU that Language proficiency is a key instrument for a common understanding between its citizens and for exploiting its rich cultural heritage, there is still a long way to fully integrate ICT in the European language classrooms. Another key finding of the second EU survey of schools, mentioned above, was that the biggest percentage of EU schools lacked the appropriate infrastructure, had low-frequency use of ICT in the FL classroom and 70% of the language teachers did not consider themselves as 'digitally' confident or able to teach digital skills effectively.

Language teachers need to acquire new skill sets regularly in order to become digitally competent. Those who are wishing to organize online language courses, actually need different skills than those trained to teach in a face-to-face classroom. To this direction, the EU has recently published a new study "The European Framework for the Digital Competence of Educators"² that proposes a framework that aims to detail how digital technologies can be used to enhance and innovate education and training. This new educational reality not only requires new innovative pedagogies and skills but also opens learning environments, OERs, open adults training environments, which go in line with the "Opening Up Education" initiative³. The EU supports the idea of open actions towards more open learning environments to deliver education of higher quality and efficacy and thus contributing to the Europe 2020 goals of boosting EU competitiveness and growth through a better skilled workforce and more employment.

1.2. Problem Identification

Based on the hypothesis that "Language teachers do not have enough digital competences and skills despite multiple efforts to improve the infrastructure and professional training", we decided to provide a feasible solution to this problem via a series of activities starting with a needs analysis survey that could help us identify the size of the problem. More specifically, in order to address the digital literacy training need on an EU level, in the DC4LT project we aim to explore how language teachers are prepared for the continuous introduction of new technologies in their pedagogical practices, their needs to better support online courses and in what ways they will better support their students' learning process.

1.3. Content and Structure of the Report

This report showcases and analyses the results of a literature review and two studies where primary data were collected. These studies allow us to look at the digital competences of language teachers from three angles.

¹ European Commission (2019). 2nd survey of schools: ICT in education. final report - Study. DOI: 10.2759/23401 <https://ec.europa.eu/digital-single-market/en/news/2nd-survey-schools-ict-education>

² Redecker & Punie (2017). European Framework for the Digital Competence of Educators: DigCompEdu <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu>

³ European Commission (2013). Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52013DC0654>

First, we present the results of a review of European and national policies relevant for computer-assisted language learning. Second, we present the teachers' perspectives with the results of the digital competence assessment survey for language teachers. Finally, we review the employers' expectations as hiring organizations drawn from the results of the job market study for language teachers. The data for these studies were collected in 2018-2019.

The research objectives of the digital competence assessment survey for language teachers were: a) to identify to what extent and how language teachers integrate novel technologies and methodologies in their teaching practices; b) to map their level of digital competences and skills; and c) to understand their training needs on digital technologies to prepare adequate and valuable training materials. Furthermore, the results of this study envisaged to support higher education institutions and other private and public organizations that need to improve the quality of their language study programs by providing a useful set of recommendations for language teaching in the digital era.

The main objective of the job market analysis and the review of policies was to identify the modern profile of a language teacher based on the needs of the market. Based on desktop research, this study tried to explore digital competences that a language teacher should develop in order to be able to compete successfully in a competitive market in the EU or worldwide but also identified the level of training needs in this professional area.

This report consists of six sections. The first section introduces the reader to the motivation behind the report, as well as its content and structure. Then, the second section defines, generally, what digital competences and skills are, while it attempts to outline the digital competences needed in language teaching. Digital skills policies of EU and partner countries are also outlined in the second section. Section 3 presents the results of the digital competence assessment survey for language teachers. Section 4 presents the findings of the job market study. In Section 5, we provide our interpretation of the results from each of the three studies. Finally, Section 6 concludes the report with a summary of contributions.

1.4. Context

This report has been produced in the frame of the DC4LT project⁴. The Digital Competences for Language Teachers (DC4LT) aims to improve digital literacy and empower language teachers of all levels to use digital tools and materials in their practice. To achieve this goal, the project explores how teachers are prepared for the integration of information technologies in their pedagogical work, what skills they need in order to better support their online courses, and in what ways they can help their students' in the language learning process.

Based on the collected primary data, the DC4LT project develops training workshops for language teachers, an assessment framework, a toolkit of resources and practices, and an online community. These resources aim to help enhance the digital competences of language teachers and their knowledge of the design and delivery of online and blended courses.

⁴ <https://www.dc4lt.eu/>

Teachers' Perspectives

The survey assessed how language teachers use digital technologies, their attitude towards these technologies, their related skills and competencies, their satisfaction and required improvement, and the institutional support they receive.

✓ *Digital competence assessment survey for language teachers*

✓ *Job market study for language teachers*

Employers' Expectations

The study analyzed the needs of the education market and evaluated if digital competences and skills are required from language teachers by their employers.

What do the teachers need?

What do the institutions implement?

Policy Reflections

The review of policies collected and analyzed policy documents such as strategies, directives, recommendations, agendas, and reports on digitalization of education, language learning, and teacher education.

✓ *Review of European and selected national policies related to the digital skills of language teachers.*

What do the authorities recommend?

Part 2. Background

2.1. Digital Competences and Skills

A New Skills Agenda for Europe⁵ placed the need for digital competence as a priority and called on Member States to ensure they have comprehensive strategies in place for improving the digital competence of people. European Union calls for boosting digital competences, i.e. strengthening the confident and critical use of digital technology, including coding and programming, safety- and citizenship-related aspects.

The European Council Recommendation⁶ defined digital competence to involve the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking. According to the European Council Recommendation mentioned earlier, the following essential knowledge, skills and attitudes are related to digital competence:

1. Individuals should understand how digital technologies can support communication, creativity and innovation, and be aware of their opportunities, limitations, effects and risks. They should understand the general principles, mechanisms and logic underlying evolving digital technologies and know the basic functions and use of different devices, software, and networks. Individuals should take a critical approach to the validity, reliability and impact of information and data made available by digital means and be aware of the legal and ethical principles involved in engaging with digital technologies.
2. Individuals should be able to use digital technologies to support their active citizenship and social inclusion, collaboration with others, and creativity towards personal, social or commercial goals. Skills include the ability to use, access, filter, evaluate, create, program and share digital content. Individuals should be able to manage and protect information, content, data, and digital identities, as well as recognize and effectively engage with software, devices, artificial intelligence or robots.
3. Engagement with digital technologies and content requires a reflective and critical, yet curious, open-minded and forward-looking attitude to their evolution. It also requires an ethical, safe and responsible approach to the use of these tools.

Moreover, the European Training Foundation⁷ defined digital competence to encompass a set of basic digital skills, covering information and data literacy, online communication and collaboration, digital content creation, safety and problem solving. For example, using computers and mobile computing devices to retrieve, assess, store, produce, present and exchange information; communicating and participating in collaborative virtual networks; the confident and critical use of social media and the Internet in general. Digital competence is about the ability to apply those digital skills (knowledge and attitude) in a confident, critical and responsible way in a defined context (e.g., education). So, a definition of digital skills and competence is based on three main pillars:

1. Digital competence as a set of basic digital skills for citizens for lifelong learning
2. Job-specific digital skills for those involved in jobs including the use and maintenance of digital tools
3. Digital skills for ICT professionals in charge of challenging and innovative digital technologies

Digital skills are vital 21st century skills, and much appreciated in the educational sector. They are also needed. Worldwide demand for higher education is expected to grow exponentially from 100 million students currently to

⁵ European Commission (2016). A new skills agenda for Europe: working together to strengthen human capital, employability and competitiveness <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0381>

⁶ European Council Recommendation (2019). Key competences for lifelong learning DOI: 10.2766/569540 <https://publications.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1>

⁷ Alessandro Brolopito (2018). Digital skills and competence, and digital and online learning, ETF <https://www.etf.europa.eu/en/publications-and-resources/publications/digital-skills-and-competence-and-digital-and-online>

250+ million by 2025⁸. This raises the question of how higher education institutions and others will be able to sustain and improve the quality of the learning experience in the face of continuing growth and diversity in the student population. According to Cynthia Luna Scott⁹, it is largely acknowledged that the pedagogical approaches need to be transformed in order to support the acquisition of digital skills. In her report to UNESCO in 2015, Scott emphasizes the role of Educational Technology (EdTech) in this transformation: “Promoting learner autonomy and creativity is a part of the solution. Technologies can be used to support efforts to transform pedagogy, but it is essential to recognize that twenty-first century learning experiences must incorporate more than just technology”¹⁰. Scott emphasizes the need for technologies as a part of both the new pedagogy in general, but also as a variation to more conservative learning methods to redevelop these into enquiry and problem-based approaches. New innovative technologies can enhance the teachers’ ability to use strategic questioning, capitalize on learners’ interest in mobile technologies, utilize social media design relevant and real-world learning activities in order to teach metacognitive skills and build the right relationships for learning. Accordingly, technologies include learners more actively in learning, they emphasize learner centered models and EdTech promotes learning without borders like time, place and age¹¹.

As literature shows, EdTech is essential in order to cope with new demands from society and working life.

2.2. Digital Competences in Language Teaching

In the last decades, developments in ICT have had an impact on every facet of our lives. Since the introduction of electronic media in general, and the Internet in particular, more and more people have been utilising the web as a fast and reliable means of information exchange. Alongside the ever-increasing enthusiasm in electronic media, the Internet has been making progress to satisfy various purposes not only as an intra- and inter-personal communication medium, but also as a pedagogical tool facilitating language learning and teaching¹². The rapid increase of digital media has provided learners with the opportunity to adopt new technologies while examining various pedagogies in language learning¹³. Students today are exceptionally open in using many communication technologies and are able, and very willing, to adopt new technologies as part of their learning process¹⁴. Prensky¹⁵ has created a dichotomy comparing the younger generation, the ‘digital natives’, with the older generation who are learning and adopting new technology naming them ‘digital immigrants’. This new generation of learners has transformed the learning paradigms. Despite the fact that Prensky’s dichotomy has received criticism by scholars¹⁶ claiming that the so-called ‘Net generation’¹⁷ do not seem to be as technologically adept as expected, there seems to be a consensus that millennials are comfortable with technology at least with its social use. With this in mind, 21st century educators can play a significant role in helping learners to go beyond the ‘tech comfy’ to the ‘tech savvy’ by transforming technology use from social to more pedagogical¹⁸.

Language educators have seen these changes, and many of them have attempted to cater for the challenges of the new generation of learners. As a result, such terms and practices as Computer-Assisted Language Learning (CALL),

⁸ European Commission (2014). Report to the European Commission on New modes of learning and teaching in higher education.

⁹ Scott, C. L. (2015). The futures of learning 3: What kind of pedagogies for the 21st Century? UNESCO series Education Research and Foresight Working papers. <http://unesdoc.unesco.org/images/0024/002431/243126e.pdf>

¹⁰ Scott, C. L. (2015). The futures of learning 3: What kind of pedagogies for the 21st Century?

¹¹ European Commission (2014). Report to the European Commission on New modes of learning and teaching in higher education.

¹² Hosseini, S. B. (2015). Computer-mediated communication: Pedagogical and language learning implications. *International Journal on New Trends in Education & Their Implications*, 6(1), 163-176.

¹³ McNeil, L. (2020). Implementing digital game-enhanced pedagogy: Supportive and impeding language awareness and discourse participation phenomena. *ReCALL* 32(1): 106–124. DOI: [10.1017/S095834401900017X](https://doi.org/10.1017/S095834401900017X)

¹⁴ Lamb, M. & Arisandy, F. E. (2020). The impact of online use of English on motivation to learn. *Computer Assisted Language Learning*, 33:1-2, 85-108, DOI: [10.1080/09588221.2018.1545670](https://doi.org/10.1080/09588221.2018.1545670)

¹⁵ Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1-5.

¹⁶ Bennett, S., Maton, K., & Kervin, L. (2008). The “digital natives” debate: A critical review of the evidence. *British Journal of Educational Technology*, 39, 775–786. DOI: [10.1111/j.1467-8535.2007.00793.x](https://doi.org/10.1111/j.1467-8535.2007.00793.x)

¹⁷ Tapscott, D. (1999). Educating the net generation. *Educational leadership*, 56(5), 6–11.

¹⁸ Dudeney, G. (2011). Digital literacies and the language classroom. *KOTESOL Proceedings 2011*, 31.

Technology-Enhanced Language Learning and Computer-Mediated Communication have evolved, changing the role of both the instructor and the learner in the classroom.

Technology has been applied in language teaching for the last 30 years when CALL was developed and implemented in education¹⁹. Since then, a number of studies have been conducted towards exploring ways for integrating new technologies in educational contexts. However, few studies report on digital literacies and frameworks which centre specifically on language learning. One such study was carried out by Hockly, Dudeney & Pegrum²⁰ who have explored a range of new literacies and practical ideas of how these can be developed within the English language classroom. The authors also report on a taxonomy of new literacies, classifying them into four main categories focusing on a) language, b) connections, c) information, and d) (re)design. According to Dudeney²¹, since language teachers are teachers of global communication which is increasingly mediated by technology, the development of digital competences is essential so as to enable learners to function and work effectively as citizens of the 21st century. A few years later, this framework was revisited taking into consideration the technological and socio-political changes, adopting a more critical perspective on information and communication technologies²².

Several studies document the challenges of effectively integrating technology, which is informed by pedagogical reasoning, in educational contexts. Back in 2006, Levy and Stockwell²³ created a dichotomy of two different types of CALL practitioners – ‘emergent’ and ‘established’. Emergent practitioners are critical of current technologies and adjust them to their setting, whereas established practitioners adopt, rather than adapt the technologies. As early as 2006, Hubbard and Levy²⁴ stressed the need for both technical and pedagogical training in CALL, ideally integrated with one another. The plethora of new technologies, the ubiquity of the Internet and the teachers’ efforts to smoothly integrate various tools in their educational contexts can be frustrating or confusing. Therefore, teachers need to be trained in order to be able to plan and conceptualise the pedagogical implications of new technologies towards effectively implementing them in language classrooms.

2.3. Review of Policies

In this section, we present an overview of policies that regulate the development of digital skills for language teachers. We first look at the European policies and then at the national policies in selected countries.

In order to identify and improve the digital skills needed for language teachers, it is vital to acknowledge that there are different actors and policies that affect the realization and development of these skills.

Educational specialists concerned about education and digitalization often refer to three different levels of the educational system that affect the quality of digitalization: macro level, referring to international and national standards, meso level, referring to strategic work being done at the institutions, and micro level, referring to the performative level between educator and student²⁵. All three levels must be considered to understand which digital competencies language teachers need to inherit or develop in order to improve their skills. It is also important to review and analyze how the three levels interact with each other, for example, if and how the macro-level standards are understood and implemented on the meso and micro levels.

¹⁹ Domalewska, D. (2014). Technology-supported classroom for collaborative learning: Blogging in the foreign language classroom. *Int. Journal of Education and Development using Information and Communication Technology*, 10(4), 21–30.

²⁰ Hockly, N., Dudeney, G., & Pegrum, M. (2014). *Digital literacies*. Routledge.

²¹ Dudeney, G. (2015). *Digital Literacy Primer*. TeachingEnglish. <https://www.teachingenglish.org.uk/article/gavin-dudeney-digital-literacy-primer>

²² Pegrum, M., Dudeney, G., & Hockly, N. (2018). Digital Literacies Revisited. *European Journal of Applied Linguistics and TEFL*, 7(2), 3–25.

²³ Levy, M., & Stockwell, G. (2006). CALL dimensions: options and issues in computer assisted language learning.

²⁴ Hubbard, P., & Levy, M. (Eds.). (2006). *Teacher education in CALL* (Vol. 14).

²⁵ Fosslund, T. (2015). *Digitale læringsformer i høyere utdanning*. Oslo: Universitetsforlaget.

2.3.1 European Policies Related to the Digital Skills of Language Teachers

The European Framework for Digitally Competent Educational Organizations is one of the key elements in the Europe 2020 strategy, which thus acknowledges and emphasizes the need for a digital boost in the following years: “Digital technologies are enablers of a step change in learning and teaching practices; however, they do not guarantee it. To consolidate progress and to ensure scale and sustainability, education institutions need to review their organizational strategies, in order to enhance their capacity for innovation and to exploit the full potential of digital technologies and content”²⁶.

This is further underlined seeing that digitalization in all areas in the European Union is one of the ten priorities the Commission emphasizes in the period 2015-2019. In February 2020, the European Union published a manuscript “Shaping Europe’s Digital Future” identifying both needs and obstacles, stressing the need for a shift in attitude, culture and resource allocation towards digitalization: “Digital technologies are profoundly changing our daily life, our way of working and doing business, and the way people travel, communicate and relate with each other. Digital communication, social media interaction, e-commerce, and digital enterprises are steadily transforming our world.”²⁷

This includes of course the educational sector, and the European Commission is developing initiatives towards a European Education Area. They have already worked on several initiatives that impact the digitalization of the educational system in Europe, such as developing digitally signed qualifications to be distributed through the Europass platform²⁸. This will further enhance the work with strengthening the digital competencies of both employers and employees in the future, but it also raises new challenges, such as diversity of learning processes, ways of qualifications validation, and ability to provide the certificates in a safe electronic format²⁹.

Technology is nothing without methodology, though. “Pedagogy and technology are intertwined in a dance: the technology sets the beat and creates the music, while the pedagogy defines the move.”³⁰ This is recognized at all levels and makes strategies and visions for the future essential in order to succeed. Thus, institutions and learning providers also need to implement technology that transforms and changes the pedagogical model we find being dominant today. Digital tools are fundamental instruments in this change, but it is also important how these tools and skills are developed and implemented. Each country and each institution have their own ways of dealing with the digital era to prepare students and other learners for the 21st century skills.

2.3.2 National Policies in Norway

In 2017, the Norwegian government issued a new strategy for digitalization of Higher Education in Norway³¹. Even though a survey from 2014 shows that there have been several initiatives that have improved the digital conditions in the sector³², especially considering digital exams and digital assessments methods, it is obvious that in Norway the digitalization strategy has been connected to single persons’ initiatives and anchored solemnly in the management. It is also notable that new teachers have not been provided with sufficient training in digital competence³³.

The first paragraph listing aims for the strategy concerns research and education. As main aims the strategy lists both “Høy kvalitet i utdanning og forskning” (“High quality in research and education”) and “God tilgang til utdanning”

²⁶ EU Science Hub (2019). European Framework for Digitally Competent Educational Organisations. <https://ec.europa.eu/jrc/en/digcomporg>

²⁷ European Union (2020). Shaping Europe’s Digital Future https://ec.europa.eu/info/sites/info/files/communication-shaping-europes-digital-future-feb2020_en_4.pdf

²⁸ <https://europa.eu/europass/en>

²⁹ European commission (2019). Digital Education Action Plan - Action 3 Digitally-Signed Qualification https://ec.europa.eu/education/education-in-the-eu/european-education-area/digital-education-action-plan-action-3-digitally-signed-qualifications_en

³⁰ Anderson T., Dron J. (2011). Three generations of distance education pedagogy. The international review of research in open and distributed learning, Vol 12, No 3. DOI: [10.19173/irrodl.v12i3.890](https://doi.org/10.19173/irrodl.v12i3.890)

³¹ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021. <https://www.regjeringen.no/contentassets/779c0783ffec461b88451b9ab71d5f51/no/pdfs/digitaliseringsstrategi-for-universitets-og-hoysk.pdf>

³² <https://diku.no/rapporter/digital-tilstand-2014>

³³ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, p. 6

(“Good access to education”)³⁴. Both aims are directly connected to digitalization, which means that we can read initiatives both for blended and online learning to grant access to many, as well as differentiated learning methods including digital skills at use in the classroom. The initiatives are further elaborated in paragraphs “Målbilde for studenten” (“Future visions for the student”) and “Målbilde for læreren” (“Future visions for the teacher”)³⁵. Below are the main points translated from these paragraphs³⁶:

Future visions for the student: – *The student meets an academic fellowship of staff and students where digital opportunities are being exploited in activating and varied learning- and assessment methods that creates the best possible learning outcome, and gives curricular and digital skills intended that the students are to learn in every subject. The student is allowed to develop his/her digital competence, receives training in technologies that increases learning and generic skill sets, and is becoming aware of ethical, legal and safety issues concerning the use of data and digital technologies. – The student has access to a modern, personalized learning environment that facilitates individual learning experiences, efficiency, collaboration and flexibility in the studies.*

Future visions for the teacher: – *The teachers have good digital and pedagogical competence (knowledge on how to use digital tools to increase learning in their subject), incentives for curricular/pedagogical development of their own teaching and access to collegial strongholds and support services for development of study programmes and sharing of digital resources for learning. – The teacher has a broad offer of applications and digital tools and services that aids the implementation of the education, from planning via implementation of teaching and collaboration with students and colleagues, internally and externally, to follow-up and assessing students individually and in groups.*

Later in the strategy there are several means presented to achieve the aims for the future. Several of them are connected to the basic competences for the teachers, mainly in order to be better equipped to cope with new methods of teaching and to adapt to new demands for digital skills.

Later in the strategy there are several means presented to achieve the aims for the future. Several of them are connected to the basic competences for the teachers, mainly in order to be better equipped to cope with new methods of teaching and to adapt to new demands for digital skills. There are demands that all students shall meet learning methods where digital opportunities are explored, raised expectations considering basic pedagogical competence and experience; including digital skills, heightened awareness around administrative support for digital solutions, LMS's: and other personalized learning environments as well as a dual effort between teachers and leaders to strengthen the collected digital competence at the institutions³⁷.

As we can see, the responsibility is shared between the governmental instructions/strategies and the institutions themselves. Even though the government designs strategies and puts power behind the words, it is the institutions that need to implement the new demands in their plans for the future, allocate resources and create incentives for actual development in the scientific staff, as seen in for example 5.2.5:

(sub-paragraph) 5.2.5 A demand for a recognition system for educational competence and pedagogical development at all institutions. In order to stimulate increased efforts towards teaching and enhanced development, and to ensure that teaching practices are valued more, the government demands that all institutions establish recognition systems for educational competence and pedagogical development within two years³⁸.

This governmental strategy needs to affect the institutions strategies to be effective. We will use The Norwegian University of Science and Technology (NTNU), as the largest University in Norway, and their strategy lasting until 2025 to see how institutions in Norway are implementing digitalization policies.

There are few places where the process of digitalization is mentioned directly in the strategy. Concerning education and learning environments it is stated: “*Students are involved in developing content and learning processes in a tailored learning environment. New technology enables stimulating and varied approaches to learning and assessment, and facilitates access to lifelong*

³⁴ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, p. 9

³⁵ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, p. 10

³⁶ English translation is made by the authors.

³⁷ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, pp. 15-23

³⁸ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, p. 15

education”³⁹. New technologies are also explicitly mentioned concerning campus development: “Develop sustainable technological solutions”⁴⁰. Other than these two quotations, NTNU’s strategy is more focused on other development than ICT competence. There are no places where the strategy discusses or mentions skill sets or training connected to ICT-competences.

Still NTNU is aware of the new demands in the 21st century. To achieve the visions for the future, the university points at digitalization as the most important point concerning the development of the whole institution:

NTNU’S CAPACITY FOR DEVELOPMENT: [...] NTNU has user-friendly and effective support systems. Future-oriented digital services focused on user needs are available to students and staff. NTNU has robust systems to meet the need for information security, emergency response capacity and protection of privacy.

DEVELOPMENT GOALS: NTNU will [...] Launch digitalization initiatives and improvements that support integrated, standardized procedures and work processes.

It is though paradoxical to see how much emphasis is put on the central role of digitalization to achieve the aims (“Future-oriented digital services focused on user needs are available to students and staff. NTNU has robust systems to meet the need for information security, emergency response capacity and protection of privacy.”), and still there are few mentions of digital competence and how to enhance the staff’s capacity throughout the rest of the document. It could be interpreted as if digital competencies are something that the university staff has and continuously develop, and that the main incitement to improve the competence is better infrastructure.

The policy analysis for Norway is presented in more detail in the article Digital Competences for Language Teachers: Digital Searchlight – A Study on Digital Skills Being Sought amongst Language Teachers⁴¹.

2.3.3 National Policies in Greece

According to the “Digital Economy and Society Index”⁴², Greece is underperforming and lags behind EU average in all dimensions including Internet use, basic and advanced digital skills. More specifically, 57% of Greek individuals have basic or above basic digital skills (while the EU average is 65%), and 38% of Greek persons employed using computers at work skills (while the EU average is 51%). Greece also has a low integration of digital technology, low performance in ICT start-ups, e-leadership, investments and access to finance. The dimension where Greece proves to perform lowest is the supply and demand of digital skills⁴³. Regarding education, according to the “2nd Survey of Schools: ICT in Education”, there are less highly digitally equipped and connected schools as well as lower share of high-speed connectivity above 100 Mbps in Greece compared to the European average⁴⁴.

To tackle these inefficiencies of the Greek society, there are several initiatives from the Greek governments. The “Greek National Coalition for Digital Skills and Jobs”⁴⁵ aims at improving the digital skills of Greek people. Digital skills are desirable qualifications for potential employers. Consequently, they are among the key factors to deal with unemployment, improve competitiveness and boost the economy. The key priorities of the National Coalition are the diffusion of EU policy on digital skills at national level, the establishment of synergies among members of the Coalition in order to enhance digital skills and eliminate the digital skills gap at all levels of the economy and society through concrete actions.

³⁹ NTNU (2018). Strategy 2018-2025. Knowledge for a better world. https://www.ntnu.edu/documents/139226/1278574844/20180228_NTNU_strategi_web_ENG.pdf, p. 19

⁴⁰ NTNU (2018). Strategy 2018-2025. Knowledge for a better world, p. 34

⁴¹ Talmo et al (2020). Digital Searchlight – A Study on Digital Skills Being Sought amongst Language Teachers. 14th International Technology, Education and Development Conference. DOI: [10.21125/inted.2020.1359](https://doi.org/10.21125/inted.2020.1359)

⁴² DESI (2018). Digital Economy and Society Index (DESI) 2018, Country Report Greece. <https://ec.europa.eu/digital-single-market/en/scoreboard/greece>

⁴³ Digital Transformation Scoreboard 2017

⁴⁴ European Commission (2019). 2nd Survey of Schools: ICT in Education. DOI: 10.2759/23401.

⁴⁵ Greek National Coalition for Digital Skills and Jobs (2018). https://www.nationalcoalition.gov.gr/en/history_en/

The priorities of the “Digital skills for digital Greece Action Plan”⁴⁶ include the following:

- Digital skills of citizens and organizations
- Digital skills in the public sector
- Digital skills in education
- Orientation of girls to digital skills and reinforcement of employability of women in digital jobs
- Reinforcement of experimentation and development of systemic innovation in the public sector
- Actions to be implemented include the State Accredited Certificate of ICT Use, Open technology classes, Open schools

Regarding Digital Education at schools, the Computer Technology Institute and Press ‘Diophantus’ are responsible for the publishing of printed and electronic educational materials, the administration and management of the Greek School Network, and the continuing professional development of teachers on digital education. In addition, the “Institute of Educational Policy” is responsible for providing scientific and technical support for policy planning and implementation regarding primary and secondary education.

In parallel, the “National Digital Strategy” 2016-2021⁴⁷ aims at strengthening IT infrastructure and digital skills mainly in primary and secondary education, as well as lifelong learning. It promotes the use of new media and technologies in schools as well as the use of the internet in the home environment.

The “Greek National Digital Educational Policy”⁴⁸ aims at the integration of ICT in school education. Its priorities include the development of digital educational content for primary and secondary education, the in-service teacher training, and the development and operation of computational and networking infrastructure and services for schools (a national-level school network, school labs, e-classrooms and interactive teaching systems, etc.).

The “Greek National Policy for Digital Educational Content”⁴⁹ set up a set of actions:

1. Focus on the creation of reusable units of learning.
2. Promote Open Educational Resources (OERs).
3. Promote re-using, remixing, and repurposing of existing digital learning resources.
4. Improve digital infrastructure to facilitate search, retrieval, access and utilization of digital learning resources for all (teachers, pupils, parents, everyone).
5. Promote the active role of teachers and pupils in the creation, documentation and evaluation of digital learning resources.

It is worth mentioning also, the signing of the “Declaration on Open Access in Greece”⁵⁰ that took place at the Ministry of Education, Research and Religious Affairs on the 31st of May 2019 and envisages the large-scale implementation of free online access to and largely unrestricted use and reuse of scholarly research articles.

Another top priority of Greece is the “4.3 Emphasis on lifelong learning”. The country is lagging behind in digital skills is more pronounced among the elderly population, which increases the risk of digital exclusion for much of its population. In 2019, 51% of individuals in Greece between 16 and 74 had at least basic digital skills (58% in the EU)⁵¹.

⁴⁶ Digital Skills Greece, National action plan (2019). https://www.nationalcoalition.gov.gr/wp-content/uploads/2019/06/NC-Action-Plan-2019_EN-v5_272178237_signed.pdf

⁴⁷ Εθνική Ψηφιακή Στρατηγική (2016). Υπουργείο Ψηφιακής Πολιτικής, Τηλεπικοινωνιών και Ενημέρωσης Γενική Γραμματεία Ψηφιακής Πολιτικής. (National Digital Strategy (2016). Ministry of Digital Policy, Telecommunications and Information General Secretariat of Digital Policy). http://www.epdm.gr/el/Documents/EP_MDT/GR-Digital-Strategy_2016-2021.pdf

⁴⁸ Megalou, E. & Kaklamanis, C. (2018) Open content, OER repositories, Interactive Textbooks, and a digital social platform: The case of Greece. In Education and New Developments <http://end-educationconference.org/proceedings/>

⁴⁹ Megalou, E. & Kaklamanis, C. (2018) Open content, OER repositories, Interactive Textbooks, and a digital social platform: The case of Greece. In Education and New Developments <http://end-educationconference.org/proceedings/>

⁵⁰ Declaration on Open Access in Greece (2018). Ministry of Education, Research and Religious Affairs. <https://www.heal-link.gr/en/declaration-on-open-access-in-greece/>, https://www.heal-link.gr/librarians_files/other/Declaration%20on%20Open%20Access%20in%20Greece.pdf

⁵¹ European Commission (2020) Digital Economy and Society Index DESI, Greece <https://ec.europa.eu/digital-single-market/en/scoreboard/greece>

At the same time, there is a significant shortage of highly skilled ICT specialists in Greece (also across Europe) with many companies finding it difficult to find suitable candidates⁵². Organized lifelong learning programs focused on ICTs can provide solutions to the two problems. These programs are the key to the country's digital development, as they give everyone opportunity, regardless of age, origin, status and background to participate in digital society, as a digital citizen, worker or producer. Supporting lifelong learning, a set of actions is required including:

- The Development of Massive Open Online Courses (MOOCs), which will be available to any interested party as well as to students, whilst they may provide certification.
- Collaboration with the Greek Association of Information Technology & Communications Enterprises, the Hellenic Network of IT Professionals, the local Chambers and the OAED to create a series of ICT-specific skills development seminars.
- Focus on the training needs of SMEs that due to their size do not have access to training seminars and certifications.
- The development and expansion of employee evaluation and certification in digital skills using self-assessment tools (such as CEPIS Ecompetence Benchmark).
- Support and extension of ICT training courses for public employees.

According to the National digital strategy 2016-2021, which aims at fostering the digital skills of people, its top priority is “4.2 Enhancing digital skills in schools”⁵³. Supporting and developing the new generation digital skills is vital to the future of the country, and a coherent framework of actions includes:

- Promote the use of the internet in all schools in the country, by expansion of next generation network infrastructure.
- Supporting students' use of the internet in the home environment.
- Advance an Action Plan to develop students' digital skills in primary and secondary education.

As we can see, the initiatives are ambitious and needed. Greece is also focused on the methodological approaches when applying ICT, even though the focus remains on infrastructure and tools, as in the rest of Europe.

2.3.4 National Policies in Italy

Education in Italy “receives a comparatively small share of the public budget. General government expenditure on education continues to be among the lowest in the EU, both as a proportion of GDP (3.9% in 2016, compared to the EU average of 4.7%) and as a proportion of total general government expenditure (7.9%; EU average 10.2%)”. This also affects the digitalization of the educational system”⁵⁴.

In order to understand and accurately describe the offer of digital skills promoted by Italian Universities, it is worth considering how Italy is positioned in terms of digitalization compared to other European countries. According to the Digital Economy and Society Index (DESI)⁵⁵, promoted by the European Commission, Italy is one of the countries showing the greatest backwardness in terms of digitalization. DESI is the result of several variables contributing to determine the digital performance of a certain country. Although in the latest report on 2018 data, Italy has improved by a few percentage points, it ranks only in 24th place among the 28 member states. There are several actors involved in reducing the digital gap: private companies, policymakers, etc. However, the crucial role in reducing this gap is played by the universities that can carry out a self-assessment of the proposed educational offer on one hand and

⁵² Εθνική Ψηφιακή Στρατηγική (2016). Υπουργείο Ψηφιακής Πολιτικής, Τηλεπικοινωνιών και Ενημέρωσης Γενική Γραμματεία Ψηφιακής Πολιτικής. (National Digital Strategy (2016). Ministry of Digital Policy, Telecommunications and Information General Secretariat of Digital Policy). http://www.epdm.gr/el/Documents/EP_MDT/GR-Digital-Strategy_2016-2021.pdf

⁵³ Εθνική Ψηφιακή Στρατηγική (2016). Υπουργείο Ψηφιακής Πολιτικής, Τηλεπικοινωνιών και Ενημέρωσης Γενική Γραμματεία Ψηφιακής Πολιτικής. (National Digital Strategy (2016). Ministry of Digital Policy, Telecommunications and Information General Secretariat of Digital Policy). http://www.epdm.gr/el/Documents/EP_MDT/GR-Digital-Strategy_2016-2021.pdf

⁵⁴ European Commission (2018). Education and Training Monitor 2018, p. 4. https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2018-italy_en.pdf

⁵⁵ European Commission (2019). DESI: The Digital Economy and Society Index, <https://ec.europa.eu/digital-single-market/en/desi>

analyze the most required digital skills by companies on the other hand, something that could help reduce the occupational mismatch.

For about two decades, in Italy as elsewhere, the challenge has been to reform education and training in the name of an open, creative system of lifelong, as the main reaction to the challenges posed by the new millennium. In particular, some of those challenges (fourth industrial revolution and generation of digital natives) require Italy to speed up this process by creating more digital experts for the labour market and by re-thinking how the education system replies to the new opportunities offered by the digital technologies.

Beyond the Polytechnic Universities, which offer a substantial number of digital courses, the majority of Italian universities offer a low number of digital courses. “There are a total of 2140 courses from Italian universities with educational content on digital topics”⁵⁶: “digital” courses are particularly widespread in computer-science faculties, while there are few in scientific faculties and even less in humanitarian faculties. Comparing this with the basic digital skills, which are required by most hiring companies, the offer guaranteed by the universities is rather scarce. The basic digital courses are offered without a particular long-term educational program, especially for humanities or health professions courses. “The offer of basic digital skills does not exceed 1% of the overall mandatory compulsory offer of the Italian universities”⁵⁷. It is also noted that the faculties, which are closer to those areas which are typically “interested” by digital technology, are rapidly introducing Digital Transformation Culture courses aimed at providing students with digital skills which are useful for their future career.

In particular, the “skills mismatches” (mismatch between skills possessed by workers and the skills required by the market to take on specific tasks), which are quite severe if referred to students, risk becoming even more serious when referred to professionals, including language teachers. Mismatching, indeed, also assumes the form of “overqualified” workers: 11.7% of workers have an excess baggage of skills; 18% are overqualified for the tasks required of them.

Given the “landscape” that has emerged with reference to the digital skills in the Italian labour market (including the role of language teachers), the areas of intervention can be combined, iconographically, on “two perpendicular axes, which respond to the weaknesses noted:

- the Axis of development of digital citizenship skills and soft skills, both transversal and enabling (creativity, problem solving, critical thinking etc.) linked to the new technologies: the need to be informed, to interact, to express oneself, to access protection, and to manage the criticalities associated with technological tools and digital environments;
- the Axis of the strengthening of vertical technical skills corresponding to a more highly specialized area that contemplates technical abilities, or the so-called hard skills, which allow employers to identify, evaluate, use, share and create content using information technology and the Internet. These skills are more specific and advanced (e.g., coding or developing software systems for artificial intelligence)”⁵⁸.

To act on the first axis, it is necessary to intervene with actions aimed at the population as a whole with a view to upskilling, reskilling, and adopting a mainstream approach for schools and training with learning spaces that are digital, in order to enable: collaboration; sharing; increasingly absorbing/ enthralling learning experiences; disseminating innovative methodologies and approaches to learning. This means working not only on those skills enabling the use of digital tools, but also on the basic digital skills that are now also necessary for practicing “non-digital” professions.

Acting on the second axis – in order to increase Italian language teachers’ digital skills – means: linking curricula to the needs of the labor market (as emerging from the current report); seeking the involvement of external experts in education and training; providing updates (OER’s, MOOCs, etc.) for language teachers; providing laboratories/workshops with leading-edge technologies etc. The vector for interventions along these two axes, while

⁵⁶ Ministero dell’Istruzione, dell’Università e della Ricerca (2014), The Italian Education System, http://www.indire.it/lucabas/lkmw_img/eurydice/quaderno_eurydice_30_per_web.pdf

⁵⁷ Ministero dell’Istruzione, dell’Università e della Ricerca (2014), The Italian Education System, http://www.indire.it/lucabas/lkmw_img/eurydice/quaderno_eurydice_30_per_web.pdf

⁵⁸ PwC Ufficio Studi (2020), Digital skills - Rethinking education and training in the digital age: Digital skills and new models for learning, <https://www.pwc.com/it/it/publications/assets/docs/PwC-Ufficio-Studi-Digital-Skills-ENG.pdf>

clearly distinguishing between the two objectives, must take the form of a single national strategy of synergic actions, taking place hand in hand and according to the overall vision that privileges the interconnectedness of the two axes.

The intervention on the two axis represents the rationale behind the national main policy in terms of digitalization in education, Piano Nazionale Scuola Digitale – PNSD⁵⁹ (National Plan for Digital Education), launched by the Ministry of Education, University and Research for setting up a comprehensive innovation strategy across Italy's school system and bringing it into the digital age. This Plan is not a simple order for the deployment of technology; no educational process takes place without intensive teacher-student interaction, and technology cannot be separated from this fundamental human relationship. The Plan answers the call for a long-term vision for Education in the digital age directly linked to the challenges that all of society faces in applying and promoting life-long and life-wide learning, in both formal and non-formal contexts. According to the National Plan, “education in the digital age must be viewed above all as a cultural initiative. It begins with a new concept of school: an open space for learning — more than just a physical place, a springboard that enables students to develop skills for life. In this vision, technology is empowering, habitual, ordinary and ready to serve the school, primarily in activities aimed at training and learning, but also in administration, spreading to — and in fact bringing together — all school settings: classrooms, common spaces, laboratories, private and informal spaces. It is an organic plan for innovation in Italian schools, with cohesive programmes and actions organized into five main areas: tools, skills, content, staff training and supporting measures”⁶⁰.

2.3.5 National Policies in Cyprus

“Europe's Digital Progress Report (EDPR) tracks the progress made by Member States in terms of their digitisation”⁶¹. As for Cyprus, the EDPR (2017) showed that the country “ranks 22nd out of the 28 EU Member States. Overall, Cyprus progresses slowly. But it showed significant progress in connectivity”⁶² compared to previous years. However, despite the fact that internet users engage in a wide variety of online activities, the low level of digital skills may act as a brake to the further development of its digital economy and society. In Human Capital, Cyprus’s performance is below the EU average. According to the Education and Training Monitor Report in 2016 only 43% of the Cypriot population possessed at least basic levels of digital skills⁶³. Nowadays, digital skills and competences are needed for nearly all jobs where digital technology complements existing tasks, and shortages can be a significant barrier to the country’s economic development. As a result, awareness actions were planned in 2017, such as role model visits to schools and universities, by important ICT industry figures to explain the significance of ICT professionals in the future⁶⁴. Another action that illustrates this process was the introduction of the European Computer Driving Licence Certification in 2017 for secondary students in public and private schools⁶⁵. It is worth mentioning that this was the first time that public schools were provided vocational ICT certification. This is considered to be a breakthrough for the Cypriot education system.

In terms of teachers’ continuing professional development in the area of digital education, the EURODYCE Digital Education at School in Europe Report highlights that Cyprus have adopted the European self-assessment tool (TET-SAT) to help teachers evaluate their level of digital competence and define their development needs⁶⁶. Moreover,

⁵⁹ Ministero dell’Istruzione, dell’Università e della Ricerca (2015), Piano Nazionale Scuola Digitale, https://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

⁶⁰ Ministero dell’Istruzione, dell’Università e della Ricerca (2015), Piano Nazionale Scuola Digitale, https://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

⁶¹ European Commission (2017) Europe's Digital Progress Report (EDPR) Country Profile Cyprus, p. 1 <https://ec.europa.eu/digital-single-market/en/scoreboard/cyprus>

⁶² European Commission (2017) Europe's Digital Progress Report (EDPR) Country Profile Cyprus, p. 2 <https://ec.europa.eu/digital-single-market/en/scoreboard/cyprus>

⁶³ European Commission (2018). Education and Training Monitor Report. Luxembourg: Publications Office of the European Union. https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2018-cyprus_en.pdf

⁶⁴ European Commission (2018). Education and Training Monitor Report. Luxembourg: Publications Office of the European Union. https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2018-cyprus_en.pdf

⁶⁵ European Commission (2018). Education and Training Monitor Report. Luxembourg: Publications Office of the European Union. https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2018-cyprus_en.pdf

⁶⁶ European Commission/EACEA/Eurydice, 2019. Digital Education at School in Europe. Eurydice Report. https://eacea.ec.europa.eu/national-policies/eurydice/content/digital-education-school-europe_en

according to this report the Cypriot authorities support teachers' professional development by combining three different approaches: continuing professional development activities, teacher networks, and the aforementioned self-assessment tool. Continuing professional development activities are offered by training agencies, educational centres or other training. In particular, the Cypriot Ministry of Education, Culture and Youth through the Department of Educational Technology from the Cyprus Pedagogical Institute⁶⁷, implements programmes of continuing professional development in the areas of ICT research and practice, proposes new educational implementations, and promotes innovations related to the use of new technologies in education. At the same time, it provides pedagogical and technical support facilitating the effective use of ICT. The Educational Technology Department projects include:

- Seminars and workshops on the basic and specific skills in the use of ICT, integration of ICT in the teaching and learning process, and design and production of educational films
- Support of teacher coaches in the school unit for the use of ICT in the learning process.
- Online learning environments (synchronous and asynchronous)
- Educational software repository
- Learning Design and Educational material with the use of ICT in learning
- Case studies on the integration of ICT in the learning process
- Organization of conferences, workshops and conventions to inform on the integration of ICT in education
- Web portals with educational material
- Safe Internet use
- Online environment for e-teachers' enrolment in the various programs organized by the Cyprus Pedagogical Institute
- Provision of modern ICT equipment
- Production and distribution of educational films with supportive material to schools
- Collaboration with the Greek Educational TV, for the co-production and distribution of educational films
- Provision of educational and technical support to participants in the programs organized by the Cyprus Pedagogical Institute

Even though there are no national policies targeting digital skills in language education, two state higher education institutions in Cyprus provide training in using technology for teaching purposes⁶⁸. The Language Centre at the Cyprus University of Technology offers continuous teacher training in Computer Assisted Language Learning not only to its instructors but also to other interested parties such as language teachers and instructors from public and private schools, language centers, and tutoring centers. The programs offered by the center include: Language Centre Annual In-service Training, Research program, Language Centers Seminars and Workshops organized during the two semesters of each academic year, In-service program in cooperation with the Ministry of Education and Culture and the Pedagogical Institute⁶⁹. The University of Cyprus organizes annually workshops on Language Learning and Technology for teachers, educators, instructors, researchers, and interested educational stakeholders with the aim of exchange experiences, practices and research outcomes emerging from the implementation of technology in second/foreign language learning⁷⁰.

2.3.6 National Policies in Russia

Though no particular measures are taken or planned that would be specifically targeted at language teachers and their digital competences in Russia, there is a major emphasis within several large-scale national initiatives on ensuring

⁶⁷ Cypriot Ministry of Education, Culture and Youth (2020) Department of Technology. http://www.pi.ac.cy/pi/index.php?option=com_content&view=article&id=58&Itemid=270&lang=en

⁶⁸ Athanasiou, A., & Nicolaou, A. (2014). Technology in language teaching: perceptions and experiences of university instructors. In Attitudes to technology in ESL/EFL pedagogy. <https://ktisis.cut.ac.cy/handle/10488/8540>

⁶⁹ <https://www.cut.ac.cy/faculties/languagecentre/>

⁷⁰ <http://langce.ucy.ac.cy/teachers-training-conferences/>

digitalization of education, building understanding of digital tools in people in general. Some of the examples of such initiatives are provided below.

In December 2018, a national project called “Education” was launched. One of the initiatives within the framework of this project is devoted to the Digital Education Environment. Its goal is to foster “modern and safe digital education environment, high quality and accessibility of education of all types and levels”⁷¹. This initiative also includes the National Project “New possibilities for everyone”. The initiative means that a competitive selection will be organized for additional professional advanced training programs for scientific and pedagogical workers, including the organizers of the continuing education system, and employees of employing organizations. Programs for competitive selection can be submitted by any organization engaged in educational activities. Organizations whose programs will be selected for implementation will receive financial support for the training of scientific and pedagogical workers, including the organizers of the continuing education system, and employees of employing organizations.

The training of scientific and pedagogical workers, as well as for the employees of employing organizations will include mastery of modern educational technologies for adult education, the study of age-psychological and individual psychological characteristics of citizens, including persons with disabilities, as well as internships at high-tech industries in organizations of economic sectors that are significant for the region and trainings aimed at developing mentor competencies for young professionals.

Separate training will be provided in creating, implementing and using online courses, as well as implementing programs to master competencies in the digital economy (within the framework of the federal project “Young Professionals (Global Competitiveness of Vocational Education)”⁷²).

The expansion of the coverage of citizens with continuing education on the basis of educational institutions of higher education is achieved by the implementation of the entire range of measures of the federal project.

Starting from 2019, grant support is annually provided⁷³ to higher education organizations with the aim of forming and implementing modern continuing education programs (additional educational programs and professional training programs) that ensure personal growth, expansion and updating of professional knowledge of citizens and their acquisition of new professional skills in accordance with rapidly changing technologies and conditions.

There are measures to popularize additional professional education and additional adult education among the general public and employers, including those that aim at mastering competencies in the field of the digital economy.

The federal project “Personnel for the Digital Economy”⁷⁴ meets the goals and objectives of the “Strategy for the Development of the Information Society in the Russian Federation for 2017–2030”, namely:

- human development
- use and development of various educational technologies, including distance, e-learning, in the implementation of educational programs

The events of the Federal project "Personnel for the Digital Economy" are primarily aimed at implementing a number of key areas of development of the education system: updating the content, creating the necessary modern infrastructure, training personnel to work in the system, retraining and advanced training, as well as creating the most effective mechanisms for managing the industry.

Assisting citizens in the development of digital literacy and the competencies of the digital economy involves the creation of a publicly available free online service for the development of digital literacy, as well as the state system of personal digital certificates for the development of competencies in the digital economy.

⁷¹ <https://edu.gov.ru/en/national-project/>

⁷² https://minobr.gov-murman.ru/files/Nach_proekty/molodye_prof/fp_molodye_professionalny_09102019.pdf

⁷³ <https://spending.gov.ru/np/E/fp/E6/subsidy/>

⁷⁴ <https://digital.ac.gov.ru/about/26/>

Part 3. Digital Competence Assessment Survey for Language Teachers

In this section, we present the design and results of the “Digital Competence Assessment Survey for Language Teachers”. The results of the survey provide the teacher’s perspective on the digital competences in language learning. In particular, the survey was designed to answer the following five questions:

- What instructional models do language teachers use in computer-supported language learning?
- What attitude do language teachers have towards the use of digital technologies?
- How do language teachers assess their digital competence level?
- How satisfied are language teachers with their level of digital competences and what are their training needs?
- What do language teachers think of the institutional aid in personal and professional development towards digital competences?

3.1. Survey Methodology

The survey was designed for two main target groups:

- Language teachers
- Administrators (both administrators and policy makers working in the area of language learning)

The survey included 48 questions structured in several topics (Table 1). Some of the questions were formulated differently for the addressed respondents of the two target groups (topics 3-6, Table 1).

Table 1. Distribution of the survey questions

Topics	Question codes	
	Teachers	Administrators
1. Personal and professional background	Q1, Q2, Q13	
2. Level of teaching	Q3a-c, Q4a-d	-
3. Language learning instructional methods	Q5a-k	Adm Q3a,b, Adm Q4a,b, Adm Q5a,b
4. Attitude towards digital tech in language teaching	Q6a-c	Adm Q6a-c
5. Competencies in digital language teaching	Q7, Q8	Adm Q7, Adm Q8, Adm Q9
6. Satisfaction with digital competencies training & required improvement	Q9, Q10, Q10a-c	Adm Q10a-c
7. Institutional support for enhancing digital competencies	Q11	
8. Institutional aid for personal development towards digital competencies	Q12	

The data were collected from the end of March 2019 until the end of July 2019. The gained data were analyzed using R-programming software. The descriptive statistics were used for data analysis.

As of 30 July 2019, the survey was completed by a total of 313 respondents (22 of whom did not answer all of the questions included). Because the majority of the respondents (91%) belong to the language teacher target group, quantitative analysis of the data was done for this group of respondents. Data from the second target group of respondents (administration staff members and policymakers), are subject to interpretation using the qualitative data

analysis methods (implying a more detailed and in-depth evaluation of the answers given by each individual respondent).

The following results section retains the division of the survey results based on different categories of respondents. Section 3.2 presents the results for language teachers, while Section 3.3 presents the results for administrators and policy makers.

3.2. Survey Results for Language Teachers

In the current section we present the survey results for language teachers. The topics covered include personal and professional background of the respondents, their level of teaching and language learning instructional models, attitude towards digital tech in language teaching, competencies in digital language teaching. We also addressed the issues of the teachers' satisfaction with digital competencies training and required improvement, institutional support for enhancing digital competencies and aid for personal development towards digital competencies.

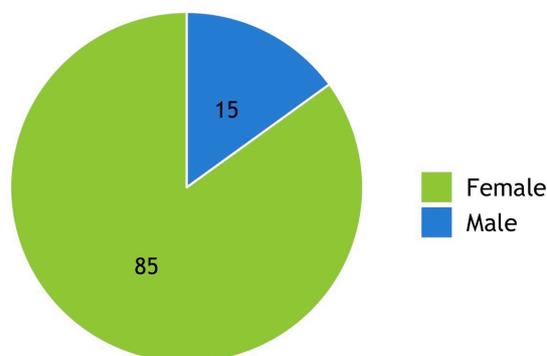
3.2.1 Personal and Professional Background

The general characteristics of the respondents are as follows. The total number of participants who identified themselves as language teachers is N=283 (16 of whom did not complete the survey in full). The majority of the teaching staff surveyed (85%) are female and come from the 36 to 45 (36%), 26 to 35 (24%) and 46 to 55 (24%) years old age groups. Most have Master's (46%) or PhD (29%) degrees as their highest level of education attained.

The predominant number of years in service of the participants is 11 to 20 years (40%), although sizeable cohorts of the respondents have been in the profession for 21-30 (22%) and 6-10 (19%) years.

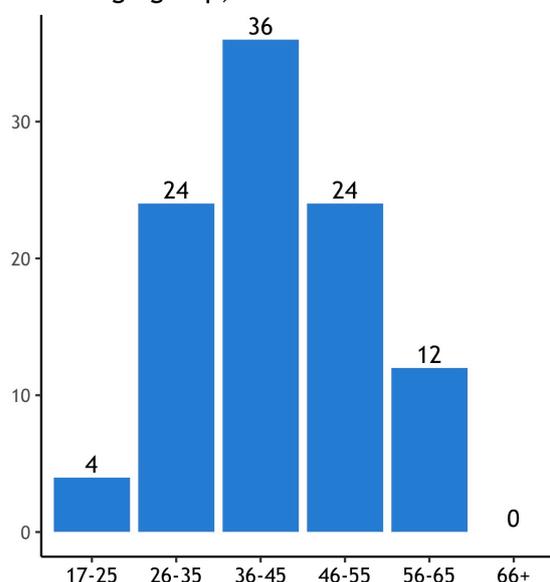
Q13d Please select your gender.

Gender, %

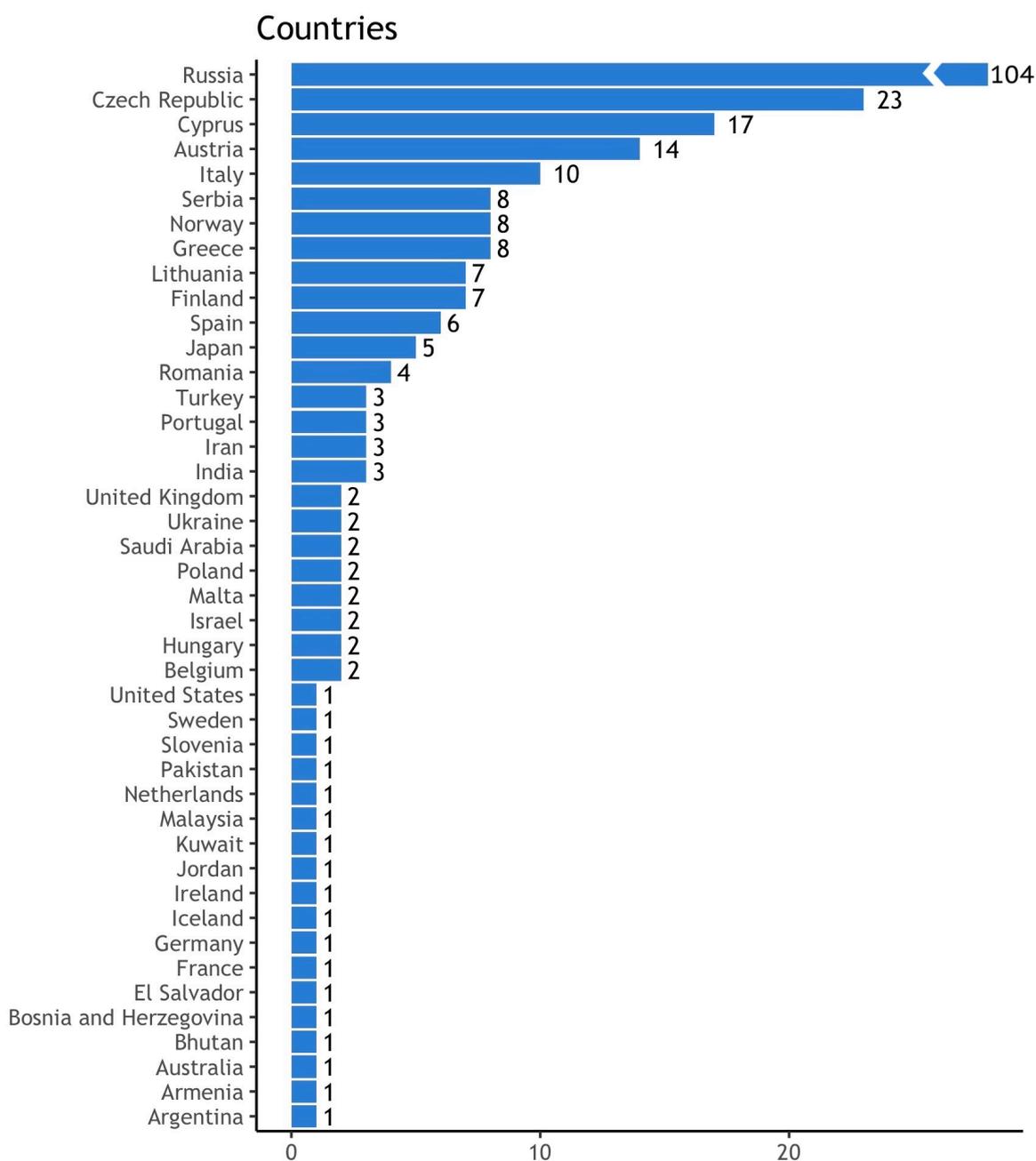


Q13c Please indicate your age group.

The age group, %



Q13e Please select the country where your employing organization is located⁷⁵.

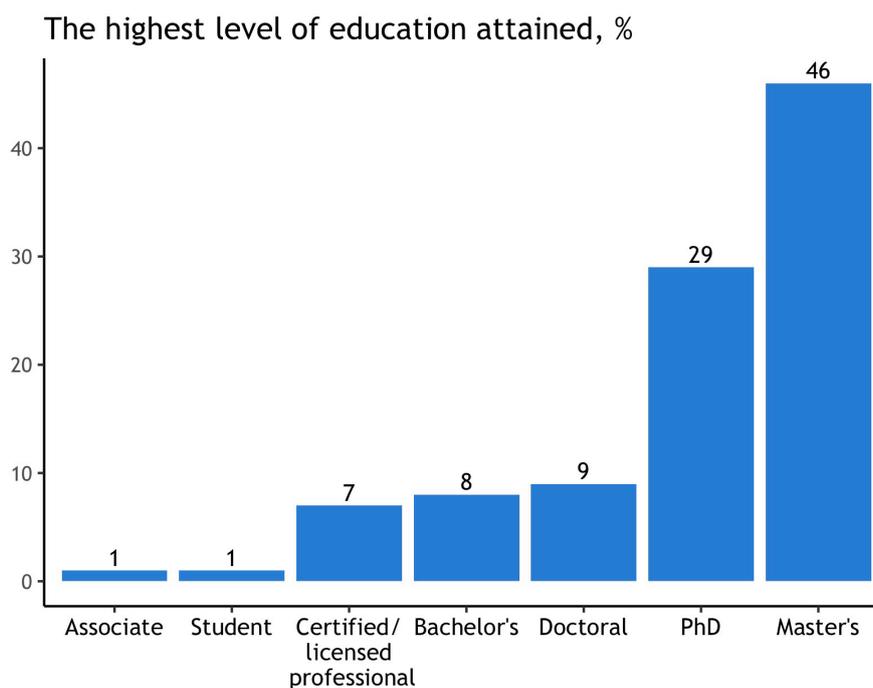


The respondents stated that their employing organizations are located in a total of 43 countries. 49,8% (n=133) were employed from countries with developed market economies⁷⁶, including from 20 EU countries. The majority of the respondents (38,5%) were employed in the Russian Federation (n=104).

⁷⁵ N=267 (16 participants did not answer this question)

⁷⁶ Note: for the purposes of this research, the following countries were included in the group of countries with developed market economies: the USA, Australia, Belgium, Germany, Greece, Ireland, Spain, Italy, the Netherlands, Portugal, Romania, United Kingdom, Finland, France, Sweden, Poland, Greece, Slovenia, Cyprus, Lithuania, Norway, Australia, Hungary, Iceland, Japan, Malta, and Israel.

Q13a Please select your highest level of education attained.



The majority of the teaching staff surveyed (46%) have indicated a master's degree as their highest level of education attained. Another significant cohort of the respondents (29%) have PhD-level education.

Q13b Please select your number of years in service.

The majority of the teaching staff surveyed (40%) have been in the profession for 11 to 20 years. The second-largest cohort of the respondents (22%) have been teaching for 21 to 30 years. Close to the latter, with 19% of the respondents, is the group with 6 to 10 years in service.

The respondents with 5 or fewer years in service represented 10%. And the respondents with more than 30 years in service – 9%.

Q1 Please select the type of institution you work at.

The majority of the teaching staff surveyed (69%) work at a university. A smaller but still sizable group of the respondents (19%) work at a secondary, middle, or primary school. Other respondents represent colleges (3%), policy-making organizations (1%), Lifelong learning and distant/online education institutions (1%), vocational educational institutions (4%), or self-employed (3%).

3.2.2 Level of Teaching

In this part of the survey, we asked the language teachers about the cohort of students they teach (in respect of their language acquisition), and about the instructional models (f2f, blended, online) the teachers tend to use in their everyday practice.

Q3 Please choose the cohort of students you teach.

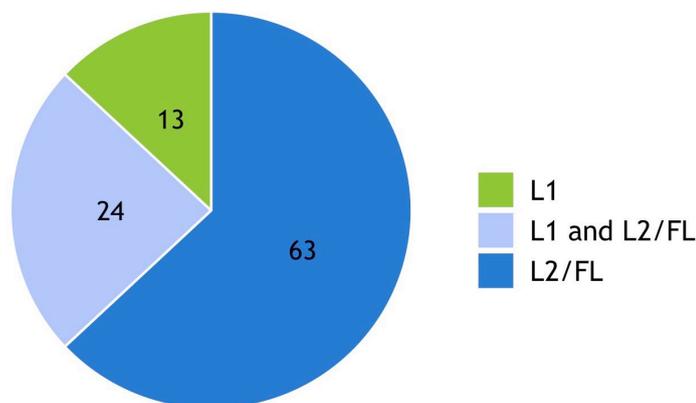
In language learning, people usually refer to the following standard cohorts:

- L1 = The first language or mother tongue
- L2 = Refers to any language learned after L1 (or L1s)
- FL = Foreign Language

In the field of second language acquisition (SLA) a distinction is often made between “second language” (L2) and “foreign language” (FL) acquisition. According to Ellis (2008), in the case of second language acquisition, the language

plays an institutional and social role in the community (i.e. it functions as a recognized means of communication among members who speak some other language as their mother tongue. For example, English as L2 is learned in the United States or the United Kingdom. In contrast, foreign language learning takes place in settings where the language plays no major role in the community and is primarily learned only in the classroom. Examples of FL learning are English learned in France or Japan.

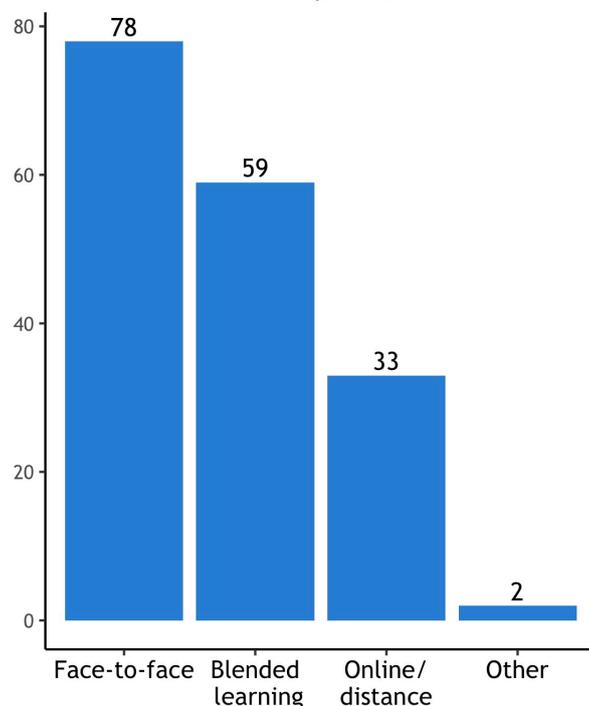
Cohort of students, %



The majority of the teaching staff surveyed (63%) are L2/FL teachers. Almost a quarter of the teacher participants (24%) teach both L1 and L2/FL cohorts. And only 13% of the respondents teach L1.

Q4 Please indicate all instructional models you have used in your instruction within the last two years.

Instructional models used in instruction within the last two years, %

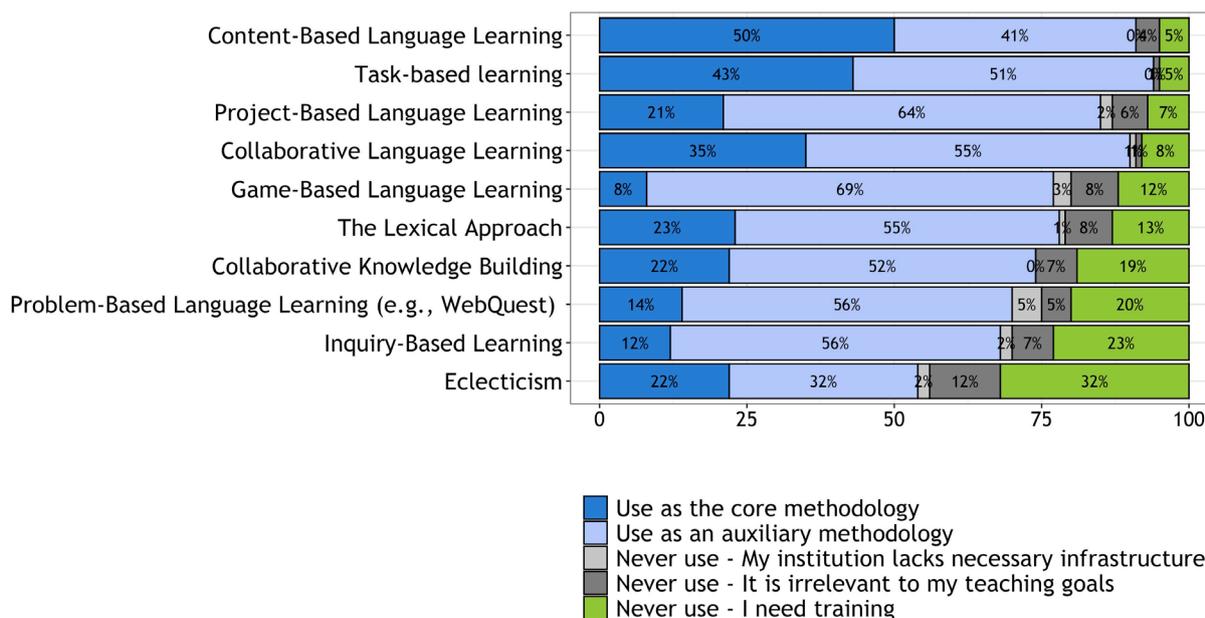


The majority (78%) of the teaching staff who participated in the survey teach their students face-to-face. More than half (59%) of the respondents in this category practice the blended learning model of instruction. A third of this category's respondents use the online/distance instructional model.

3.2.3 Language Learning Instructional Methods

In this part of the survey, we evaluated the instructional methods that language teachers use in their daily practice. The survey question included 10 instructional methods most commonly used in computer-assisted language teaching (see graph for Q5). The response options included two positive alternatives, formulated as follows: “Use as the core methodology” and “Use as an auxiliary methodology”. The response options also included three alternatives for not using instructional methods because of three most common reasons: lack of infrastructure, irrelevance to the teaching goals, and need for training on using the instructional model.

Q5 Please indicate all methods and methodologies you have used in your instructional design within the last two years.



Emerging as popular were such methods and methodologies as:

- Content-based language learning (50% core and 41% auxiliary)
- Task-based learning (34% core and 51% auxiliary)
- Project-based language learning (21% core and 64% auxiliary)
- Collaborative language learning 35% core and 55% auxiliary)

Nevertheless, the majority of respondents have indicated that they use all the educational technologies researched in their professional practice. Most frequently, the respondents selected eclecticism as the method they use the least. Task-based learning and Content-based learning are the most used as core language learning methodologies. Game-based learning and Project-based learning are the most used as auxiliary language learning methodologies.

Task-based learning and content-based learning are the most used as core language learning methodologies.

Game-based learning and Project-based learning are the most used as auxiliary language learning methodologies.

Emerging as popular were such methods and methodologies as:

- Content-based language learning (50% core and 41% auxiliary)
- Task-based learning (34% core and 51% auxiliary)
- Project-based language learning (21% core and 64% auxiliary)
- Collaborative language learning 35% core and 55% auxiliary)

Nevertheless, the majority of respondents have indicated that they use all the educational technologies researched in their professional practice. Most frequently, the respondents selected eclecticism as the method they use the least.

The lack of infrastructure has been given as the main reason for not using the methods:

- Problem-based language learning (5%)
- Game-based language learning (3%)
- Eclecticism (2%)
- Inquiry-based language learning (2%)
- Project-based language learning (2%)

The lack of necessary infrastructure appears not to be a strong factor preventing the teachers from using language teaching methodologies.

The language teaching methodologies that were suggested in this question were rarely rated as irrelevant. The least relevant were:

- Eclecticism (12%)
- The Lexical approach (8%)
- Game-based language learning (8%)
- Inquiry-based language learning (7%)
- Collaborative knowledge building (7%)

The methodologies that were suggested in the survey are relevant to the teaching goals of language teachers.

The methodologies that we most often marked with “Never use - I need training” are:

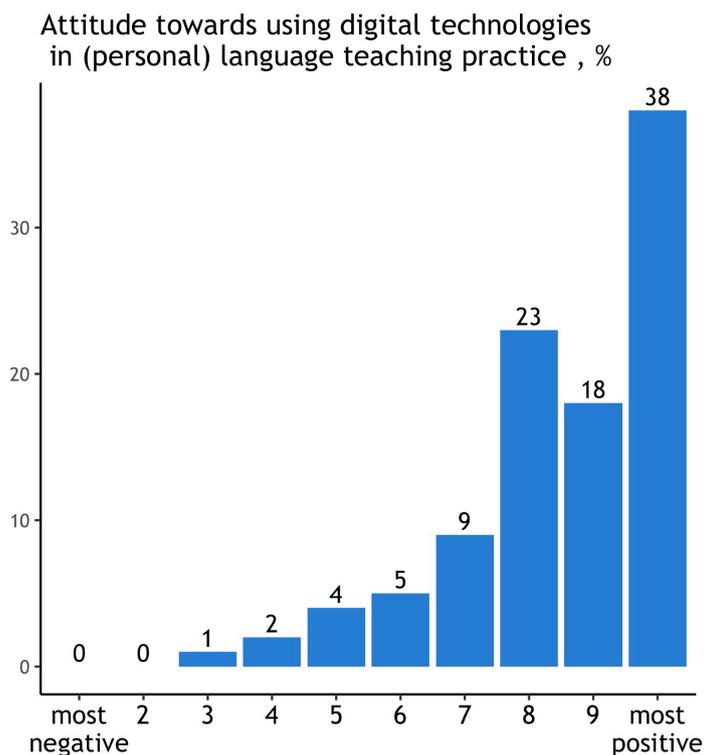
- Eclecticism (32%)
- Inquiry-based language learning (23%)
- Problem-based Language Learning (20%)
- Collaborative knowledge building (19%)

Language teachers require training to use methodologies Eclecticism, Inquiry-based language learning, Problem-based Language Learning, and Collaborative knowledge building.

3.2.4 Attitude Towards Digital Technologies in Language Teaching

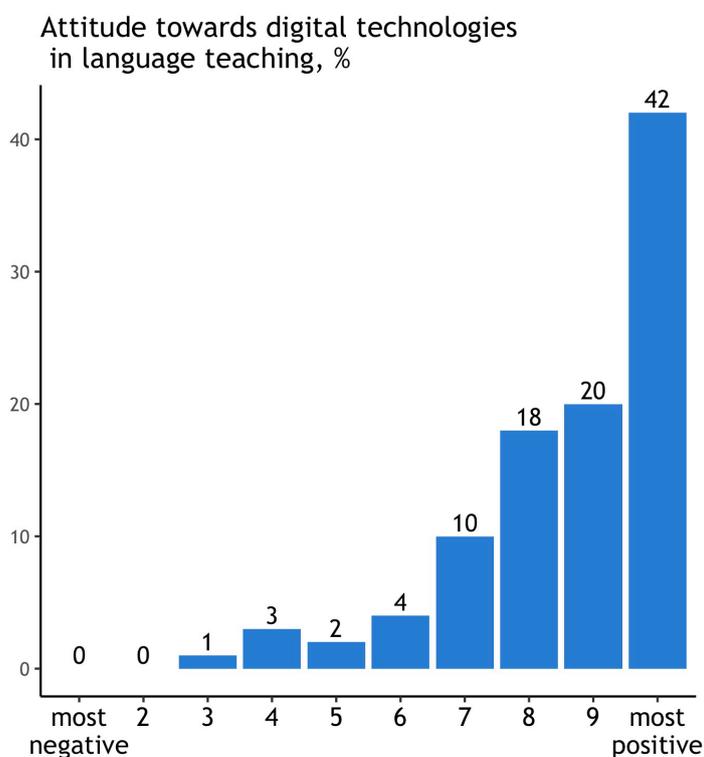
This section focused on the attitude of the teachers towards using digital technologies in their personal language teaching practice VS their general attitude towards digital technologies in language teaching.

Q6a Your attitude towards using digital technologies in your (personal) language-teaching practice.



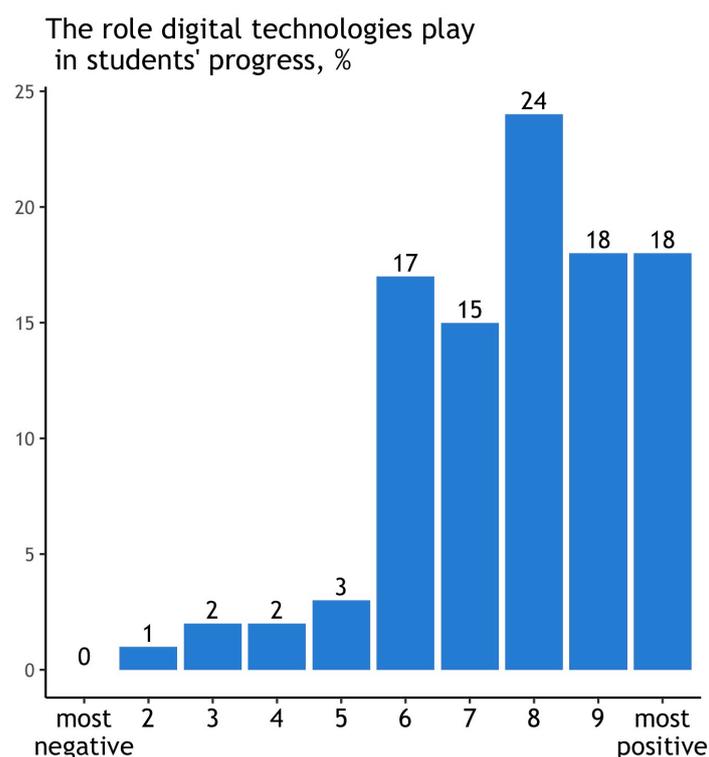
The absolute majority (104 respondents) of the teaching staff surveyed relate positively to using digital technologies in their (personal) language-teaching practice. Out of a total of 283 participants, 79 rated the use of digital technologies in their personal practice as overall positive (8, 9 or 10 on a scale from 1 “negative” to 10 “positive”).

Q6b Your attitude towards digital technologies in language teaching



The absolute majority of the teaching staff surveyed expressed a positive attitude towards digital technologies in language teaching. Out of a total of 283 participants, 80 rated the use of digital technologies in their personal practice as overall positive (8, 9 or 10 on a scale from 1 “negative” to 10 “positive”).

Q6c The role digital technologies play in your students' progress



Interestingly enough, in general the respondents rated the role of digital technologies in academic performance of their students, based on their personal language teaching experience, as less positive than their overall attitude to digital technologies in language teaching or to using digital technologies in their (personal) language-teaching practice. The majority of the teaching staff surveyed have described the role digital technologies play in their students' progress, in their personal teaching practice, as very significant, yet many of the respondents considered it somewhat significant.

Out of a total of 283 participants, 60 rated the use of digital technologies in their personal practice as very positive (8, 9 or 10 on a scale from 1 "negative" to 10 "positive"), while 37 rated it as somewhat positive (4, 5, 6 or 7 on a scale from 1 "negative" to 10 "positive").

Language teachers are positive towards using digital technologies overall and in their personal teaching practice. However, they are less certain about the role of digital technologies in student progress.

3.2.5 Competencies in Digital Language Teaching

This section presents the results on the language teachers' self-assessed competencies in digital language teaching and their estimated competencies in digital language teaching. We introduced six levels of digital language teaching competence (Table 2).

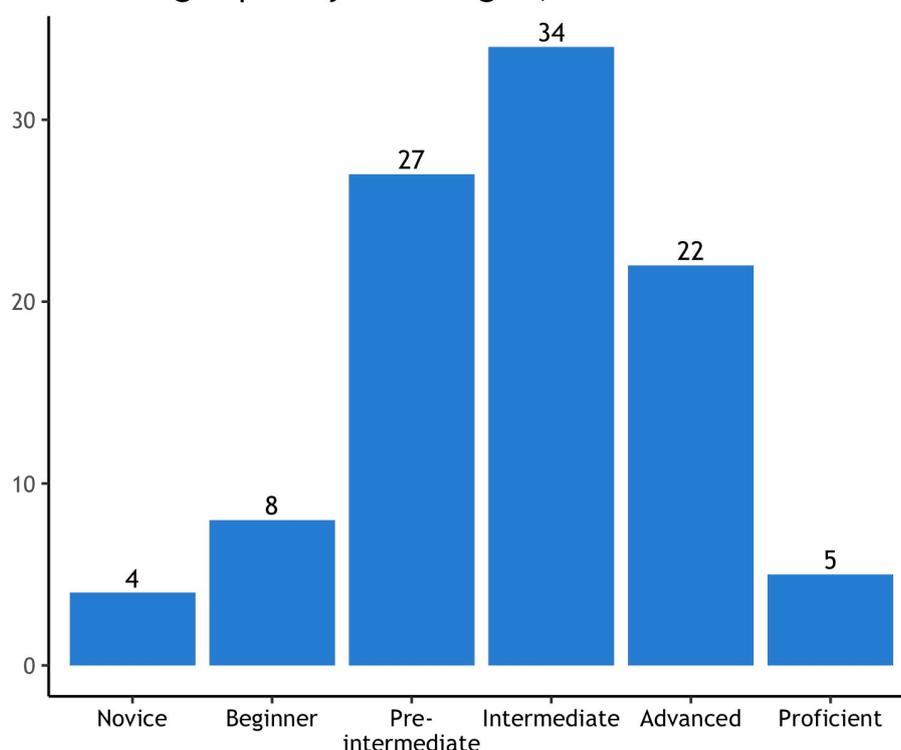
Table 2. Levels of digital language teaching competence

Level	Description
Novice	I have very limited experience applying digital tools in language teaching. I usually use basic software, i.e. word processing, power point, CDs, etc., in order to prepare language learning materials, and I can find authentic material (articles, songs, etc.) for my language lessons and organise them in logically ordered digital folders.

Beginner	I know some basics for the most common application of digital technologies for language teaching, i.e. online dictionaries, voice recording tools, online flashcards, forums, etc. I also know how to use specific search engines in order to find appropriate language teaching material on the internet.
Pre-intermediate	I use digital technologies in language teaching that are available, and I know how to choose the most relevant digital tools for every teaching need, i.e. overhead projectors for delivering grammar presentations, 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.
Intermediate	I am capable of using technically specific tools and devices, i.e. technical aspects and uses of interactive whiteboards (IWBs), software for creating media, audio/video files and images, main uses of digital equipment, mobile devices, software for language learning, etc. I also understand how to implement digital technologies in language teaching using the right teaching methodology for every language need, i.e. collaborative tools like padlet to enhance writing skills, video editing tools like toondoo to enhance oral and writing skills, etc. I also try to enrich the variety of digital tools that I use in my language lessons and to introduce innovative teaching methodologies.
Advanced	I feel confident using more advanced digital technologies, i.e. learning management systems (LMS), web 2.0 tools, mobile learning devices and applications for languages learning, etc. following the right language teaching methodology, e.g. I can independently create a blended LMS-based module on Moodle, Canvas, edX, etc. platform and train my students and colleagues in using the proposed technology.
Proficient	I am an expert in digital technologies for language learning. I participate in the development of digital technology-rich language learning programmes and online courses. I instruct peer language teachers on the use of digital tools and am involved in digital language teaching policy making.

Q7 Please indicate the group of digital language teaching experts you believe you belong to

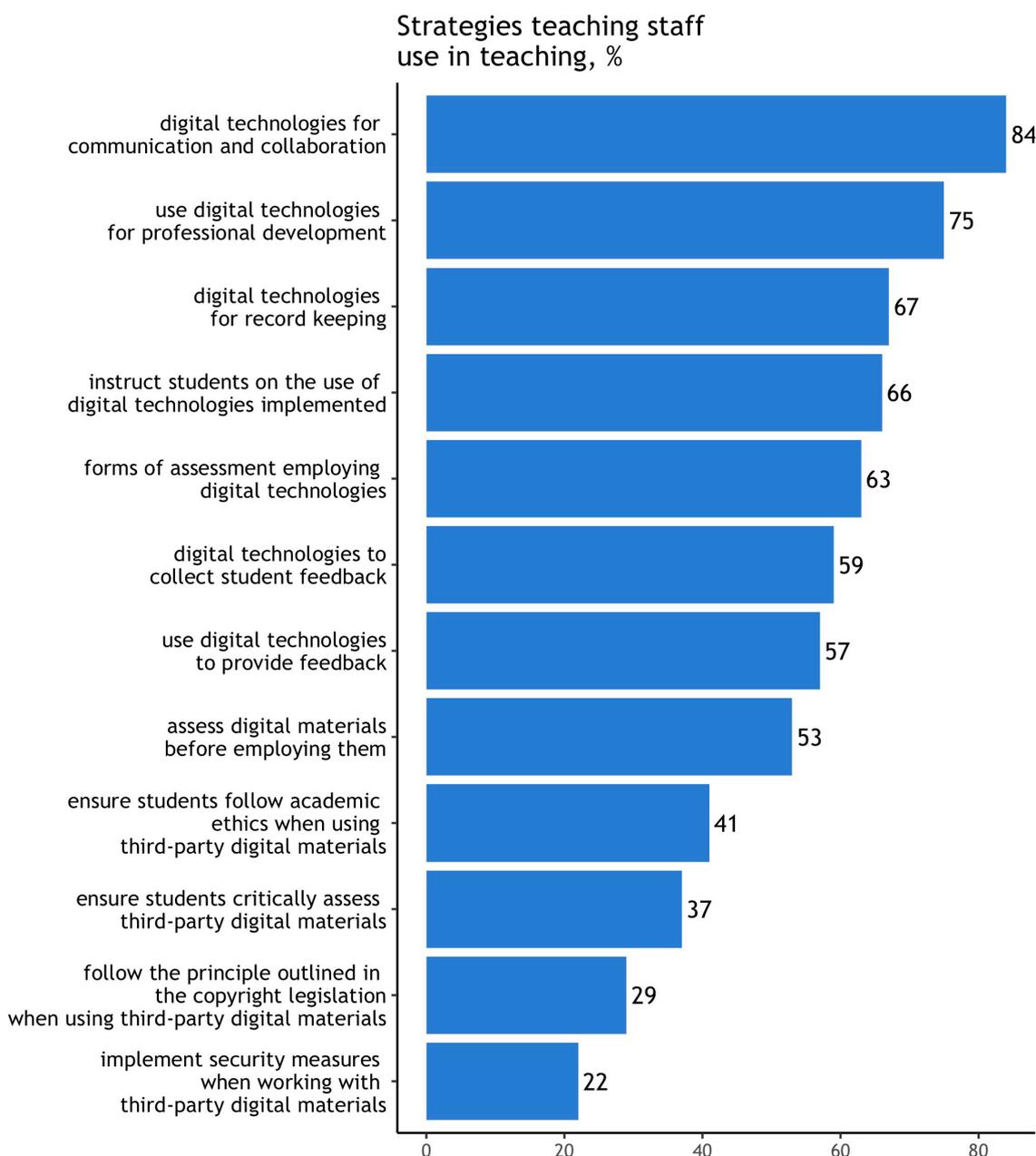
The group of digital language teaching experts you belong to, %



The majority of the teaching staff surveyed (34%) identify themselves as belonging to the Intermediate group of digital language teaching experts. The second-largest group of respondents (27%) identify their digital language teaching expertise as that of the Pre-Intermediate level, while the third-biggest percentage (22%) consider themselves as belonging to the Advanced group. Only 5% describe themselves as Proficient digital language teaching experts.

The teachers who responded to the survey describe themselves as intermediate in using digital technologies rather than either experts or novices.

Q8 Please indicate which of the following strategies you use in teaching,



The majority of the teaching staff surveyed confirmed that they use digital technologies for communication and collaboration (84%), professional development (75%), and record keeping (67%) in their teaching practice. 66% of the respondents stated that they instruct students on the use of digital technologies implemented in the classroom. At

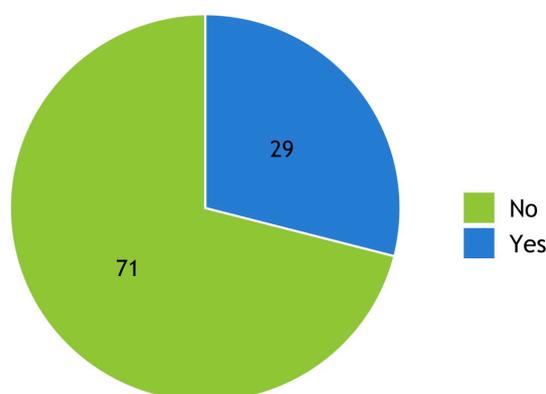
the same time, the strategies, such as implementing information security measures or following relevant copyright legislation, emerged as being used on the least regular basis.

3.2.6 Satisfaction with Digital Competencies Training and Required Improvement

This section considers language teachers' digital competencies training expectations. The majority of the teaching staff surveyed (71%) are unsatisfied with their current level of digital language teaching expertise. The vast majority of the teaching staff surveyed (95%) believe that they can improve their digital language teaching expertise by participating in an external digital literacy training program.

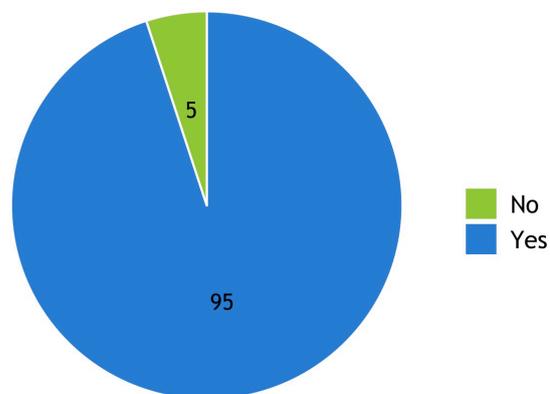
Q9 Are you satisfied with your current level of digital language teaching expertise?

Satisfaction with digital language teaching expertise, %



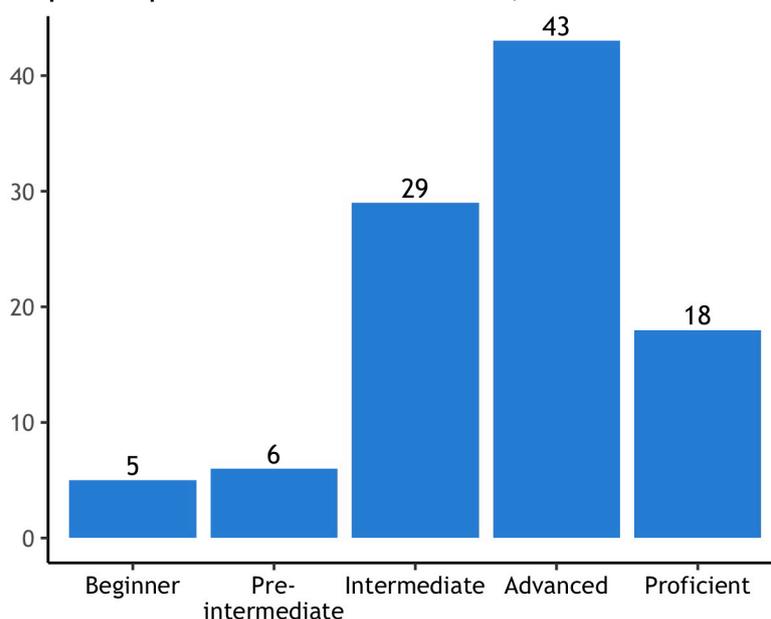
Q10 Do you feel you could improve your digital language teaching expertise by participating in an external digital literacy training program?

The need to participate in an external digital literacy training program, %



Q10a What kind of training would you be interested in?

Kind of training participants are interested in, %

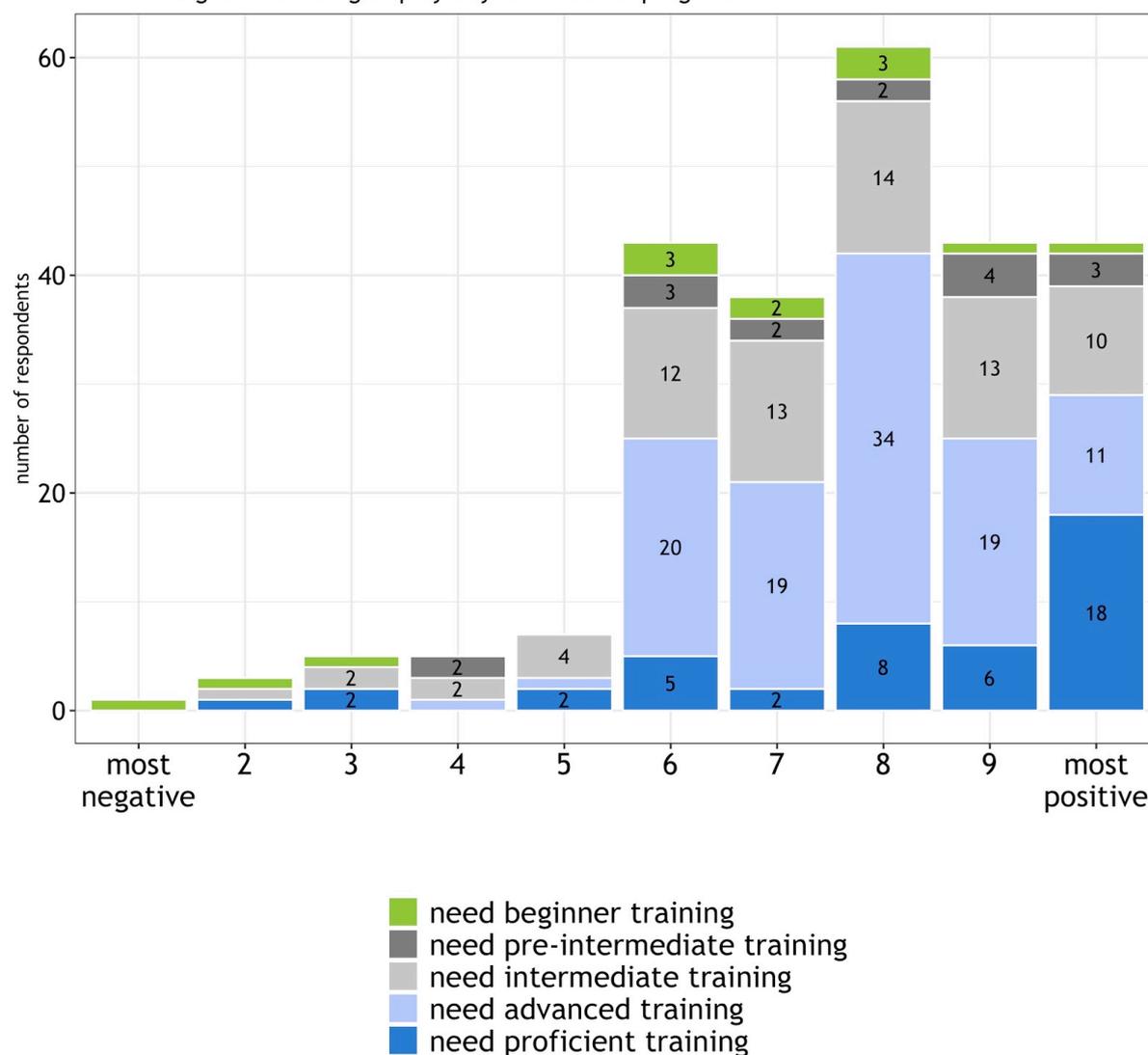


Among those who would like to improve their digital language teaching expertise by participating in an external digital literacy training program, a majority (61%) are interested in high-level training. A third would opt for intermediate-level training.

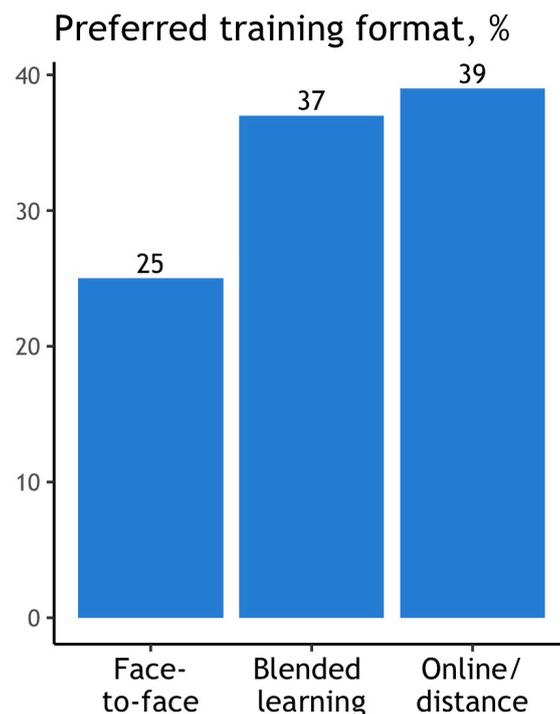
The teachers who highly value the role of technology in teaching (those who opted to 8, 9 or 10 on a scale from 1 “negative” to 10 “positive”), noted more often that they need advanced training than those who believe that technology plays a mediocre role in teaching (those who have chosen 6 and 7 on the abovementioned scale).

The majority of the teachers who believe that technology is as useful as possible would like to participate in proficient training. This is not an obvious, but rather interesting observation.

The role digital technologies play in your students' progress

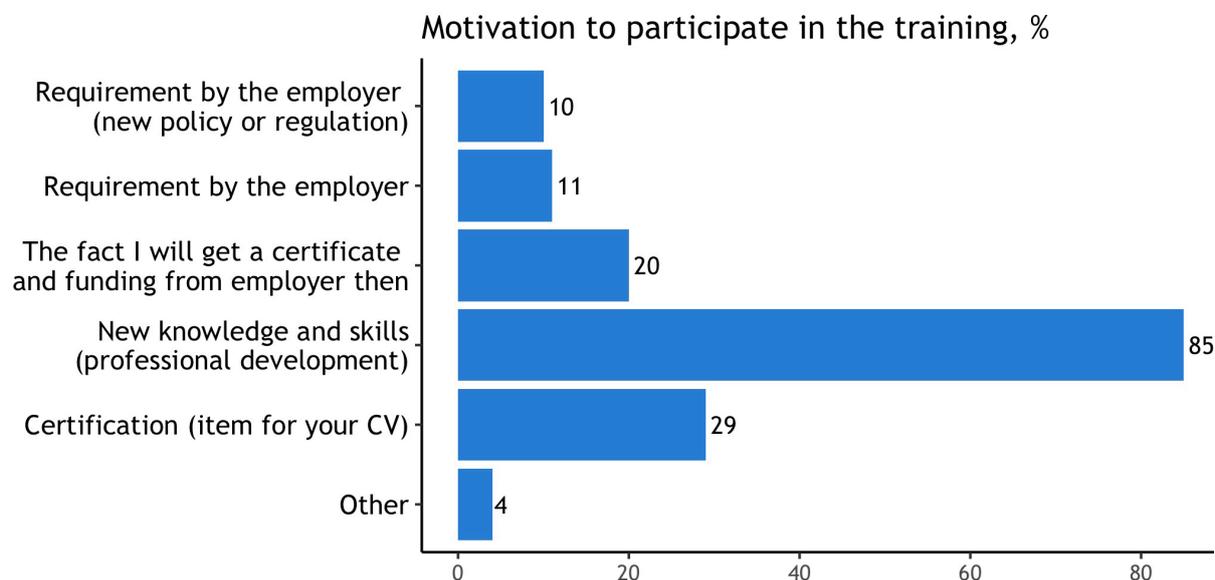


Q10b Please indicate the preferred training format.



Among those who would like to improve their digital language teaching expertise by participating in an external digital literacy training program, the vast majority prefer the online (39%) and blended learning (37%) training formats (an overall preference for online education can thus be observed).

Q10c What would motivate you most to participate in such kind of training?



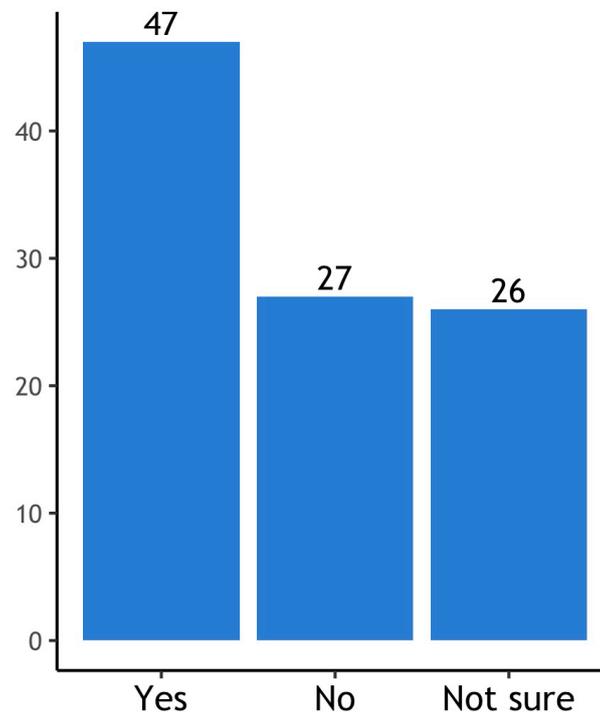
It is noteworthy that internal motivation to participate in digital literacy training is predominant for the majority of the teaching staff surveyed (85%).

3.2.7 Institutional Support for Enhancing Digital Competencies

This section presents the results on the availability and frequency of the digital literacy training provided by the respondents' employers. The teachers' opinion on the efficiency of such training for them personally is also presented below.

Q11 Does your employing institution organize and host digital literacy training?

Does your employing institution organize and host digital literacy trainings?, %

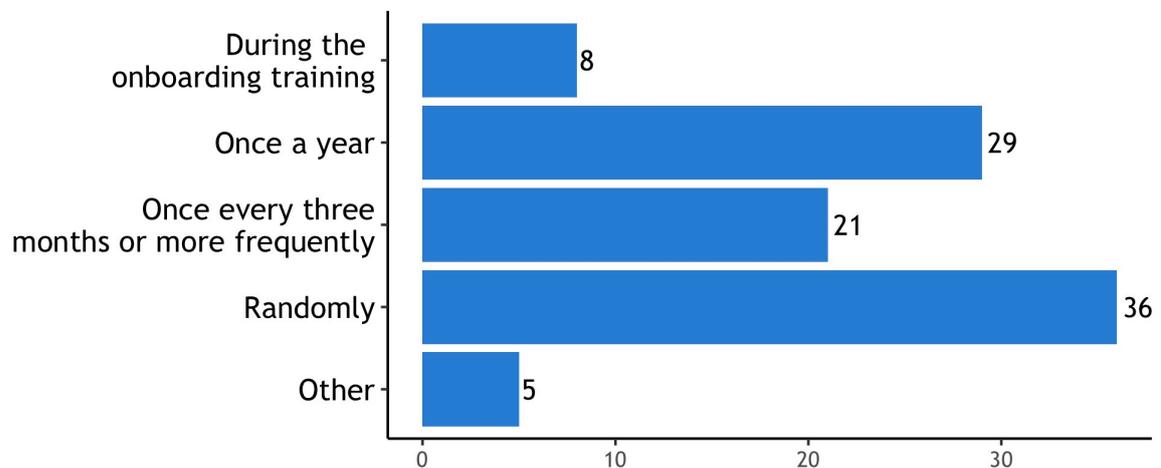


Employing institutions of approximately half of the teaching staff surveyed organize digital literacy training (47%). However, this is not the case for over a quarter of the teaching staff surveyed, who do not have access to this kind of training in their workplace (27%).

Questions Q11a, Q11b and Q11c were shown only to the participants who answered yes to question Q11 – that their employing institution organize and host digital literacy training.

Q11a How often does your institution organize and host digital technology literacy trainings?

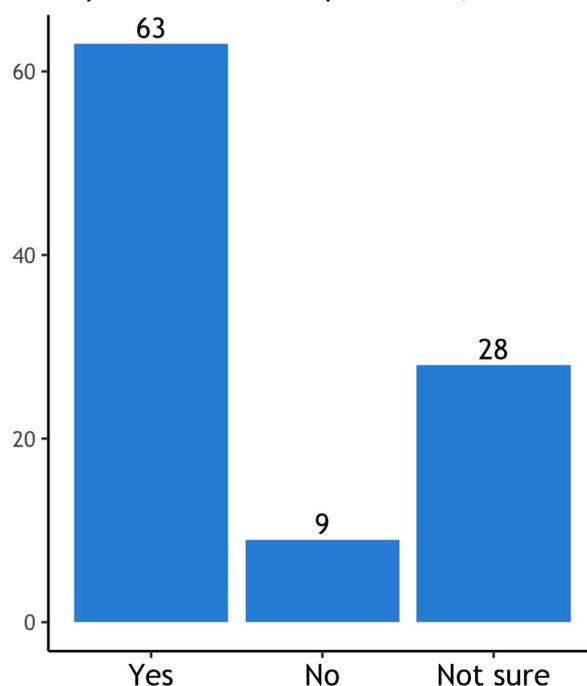
How often does your institution organize and host digital technology literacy trainings? %



From the respondents who stated that their employing institutions organize digital literacy training, the majority state that these training sessions on a very rare and non-systemic basis (randomly: 36%, once a year: 29%). Only 21% of the respondents stated that their institutions organize training frequently.

Q11b Do you feel that the knowledge and skills you have acquired during the training offered by your organization were implemented into your everyday practice?

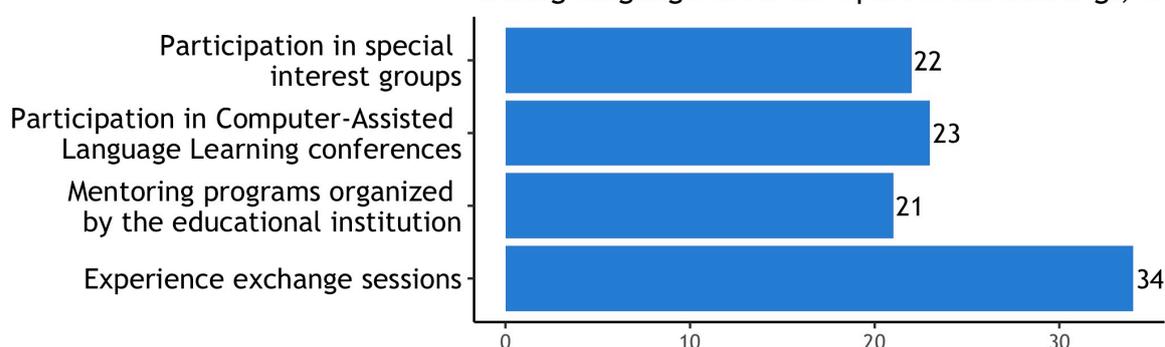
Do you feel that skills you have acquired during the training were implemented into practice?, %



The majority of the teaching staff surveyed describe the training held at their employing organizations as quite effective, observing that they do make use of the skills obtained in their teaching practice (63%).

Q11c What do you believe is the most effective way to improve digital literacy/increase digital technology awareness among language teachers apart from training?

Effective ways to improve digital literacy among language teachers apart from training?, %

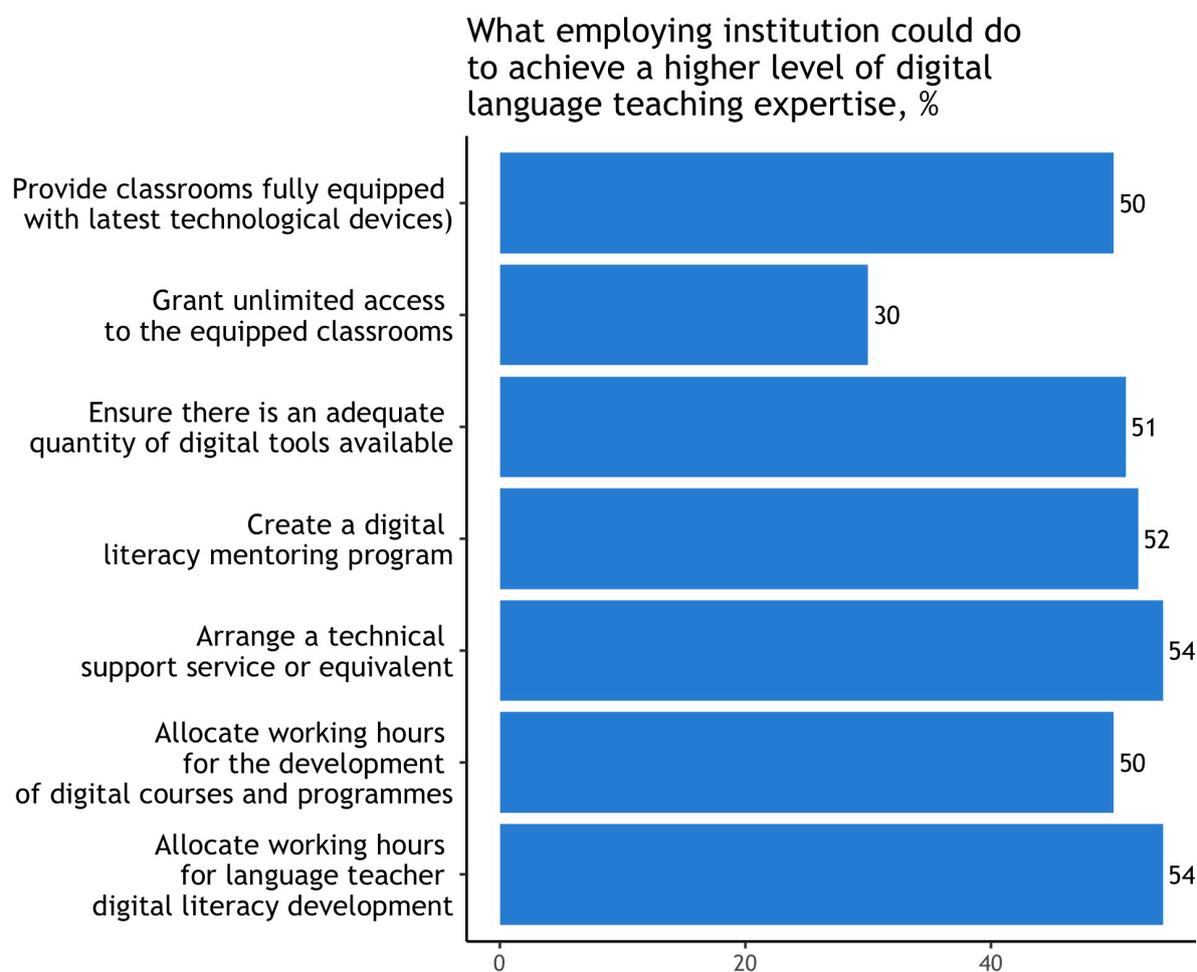


The teaching staff surveyed see the alternative training methods listed as close to each other in effectiveness, giving a preference to the experience exchange sessions format. On the trend level, it seems possible to suggest that the teaching staff members surveyed see experience change sessions as a slightly more effective option.

3.2.8 Institutional Aid for Personal Development Towards Digital Competencies

This section is devoted to the teachers' expectations and suggestions on the means of raising digital literacy level that their employing institutions can use in addition to training.

Q12 Please indicate what your employing institution could do, apart from training courses, to achieve a higher level of digital language teaching expertise.



The teaching staff surveyed tended to choose the additional methods for achieving a higher level of digital language teaching expertise with approximately the same frequency, where two means slightly ahead of the others: arranging a technical support service and allocating working hours for digital literacy development.

The method of granting unlimited access to the equipped classrooms emerged as the only unpopular option. At the same time, providing classrooms fully equipped with the latest technological devices was rated as high as other methods.

3.3. Survey Results for the Administrators and Policy Makers

In total, 20 administrators (n=16) and policymakers (n=4) have participated in the survey (three of whom did not complete the survey in full). Due to the insufficient number of respondents representing this target group, it is not possible to provide quantitative analysis of the data. However, we present the observations of the results in this section. Generally, the administration staff members and policymakers expressed very similar opinions on the topics of the survey.

3.3.1 Personal and Professional Background

Q13e Please select the country where your employing organization is located.

More than half of the respondents (n=12) in these categories were employed in Russia, Greece, Canada, and the Netherlands.

3.3.2 Language Learning Instructional Models and Methods

In order to find out the language learning instructional models the administrative staff and policymakers expect and observe, we asked the following question:

Please indicate all instructional models teaching staff you supervise, guide, educate: (Adm Q3a) is expected to use; (Adm Q3b) is actually using in their practice (select: face-to-face / blended learning / online).

The answers can be divided into two groups: some believe that there is a full correspondence between the teaching practice and the expectations it is subject to, while others remark that while the teaching staff are expected to use the online instructional model, they tend to prioritize the face-to-face and blended learning instructional models.

Considering your position, please indicate all methodologies teaching staff you supervise, guide, educate: is expected to use (Adm Q4a), is actually using in their instructional design (Adm Q5a)⁷⁷.

Generally, the view of administrators and policymakers on the methodologies that are or should be used correlates with that of the teachers. They agree that content-based learning and task-based learning are two most appropriate core methodologies in the language classroom, while game-based learning is the most suitable auxiliary methodology. One methodology that caused the biggest difference of opinions is eclecticism. A large share of the teachers (32%) who do not use it as either core or auxiliary methodology expressed their desire to get training in how to efficiently combine several methodological approaches in their teaching routine. However, 37% of the administrators consider eclecticism as an irrelevant model.

According to the majority of the administrative staff and policymakers surveyed, the teaching staff do use all methodologies researched in the survey in their professional practice (be it as their main or auxiliary methods). Nevertheless, emerging as the most frequently observed was the need for inquiry-based learning training among the teaching staff: 27% of the administrators claimed that the teachers would require special training to use this methodology. Among other methodologies that the teachers should get training in, according to the administrators and policymakers, are problem-based learning and collaborative knowledge building.

3.3.3 Attitude Towards Digital Technology in Language Teaching

The administration staff and policymakers described the teachers' attitude towards using digital technologies in their language teaching practice as moderate and high (Adm Q6a).

The opinions of the respondents on the role of digital technologies in students' progress were inconclusive, being almost equally distributed on the opposites. Some of them believe that digital technologies do not play any role, whilst others are of the opposite opinion (Adm Q6c).

3.3.4 Competencies in digital language teaching

The administration staff members and the policymakers who are satisfied with the current level of digital language teaching expertise demonstrated by the teaching staff, and those who are not, believe that the teaching staff could improve their digital expertise by participating in an external digital literacy training program.

⁷⁷ The answer options were the same as for the teachers (see Q5, Section 3.2.3).

3.3.5 Satisfaction with Digital Competencies Training and Required Improvement

Regardless of the level of training (be it beginner, pre-intermediate, intermediate, advanced or proficient), the teaching staff is seen to be in need of the online and blended learning training formats, which emerged as the most preferable.

According to the administrators and policymakers surveyed, acquiring new knowledge and skills as part of professional development is the teaching staff's key motivation to participate in digital literacy training activities. At the same time, an official certificate is also seen as important in securing the teaching staff's motivation.

3.3.6 Institutional Support for Enhancing Digital Competencies and Aid for Personal Development Towards Digital Competencies

Regardless of whether the teaching staff have access to training at their employing organizations or not, the administration staff members and the policymakers note that, their organizations can employ all other means listed to achieve a higher level of digital language teaching expertise, in addition to formal training:

- provide classrooms fully equipped with latest technological devices
- grant unlimited access to the equipped classrooms
- ensure there is an adequate quantity of modern, reliable digital tools available
- arrange a technical support service or equivalent
- create a digital literacy mentoring program
- allocate working hours for language teacher digital literacy development
- allocate working hours for the development of digital courses and programs.

Part 4. Job Market Study for Language Teachers

The main test bench for the effectiveness of educational policies is their implementation at the organizational level. We argue that the profiles of teachers, defined in the organizational strategies and reflected in the recruitment process, is an important indicator for the implementation of policies. One of the best ways to check the teacher profiles and the specific competences and skills they include is to carry out a job market study.

In this section, we present a job market study for language teachers in Europe. What is a job market study and how can it be defined within a specific branch of education? According to Wikipedia, “*Market research is an organized effort to gather information about target markets or customers*”⁷⁸, while “*a target market is a group of customers within a business's serviceable available market*”⁷⁹. A market study is often conducted to determine the viability of services and products conducted directly with potential customers. The same definition can be reshaped according to the main objectives of the current report: *A job market study is the process of gathering information about language teaching organizations and their need for digital skills and competences of language teachers.*

In this report, a job market study is the process of gathering information about language teaching organizations and their need for digital skills and competences of language teachers.

⁷⁸ https://en.wikipedia.org/wiki/Market_research

⁷⁹ https://en.wikipedia.org/wiki/Target_market

4.1. Objectives of the Job Market Study

The job market study aims to enrich the findings of the digital competence assessment survey for language teachers presented in Section 3 of this report. The job market study provides an organizational level perspective on the digital competences and skills required for language teaching, while the survey focused on the individual level, targeting the teachers.

The overall goal of the job market study presented in this section was to analyze the needs of the education market and evaluate if digital competences and skills are required from language teachers by their employers. We analyzed 854 job announcements for language teachers in 11 countries to understand whether digital competences and skills are mentioned as requirements and if yes, how they are formulated.

Do the European and national policies in digitalization and education have a direct impact on the language teaching jobs? How are the policies implemented in practice at organizations? Given the progress of technology integration into the educational processes and the policies adopted on all levels, such requirements may appear to be almost unavoidable today. However, the data collected in this study suggest otherwise.

Do the European and national policies in digitalization and education have a direct impact on the language teaching jobs?

The original objective of the study presented in this section was to explore what digital competences and skills of language teachers are sought for on the job market. The results of the study should have provided an update on the value of digital competences and skills of language teachers for the employers - all types of educational organizations, involved in language teaching. The results should have informed the policy makers about an important aspect of improving the digital competences and skills of teachers and overall the digitalization process.

However, a new objective of the job market analysis appeared after the first data collection phase. The analysis of the job announcements for language teachers revealed that very few job descriptions mentioned digital competences or skills as requirements or desired. Therefore, there was not enough data to study what kind of competences and skills are sought for by the employers. Still, the number of job announcements that mention digital competences and skills out of all job announcements found was an important indicator.

The new objective of the job market study was to find the share of job announcements for language teachers that require digital competences or skills. A sub-objective of the study was to categorize the required digital competences and skills.

What is the share of job announcements for language teachers that require digital competences or skills?

The second objective was to explore if there is a relationship between strategic demands and the actual job announcements at the organizational level considering digital competence for language teachers.

4.2. Methodology of the Job Market Study

The job market study included two phases of data collection. In both phases, the data were collected country by country, because the majority of online platforms list job announcements per country. The job search in each country was done by a different researcher or a group of researchers. In each country, different sets of online job portals and other websites were selected to provide a higher number of relevant results. They included online job platforms, social networks, government websites, and organizational websites.

In phase 1, the data were collected in Norway, Greece, Italy, Cyprus, and Russia in the period from November 2018 to February 2019. In phase 2, the data were collected in France, Spain, Estonia, Germany, Lithuania, and Turkey (additional searches were also made in Greece) in the period from May 2019 to August 2019⁸⁰. The online job portals and other websites where the job announcements were collected are given for each country in Table 3 below.

Table 3. Job announcement sources

Country	Job portals	
Norway	https://stillingsok.nav.no/	
Greece	www.careerjet.gr/ http://www.xe.gr/jobs/ https://www.jobfind.gr https://kariera.gr	https://www.skywalker.gr https://gr.indeed.com https://gr.jooble.org
Italy	https://www.universoscuola.it/ https://www.doocenti.com/ http://www.miur.gov.it/	https://www.tjtaylor.net/ https://www.linkedin.com/ https://www.kijiji.it
Cyprus	https://www.ergodotisi.com http://www.mesoyios.ac.cy/ https://www.learn4good.com/jobs/ http://www.grsrecruitment.com/en/ https://kariera.com.cy/ http://www.highereducation.ac.cy/en/	http://www.highereducation.ac.cy/ https://www.carierista.com/ https://www.carierista.com/ https://www.jobscyprus.com/ https://www.careerjet.com/
Russia	https://spb.hh.ru/	https://www.superjob.ru/
France	https://neuvoo.fr/ http://www.territorial-recrutement.fr/ https://fr.linkedin.com/jobs/ https://www.optioncarriere.com/	https://cadres.apec.fr/ https://candidat.pole-emploi.fr https://www.indeed.fr/ https://offre-demploi.monster.fr/
Spain	https://www.infojobs.net/ https://www.indeed.es/	http://www.navarra.es/ https://es.jooble.org/
Estonia	https://info.haridus.ee/ https://www.cvkeskus.ee/	https://www.cv.ee/
Germany	https://www.stepstone.de/ https://www.monster.de/	https://jobboerse.arbeitsagentur.de/
Lithuania	https://www.ldb.lt/ https://www.cv.lt/ https://www.cvbankas.lt/ https://www.dirba.lt/ https://vilnius.cvzona.lt/ https://www.cvme.lt/ https://www.kalba.lt/karjera/ https://intellectus.lt/karjera/ https://www.ames.lt/karjera http://www.vertejukomanda.lt/karjera.html https://skrivanek.lt/karjera/ https://www.vertimuguru.lt/lt/karjera.html http://centrumlingua.lt/karjera/ https://www.english.lt/karjera/	http://www.mokslonamai.lt/ https://valodu-vestnieciba.lv https://www.ican.lt/karjera/ http://www.anglukc.lt/karjera http://www.englishway.lt/karjera/ https://www.vu.lt/apiemus/karjera/ https://www.ku.lt/apie-universiteta/karjera https://lchr.catsone.com/careers/79930-TEST-PORTAL https://www.dirba.lt/ https://www.cvmarket.lt https://www.dirbam.lt/ https://www.info.lt/
Turkey	https://www.yenibiris.com/ https://www.isbul.net/ https://www.kariyer.net/ https://ilan.memurlar.net/	https://www.eleman.net/ https://ilan.gov.tr/ http://personel.meb.gov.tr/

⁸⁰ Contributors to the data collection in the second phase: Vilma Sukacke, Anna Novozhilova, Roberta D'Ambrosio, and Alev Elçi

We used county-specific keywords to match the name of the job “language teacher” or “English teacher” or “Norwegian teacher” or similar equivalents. The keywords were used both in English and in local languages.

For each search, we collected the following information: date of search, job portal, keyword used, and the total number of results returned by the search on the given portal and keyword. In each country of the study, multiple searches were performed either on different dates, on different job portals or with different keywords to be able to collect 100 relevant job announcements (or as many as possible if 100 could not have been reached).

We considered a job announcement relevant if it advertised a job for a language teacher in any organization or any other profession that focuses primarily on language learning or teaching, including researchers, managers, policy-makers, administrators, etc. For example, a language teacher in any organization is relevant and an administrator in a language school is relevant. A teacher of any other subject but language at a non-language school is irrelevant.

Each relevant job announcement was opened and read to find if the description mentioned digital competences or skills. Most job announcements contain a list of required qualifications or skills or sometimes have such requirements mentioned in the description of the work tasks or elsewhere.

For each relevant job announcement, we noted *if it contained any mention of the digital competences and skills*. For those job announcements that mentioned digital competences or skills, the following information was collected:

- in which search the job announcement was found
- the exact formulation of the digital competences or skills (later translated to English)
- job title
- name of the hiring organization
- type of the hiring organization (university, school, company, etc.)
- link to the announcement

In addition, all data were analyzed, and information that could be biased or irrelevant was rejected from the dataset. As an example, the analysis showed that some job announcements in some countries were published at different platforms, or on different dates. Such announcements were considered duplicates, thus were included only once. Very similar job announcements by the same organization with only small differences (e.g., different languages, but the rest of the announcement texts are the same) were also considered duplicates. The same applies when the same job description was announced at different dates. Job announcements that were unclear about the main tasks of the prospective employees were not included either.

A combination of qualitative and quantitative analysis of the data was done. At the end of phase 1, each mention of the digital competences or skills extracted from the job announcement collected in Norway, Greece, Italy, Cyprus, and Russia was tagged with a theme or themes by two researchers. During phase 2, these themes were used to tag the new job announcements collected in other countries. This was done by two researchers, at least one of them was a different person for each country.

The themes aimed to reflect the nature of the required competencies and/or skills. The most used formulation in the job announcement was a ‘Generic’ mention of some digital competences or skills without further specification (e.g., “*Has experience with and is positive towards the use of digital tools*” or “*TCT Skills*”). The second most applied theme appeared to be various ‘Old-fashioned’ competencies and skills that were relevant for technology-based language teaching more than a decade ago (e.g., “*Knowledge of the Office - Excel suite*”, “*Demonstrated experience using a personal computer*,” and even “*A good typing speed and general PC literacy*”). In addition, several other themes appeared but all with a single or very few job announcements tagged with them. At the same time, all additional themes were more specific about the required competences and skills (e.g., “*Knowledge of computer games and positive towards using them in teaching*”, “*Collaborate with online teachers/ students via Skype/ Viber/ Whats.App*”, and “*Preparation, implementation and follow-up of tablet-based, project-oriented and self-organized learning arrangements*”). They were combined to a single theme ‘Specific’ skills.

The share of each category of skills in the number of all job announcements was calculated for each country and an average for all countries where the data were collected.

4.3. Results of the Job Market Study

In this study, we identified a total of 854 relevant job announcements in 11 countries. For the analysis, we selected 128 announcements – only those that mention digital competences and skills. The breakdown by country is presented in Table 4 below.

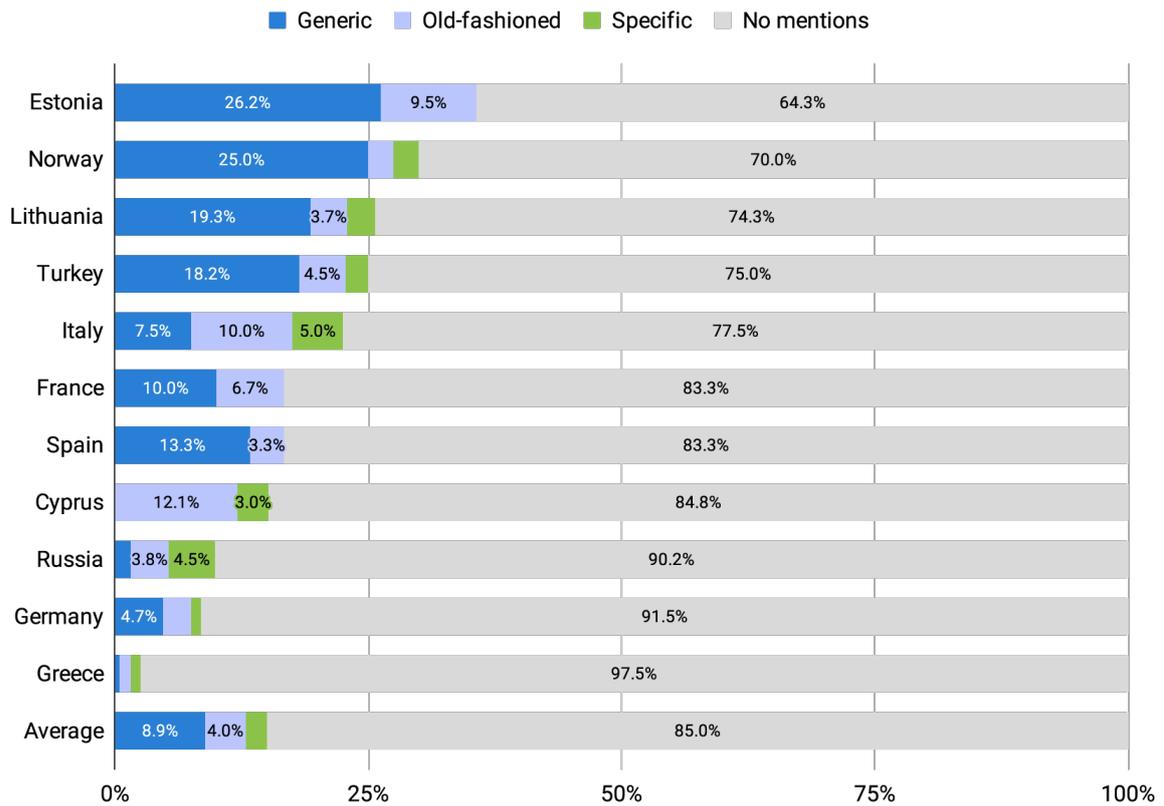
Table 4. Summary of the relevant job announcements

Country	# of job announcements	# mentions	% mentions
Estonia	42	15	35.7%
Norway	40	12	30.0%
Lithuania	109	28	25.7%
Turkey	88	22	25.0%
Italy	40	9	22.5%
France	30	5	16.7%
Spain	30	5	16.7%
Cyprus	33	5	15.2%
Russia	132	13	9.8%
Germany	106	9	8.5%
Greece	204	5	2.5%
Total/average	854	128	15.0%

The data indicate that there are very few job announcements that mention digital competences and skills overall. It is important to keep in mind that the total number of search results in different countries might have been affected by several factors (such as season, choice of keywords, and choice of job platforms). However, the total rate of job announcements that mention any digital skills required for language teachers (15%) is an important indicator for our research.

The 128 job announcements selected for the analysis were classified on the basis of how the digital competences and skills were formulated into three categories: Generic, Old-fashioned, and Specific. The categorization was defined by the researchers in a process of thematic analysis in this study. The figure below shows how often the competences and skills of these categories appeared in job announcements for language teachers. The figure also includes the share of job announcements that did not mention any digital competencies and skills as ‘No mentions’.

The figure below can be used to compare the proportion of the job announcements that mention digital competences and skills (blue, light blue and green) and those that do not mention them (grey).



The figure above can be supplemented by comparing the job announcements that mention digital competences and skills of different categories, excluding announcements that do not mention them. It can help to understand the needs and the requirements of the market. The percentage in which those required digital competences and skills are occurring in the job announcements can help defining a more organic state of the art:

- Generic digital competences and skills: 59%
- Old-fashioned digital competences and skills: 27%
- Specific digital competences and skills: 14%

In every 100 job announcements for language teachers

Specific skills

*“Knowledge of computer games & positive towards using them in teaching”,
“Collaborate with online teachers/students via Skype/Viber/WhatsApp”,
“Tablet-based, project-oriented and self-organized learning”*

2%



Old-fashioned skills

*“Demonstrated experience using a personal computer,”
“Knowledge of the Office - Excel suite”,
“A good typing speed and general PC literacy”*

4%



Generic skills

*“Has experience with and is positive towards the use of digital tools”,
“Digitally forward-looking”,
“ICT Skills”*

9%



No digital skills mentioned

The majority of job announcements do not mention any digital competences or skills, focusing on other qualifications that the candidates are required to have.

85%



Part 5. Interpretation of Results

This section of the report includes a discussion of policy analysis presented in Section 2, the results of the survey presented in Section 3, and the job market analysis presented in Section 4.

In this section, we look at the digital competences of language teachers from three angles. We mostly discuss the results of the three studies presented above one by one, but also look for complementing and contradicting results where possible. First, we consider the teachers' perspectives with the results of the survey (Section 3). Second, we review the employers' expectations drawn from the results of the job market analysis (Section 4). And finally, discuss the European and national policies and their implementation at language-learning institutions (Section 2).

5.1. Teachers' Perspectives

This section of the report includes a discussion of the results of the digital competence assessment survey for language teachers, presented in Section 3 of this report.

5.1.1 Instructional Methods

Evaluating what instructional methods language teachers use in their daily practice, we received rather positive results. We offered 10 instructional methods most commonly used in computer-assisted language teaching (Section 3.2.3):

- Content-based language learning
- Task-based learning
- Project-based language learning
- Collaborative language learning
- Game-based language learning
- The lexical approach
- Collaborative knowledge building
- Problem-based language learning
- Inquiry-based language learning
- Eclecticism

The results demonstrate that language teachers use multiple and varied instructional methods. The use of methods varies from Task-based learning, which is used by 94% of respondents (most used as either a core or an auxiliary methodology) to Eclecticism, which is used by 54% (least used as either a core or an auxiliary method from the suggested).

Language teachers use multiple and varied instructional methods.

From the three suggested alternatives for not using specific instructional methods, the most common reason given by language teachers was the need for training. For all suggested instructional methods, the need for training was given more often than the other two reasons combined (lack of infrastructure and irrelevancy). The need for training (as a reason for not using a specific instructional model) varied from only 5% for Content-based language learning and Task-based learning to nearly one third - 32% for Eclecticism.

From the 10 instructional methods most commonly used in computer-assisted language teaching, we identified four that require more training offers:

- Collaborative knowledge building
- Problem-based language learning
- Inquiry-based language learning
- Eclecticism

The lack of infrastructure at an institution was not considered by language teachers an important reason for not using specific instructional methods in their practice. This reason for not using specific methods was given by 5% or less participants for all suggested instructional methods.

The lack of infrastructure has been identified as a serious challenge in the past⁸¹, but it appears that it is not preventing language teachers from using different instructional methods. The need for training has been identified as a much more common reason for not using specific instructional methods.

Lack of infrastructure is not an important reason for not using specific instructional methods.

Relatively few language teachers evaluated the suggested instructional methods as irrelevant to their teaching goals. This reason for not using specific methods varied from less than 1% for Task-based learning to 12% for Eclecticism.

The two target groups that participated in the survey provided different perspectives on the instructional methods. The discrepancies between the opinions of language teachers on one side and the administrators and policymakers on the other side are presented below in Section 5.1.6.

5.1.2 Attitude Towards the Digital Technologies

There is a small discrepancy between the positive attitude language teachers express towards the use of digital technologies, and the sense of improved academic performance for their students. Looking into question 6a: “Your attitude towards using digital technologies in your (personal) language-teaching practice”, we can see that 79% of participants⁸² have overall a very positive attitude towards using digital technologies in their own practice. The finding is even further emphasized in question 6b: “Your attitude towards digital technologies in language teaching”, a more general question where the responses were even more positive with 80% of participants⁸³. Language teachers generally see digital technologies as something that enhances learning and is a benefit for the language classroom.

On this background the results from question 6c “The role digital technologies play in your students’ progress”, look interesting. The question aims to see to what extent language teachers see digital technologies as useful for the students academic performance as the practice is today. The respondents are still positive, seeing 60% answering in the most positive end of the Likert-scale⁸⁴. These results show that teachers find other types of lectures, designs, or tools more useful for the progress of students. These results are also pointing out that today’s digital technology use has not reached its full potential, or that there is a lack of correspondence between the current actual use of digital technology in class and the potential that teachers believe that digital technologies should have for teaching and learning purposes. Emphasizing this shows the need for better and different training for language teachers in order to use the full potential of digital technologies. This would also benefit the work with fulfilling the strategies both on macro, micro, and meso levels, as discussed in 2.3 and 5.4 of this report.

Digital technologies have not reached their full potential in language teaching.

Considering the need for training, one could also use the results from Q6b and Q6c. Those teachers who highly value the role of technology in teaching (8, 9, and 10 points on the Likert scale), noted more often that they need advanced training than those who believe that technology plays a

⁸¹ European Commission (2019). 2nd survey of schools: ICT in education. final report - Study. DOI: 10.2759/23401 <https://ec.europa.eu/digital-single-market/en/news/2nd-survey-schools-ict-education>

⁸² Overall positive 79% breaks down as 8 (23%), 9 (18%) or 10 (38%) on a scale from 1 “negative” to 10 “positive”

⁸³ Overall positive 80% breaks down as 8 (18%), 9 (20%) or 10 (42%) on a scale from 1 “negative” to 10 “positive”

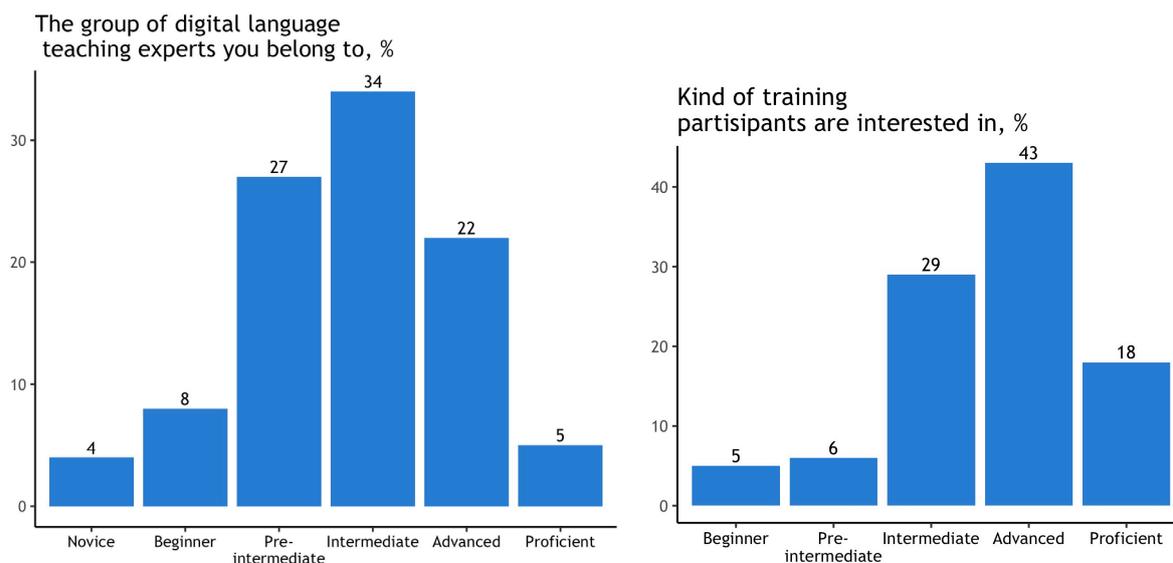
⁸⁴ Overall positive 60% breaks down as 8 (24%), 9 (18%) or 10 (18%) on a scale from 1 “negative” to 10 “positive”

mediocre role in teaching (6 and 7 points on the Likert scale). Most of those teachers who believe that technology is as useful as possible want proficient training. This is not an obvious, but rather interesting observation.

5.1.3 Self Assessment of Competence Level and Required Training

Overall, language teachers require training in digital competencies at an advanced level, as they identify themselves with the intermediate level (where the intermediate is one-step lower from the advanced). This can be concluded from the analysis of the results of two questions of the survey: proficiency level the respondents identify themselves with (Q7, Section 3.2.5) and the level of training the respondents are interested in (Q10a, Section 3.2.6).

A relatively small number of language teachers identify themselves as complete novices (4%) and beginners (8%) in digital competencies. This indicates that the majority of language teachers (88%) have all basic digital competencies. In addition, very few require training at the beginner level (5%) and pre-intermediate level (6%).



5.1.4 Satisfaction and Required Improvement

By looking at the level of satisfaction that language teachers show towards digital tools and the associated learning approaches and the improvement they consider necessary (Section 3.2.6), we can get further insight into the required level of training, in line with the 2010 Digital Agenda for Europe⁸⁵.

Most importantly, most of the language teachers (71%) are not satisfied with their level of digital language teaching expertise. At the same time, the majority (95%) of teachers believe that they can improve their digital language teaching expertise by participating in an external digital literacy training program. These results indicate that organizing digital competence training for language teachers is potentially in high demand. Such training programs or events do not necessarily need to be organized by institutions for their own teachers but can be done by external organizations, such as international communities, associations, and consortia.

Digital competence training for language teachers is potentially in high demand.

Results have revealed that 43% of respondents are interested in receiving advanced training (Q6). Seeing that the respondents are not totally convinced about the usefulness of Ed.Tech (Q6c), this might be indicating that language teachers feel that they have not reached the full

⁸⁵ European Commission (2010) A digital Agenda for Europe. Brussels: <https://ec.europa.eu/digital-single-market/en/digital-agenda-europe-key-publications>

potential in using Ed.Tech, as reported by Redecker & Punie in their study *The European Framework for the Digital Competence of Educators*⁸⁶.

Furthermore, language teachers show interest (Section 3.2.7 Q11c) in experiencing exchange sessions (34%), special interest groups (22%), participation in Computer-Assisted Language Learning conferences (23%), and mentoring programs organized by the educational institution (21%). This might indicate that language teachers need to experience best practice examples in order to implement state of the art methodology when it comes to digital technologies.

Considering the results amongst the limited number of administrative staff and policymakers from the survey, there are indications that they would like to see their teachers receiving external courses, but still, they believe that they are able to deliver all types of courses at their own institutions.

The results from administrative staff and policymakers show a slight discrepancy, as they believe that language teachers in their institutions or under their supervision are on a slightly lower level than the teachers identify themselves. Still, experiencing sessions demonstrating best practice examples are rated useful for the participants, no matter what level they are on.

5.1.5 Institutional Support and Aid

Almost half (47%) of the respondents stated that their employing institutions organize and host digital literacy training. However, just above a quarter (27%) stated that such training is not organized. This is overall a positive result, but a room for improvement is also highlighted (Q11).

It should be noted that more than a quarter of the respondents (26%) were not sure if their employing institution organizes digital literacy training. This is either due to the lack of awareness of language teachers about such training or the lack of their interest.

The result that approximately half of the language learning institutions organize in-house digital literacy training can partially explain why these institutions rarely require digital skills from the job applicants (Section 4.3). However, the results from the question on the frequency of digital literacy training (Q11a) show that teachers who work at organizations that host such training, only 8% receive such training during the onboarding process.

The frequency of digital literacy training hosted by language learning institutions vary, according to the teachers. It appears that at some institutions, such training is organized regularly once a year (29%) or even every three months (21%). At the same time, more than a third of the participants (36%) stated that digital literacy training is organized randomly. This indicates that their employing institutions do not have a clear digital literacy strategy.

When digital literacy training is organized at language learning institutions, almost two thirds of the teachers (63%) believe that their new skills are later implemented into practice (Q11b).

From the suggested ways to improve digital literacy training apart from formal training, experience exchange sessions were selected as the most effective option (Q11c). Experience exchange is therefore recommended to include in digital literacy training.



Experience exchange is the most effective way to improve digital literacy apart from training.

In response to the question of what your employing institution could do, apart from training courses, to achieve a higher level of digital language teaching expertise (Q12), the teachers could select from seven suggested alternatives.

Each of these means was selected by around 50% of the teachers who participated in the survey, except for the option to grant unlimited access to the equipped classrooms. These means that the remaining six means are seen as important

⁸⁶ Redecker & Punie (2017) *European Framework for the Digital Competence of Educators: DigCompEdu*
<https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu>

and useful. These means that the remaining six means are seen as important and useful, and therefore can be recommended for language learning institutions.

The recommended means employing institutions can use to achieve a higher level of digital language teaching expertise, in order of perceived importance:

- Arrange a technical support service or equivalent.
- Allocate working hours for language teacher digital literacy development.
- Create a digital literacy mentoring program.
- Ensure there is an adequate quantity of modern, reliable digital tools available.
- Provide classrooms fully equipped with latest technological devices.
- Allocate working hours for the development of digital courses and programs.

5.1.6 Discrepancies between Administrators and Teaching Staff

The survey results gave us an interesting perspective of a visible gap between what the administration believes should be the methodologies of the teaching process and what the teachers identify by themselves. The number of respondents in the administrator group was much lower, and therefore, the presented discrepancies can only be seen as indications.

For instance, the administrators believe that such trending methods as game-based and project-based learning are a vital part of today's classroom life. At the same time, the vast majority of teachers identify them as auxiliary methods, while almost 20% feel they need training in order to bring these methods to their classes.

Game-based learning and project-based learning are seen as primary methods by administrators and as auxiliary methods by language teachers.

Collaborative knowledge building includes the constructivist perspective on knowledge generation. According to the results, this is used as the core or auxiliary method by some 77% of teachers, and another 16% would like to be trained to use it, while 76% of administrators see this method as auxiliary or even irrelevant.

Collaborative knowledge building is seen as much more central by language teachers than by administrators.

The results for the traditional approach that relies on independent work of the learner, content-based language learning, contain interesting discrepancy. The respondents from the teacher group report that they use content-based language learning most often as a core methodology (50% of respondents) and as an auxiliary one (41% of respondents). At the same time, many more administrators (61%) believe that the teachers they supervise use this approach as a core methodology. Even more administrators (71%) think that the teachers should use it as a core methodology.

Content-based language learning is seen much more central by administrators than by language teachers.

The task-based learning method relies on asking learners to perform meaningful tasks using the language. The results for task-based learning reveal that language teachers use it mostly as an auxiliary method (55% of respondents) and slightly less as a core method (44% of respondents). At the same time, for the administrators, it appears that the teachers they supervise use this method as a core methodology much more often (61% of respondents) than as an auxiliary (25%). The administrators believe that the teachers should use task-based learning more often as an auxiliary methodology (33%). Task-based learning as an auxiliary methodology is believed to be currently used by 25% of administrators, should be used - by 33% of administrators, and actually used by 55% of teachers.

Task-based learning is seen as an auxiliary method by language teachers and as a core method by administrators.

The Lexical Approach relies on being able to understand and produce lexical phrases. According to the results, most language teachers (55%) see it as an auxiliary instructional model and much fewer (22%) as a core method. At the same time, the results from the administrator group indicate that an almost equal number of respondents believe that the lexical approach is used as a core and as an auxiliary method.

The lexical approach is seen as an auxiliary method by the language teachers and as both core and auxiliary by administrators.

What could we learn from this gap between the perspectives of teachers and administrators? First of all, the administrators and policy makers may not have set a clear agenda or development strategy for bringing new methods to classrooms. Therefore, more progressive teachers are endeavoring into new ones on their own. Secondly, the teachers may be overstating their use of the aforementioned instructional methods.

When talking about the importance of digital technologies in their teaching practice, a serious 38% of teachers say it is 10 out of 10, and the comparable share of administration follows with an eight on the scale from 1 to 10. So both sides understand the importance of digital technologies in a generic class and in practice. But what do we see if we apply the same to language teaching? It is still of a “10 out of 10” importance for teachers yet only a quarter of the administration representatives see digital technology as an important part of language teaching. This is supported by further investigation into the question whether the student progress can be linked to use of digital technologies for language teaching: 39% of teachers rank it from 8 to 10 in importance, while only a quarter of administrators feel that technology can scaffold student excellence in language learning.

The answers to this dilemma may be several. One lies in the answers of both parties to the question of evaluation of digital proficiency and the potential digital literacy training needed. Both teachers and administrators believe it is a good idea to learn more. But teachers expect a much higher level of knowledge and skills than their supervisors in the administration have in plans for them. Almost two thirds (60%) of teachers are interested in advanced and proficient-level training, while the administration wants to put 48% of efforts into pre-intermediate, intermediate and beginner programs. This may show that our teachers have mastered some of the tools and knowledge themselves, seen the results of bringing technology to the classroom in their students’ success and therefore are ready for more advanced training. In addition, the administration may not know the daily battle of the language teachers called “put these cell phones away, kids” has long been lost. The most progressive teachers are actually using the smartphones, tablets and computers in language teaching daily practice, bringing games, quests, projects and online interactive tools into the learning process.

When designing training on digital technology for language teachers, we should carefully consider the positive communication that should be accompanying the improvement of digital literacy in interested teachers. While learning how to use various digital tools and new methods, the teachers will also need to learn how to clearly articulate the need for using these technologies in language classrooms, the learning outcomes the technology helps achieve, and the benefits for students and teachers. So, that the leadership would see those just as clearly and positively.

5.2. Employers' Expectations

This section of the report includes a discussion of the results of the *job market study for language teachers*, presented in Section 4 of this report.

The results of the job market analysis are clear and highlight a room for substantial improvement at language learning institutions on the organizational level. We categorized the digital skills required by the language learning institutions to identify and analyze the needs of the market.

One might argue that teaching languages does not necessarily require sophisticated digital skills. Even today it is possible to teach without using innovative and modern digital tools. However, seeing the digitalization of education strategies developed in different countries, greatly improved accessibility and variety of technologies, and remembering the need for languages in order to obtain 21st century skills, it is reasonable to believe that digital skills are vital also for language learning. Our data shows that only 15% of job announcements for language teachers mention digital skills. It means that most language learning institutions (85%) do not require digital skills from newly hired teachers.

In 85% of job announcements, language learning institutions do not require digital skills from newly hired teachers.

The common requirement of proficiency in using a personal computer or expertise in Microsoft Office in the job announcements for language teachers is a concerning trend. These digital skills could have been essential in the late 90s or early 2000s. The vast and varied pedagogical opportunities offered by the digital technologies in 2019 (blended learning, online learning, game-based learning, etc.) require different and updated digital skills rather than simply “general PC literacy” or “typing speed”⁸⁷. The results of our study demonstrate that when digital skills are mentioned in job announcements for language teachers, most of them require generic digital skills (59%), i.e. being confident about digital technologies in general. It is concerning that many job announcements from those that mention digital skills, require clearly old-fashioned digital skills (27%).

We argue that requiring specific digital skills in a job announcement indicates that the employing organization has a clear policy for using instructional models and digital tools. As an example, we can take an abstract language institution that teaches online or in a blended mode. Naturally, such an institution would require a newly hired teacher to have specific digital skills in using online or blended learning tools. In another imagined example, a language school is using educational games that are run on tablets. However, in this example, the school does not have an organizational policy and the requirement for the specific digital skills related to using tablets in a classroom and using game-based learning are not included in the job announcements. This would lead to a situation where in the best case newly hired teachers have to invest their time to quickly learn on the job. In the worst case, the tablets and the educational games would be used ineffectively or not used at all.

Specific digital skills appear in 14% of announcements that mention any digital skills. However, from the total of 854 job announcements we analyzed, only 18 that required specific digital skills, which is only 2% of the total. In addition, we noted that when specific digital skills are required, they are not described as mandatory, but rather as desirable. This indicates that language learning institutions might not consider hiring a language teacher with specific digital skills close to impossible.

Only 2% of language learning institutions require specific digital skills from newly hired teachers.

It is therefore quite obvious that there is not enough focus on digital skills in the job announcement designed in order to attract language teachers. Based on the findings in the job market study and comparing them to the review of

⁸⁷ Yes, we found “typing speed” in an actual job announcement for a language teacher in 2019.

European and national policies, it is clear that there is a discrepancy between the high-level strategies and the institutional implementations of these strategies.

We argue that digital skills needed in language teaching should be required in the job announcements, to ensure digital competence at the organizational level. It should also be apparent in the responsibility for implementing digital skills at all levels. Defining what exact skills are required is an important process too. We argue that the skills should be specific and mention both the technology and the instructional model to be used.

Job announcements for language teachers should include specific digital skills that mention both the technology and the instructional method.

The limitations of the job market analysis study should also be noted. The number of job announcements analyzed is not significant per country, even if the total number of 854 is enough to

provide good indicators. In some of the countries, more job announcements were analyzed than in the others, which can also lead to some bias in the results. We considered job announcements from both private and governmental institutions, without dividing these in the final results presented in this report.

The results of the job market analysis for language teachers are further discussed more in the article *Digital Competences for Language Teachers: Do Employers Seek the Skills Needed from Language Teachers Today?*⁸⁸.

5.3. Policy Reflections

This section of the report includes a discussion of the results of the *review of European and selected national policies related to the digital skills of language teachers*, presented in Section 2 of this report.

Considering the results from the job market analysis, it is interesting to address some similarities in the strategies in different countries. Policymakers are concerned about digitalization of education in all countries where we reviewed the policies. All of them implement large-scale governmental strategies to improve digital skills. Some of the countries have to consider the demands set at the European level. Although the strategies, both EU and national, are very general, one can find some initiatives pointing directly at increasing infrastructure in educational centers. This includes varied learning environments, access to digital tools, and the development of open online courses.

Another interesting finding is that at a meso level the responsibility for implementing the actions are very different. The responsibility is separated to different providers, including private and public sector, non-governmental organizations, and industry. This means that there are several different ways and methods for implementing the strategies, giving much autonomy to individual institutions. Often increasing the digital skills of the general public is the main concern of digitalization. There are few strategies targeting directly the enhancement of teachers' professional skills, at least on the macro level. Often it seems as if this is up to the individual institution or even the teachers themselves. This can be part of the reason why we seldom find digital skills defined in the job announcement for language teachers.

Another interesting point is the strong demand for digital competence requested in governmental strategies. For example, in Norway, it is stated that institutions should search for “pedagogical base competence and experience in teaching when hiring in all professional positions, and successively higher demands concerning teaching competence for employment in positions at higher levels”⁸⁹ for scientific staff at higher education institutions in order to hire. This means that one assumes that being pedagogically competent, i.e. having done training, taught at lower levels or taken external courses, makes scientific staff more capable of adjusting to new demands concerning digital technologies.

⁸⁸ Talmo et al. (2020). Digital Competences for Language Teachers: Do Employers Seek the Skills Needed from Language Teachers Today? International Conference on Human-Computer Interaction. DOI: [10.1007/978-3-030-50513-4_30](https://doi.org/10.1007/978-3-030-50513-4_30)

⁸⁹ Kunnskapsdepartementet (2017). Digitaliseringsstrategi for universitets- og høyskolesektoren 2017-2021, p. 15

Part 6. Conclusions

This section provides a short summary of major contributions of the report. The contributions will be structured along the main objectives of the studies that are presented in this report.

6.1. Instructional Methods Used by Language Teachers

For the objective of identifying to what extent and how language teachers integrate novel technologies and methodologies in their teaching practices, we provide the following contribution:

Our results demonstrate that language teachers use multiple and varied instructional methods. Emerging as the most popular were the following instructional methods:

- Content-based language learning (50% use it as a core method and 41% as an auxiliary)
- Task-based learning (34% core and 51% auxiliary)
- Project-based language learning (21% core and 64% auxiliary)
- Collaborative language learning (35% core and 55% auxiliary)

Major conclusion: Language teachers use multiple and varied instructional methods.

6.2. Digital Competences and Skills of Language Teachers

For the objective to map the level of digital competences and skills of language teachers, we provide the following contributions:

Our results show that language teachers are positive towards using digital technologies in general and in their personal teaching practice. However, they are less certain about the role of digital technologies in student progress.

According to our results, most language teachers describe themselves as intermediate in using digital technologies (pre-intermediate 27%, intermediate 34%) rather than either experts (advanced 22% and proficient 5%) or novices (novice 4% and beginner 8%).

Major conclusions: Language teachers generally have positive attitude towards digital technologies and have at least basic digital skills.

6.3. Training Needs of Language Teachers

For the objective to understand the training needs of language teachers on digital technologies, we provide the following contributions:

Our data show that 71% of language teachers are not satisfied with their level of digital language teaching expertise.

The results also show that 95% of language teachers believe that they can improve their digital language teaching expertise by participating in an external digital literacy training program.

Training of advanced digital skills is in most demand (43% of language teachers), which indicates a potentially high demand for such training.

Experiencing exchange sessions is the most popular means (34%) of improving digital skills among language teachers apart from formal training.

Major conclusions: Language teachers are not satisfied with their level of digital skills (intermediate, on average) and believe that they can improve it (by training advanced skills, on average).

6.4. Language Teaching Market Needs

For the objective to identify the modern profile of a language teacher based on the needs of the market, we provide the following contributions:

Our results show that in 85% of job announcements, language learning institutions do not require digital skills from newly hired teachers. In 9% of job announcements, generic digital competence is required or desired. In 4% of job announcements, old-fashioned skills are required.

Only in 2% of job announcements for language teachers, specific digital skills that are linked to tools and instructional methods are required.

Major conclusion: Language learning institutions do not expect newly hired teachers to have digital competences and skills.

6.5. Digital Competences for Successful Language Teachers

For the objective to explore digital competences that a language teacher should develop in order to be able to compete successfully in a competitive market, the following contributions:

There is a discrepancy between the national and European strategies in digitalization of education and teacher training, and the implementation of these strategies on the organizational level.

Language learning institutions rarely have strong organizational strategies for using digital tools and corresponding instructional methods. These organizational strategies rarely plan for professional development of teachers in digital technologies.

Including specific digital skills that mention both the technology and the instructional model in the job announcements can help language learning institutions to follow national and European strategies.

Major conclusions: Policies and strategies in digitalization of education and teacher training need to be better implemented at the organizational level.

Digital Competences in Language Education

Teachers' Perspectives, Employers' Expectations, and Policy Reflections

By DC4LT Consortium

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