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Assessment of Digital Competence of Employees and Teaching Staff at the Technical College of Management – Kufa

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The main purpose of this research is to assess the digital competence of employees and teaching staff of the Technical College Of Management – Kufa. The study was conducted on a random sample of employee and teaching staff in the Technical College Of Management-Kufa which included 40 individuals in different administrative levels to measure the level of availability of digital competence. The research used the questionnaire as a tool to collect data and the use of the SPSS program in data analysis. The research concluded that there is a fair level of digital competence that is reflected in the lack of creating a stimulating environment for employees to use digital competence, and this negatively affects work improvement and development. In addition to that some differences based on age group were also identified among respondents which indicated that the level of digital competence can be affected by age.

Key words: *Digital competence, ICT, competence measurement, employee, information technology.*

Introduction

In recent years, digital competence has become a key term in policy-related papers. It is used especially in general discussions on what kinds of skills and knowledge people should have in a knowledge society, what to teach young people and how to do so (Liisa, Sami, Minna, & Anna, 2016). In light of the rapid and increasing development of information and communication technology, educational institutions have begun to review their goals and practices. It has become a searching for the most appropriate and best methods by which they

can provide educational experiences for their students, rather than methods based on indoctrination. In this context, serious thinking began to devise systems for transferring, displaying, circulating and obtaining information based on information technology and multimedia. The education crisis that the Arab world suffers of, in the face of the phenomenon of information systems and revolutionary computers technology and what the Arab citizen aspires to in occupying an important position in the world in the twenty-first century is in a crisis. This crisis imposed on the education policy in the Arab countries is to develop in order to catch up with the revolution in information and computer technology, as it is in European countries, and then invest it in reforming educational systems and developing curricula so as to prepare the learner to the labour market with scientific and practical skills to keep pace with the age of technology.

This study's intension is to assess and measure the level of digital competence of employee and teaching staff at a technical college of management or at a university, with the importance of the study arising of being the first study of its kind to be applied in the Iraqi universities and the output of this study can be a great database to this university so set its developing plans for its staff and sub-staff.

Research Methods

Research Questions

This study will try to find out the answers to the following questions:

- What is the level of digital competence of the employee and teaching staff at the technical college of management Kufa?
- Is there any differences between employee and teaching staff in term of digital competence?
- Is there any significant difference among the study community in digital competence based on gender or age group?
- What is the potential of developments that the college can make to its workers to raise their level of digital competence?

Research Importance

Being recognised or competitive is no easy task; universities are straggling to raise their reputation and to create a shining image, as any organisation or entity for the human capital. It is one of the most important and prominent elements that are relied upon in order to gain high performance and achieve competitive advantage, and so universities that aspire to deliver a high-quality service to their audience and positioning themselves among first-class

owners they have to guarantee their employee and teaching staff competence and especially digital competence at it's the century's skill. In addition, the results of this work could be great inputs to the process of development of the researched college as it will give a clear glance into the current level of university workers' digital competence.

Research Objectives

In order to answer the study questions, the following objectives are considered:

- Identify the concept of digital competence and the influencing factors
- Measure the level of digital competence of employee and teaching staff
- Find out the differences among respondents based on gender, age group, and on the occupational base

Research Methods

To achieve the research objectives, quantitative and qualitative methods were applied, and a questionnaire was developed as a tool to collect data out of respondents. The sample of the research was taken from the study community (employee and teaching staff at the technical college of management) which consist of 38 individuals, and the questionnaire was designed and developed based on several resources such as wheel competence assessment tool and adapted to fit with our study requirement and objectives. In addition to the above, some pieces of literature were explored and presented in this paper which formed the theoretical framework for the study.

The research community is represented by the technical college of management, Kufa, a random sample of 40 individuals of employee and teaching staff was selected, two of the returned questionnaires were invalid for statistical analysis. The statistics were made with the assistance of the SPSS program and the following tests were made: one sample T-test, compare means test, arithmetic mean test and standard deviation test, the Pearson correlation coefficient, and the Alpha-Cronbach method for reliability.

Literature review

The Concept of Digital Competencies

Digital competence is a relatively novel term that is not yet well-defined. It appeared first in policy-related documents and papers (Ilomäki, Paavola, Lakkala, Kantosalo, & Technologies, 2016), there is still no clear concept of digital competencies, while some believe that digital competencies are the technical use of information and communications technology, others know it more broadly as applying knowledge or the skills of the twenty-first century

(Gallardo-Echenique et al., 2015). While Ilomäki Liisa sees it as an evolving concept related to the development of digital technology and the political aims and expectations of citizenship in a knowledge society. While (Carolyn) sees that digital competencies are the general term used to describe or explain the ability, of a student, a teacher, etc, to use information technology (IT) in a specific context. Usually, when it comes to define or explain this ability to use IT, different denominations are found in the literature such as digital competences, digital skills, or e-skills, and twenty-first-century skills or competence (Rizza, 2014). Digital competence, as defined in the EC Recommendation on Key Competences (EC, 2006) involves the confident and critical use of ICT for employment, learning, self-development, and participation in society. This broad definition of digital competence provides the necessary context (i.e. the knowledge, skills, and attitudes) for working, living and learning in the knowledge society (Ala-Mutka, Punie, & Redecker, 2008).

The Importance of Digital Competencies

Like all 21st century skills, digital competence is a highly-sought after skill in the ever-evolving workforce. An e-magazine called Training Industry, wrote an industry-perspective article on digital competence and highlights the need for competence in the workforce from the top of the organisation chart down (Newhouse, 2017). In recent years, digital competence has become a key concept in discussions on the kind of skills and understanding learners need in the knowledge society. However, it has been interpreted in various ways (e.g. Digital Literacy, Digital Competence, e Literacy, e-Skills, e Competence, Computer literacy, and Media literacy) in policy documents, in the academic literature, and in teaching, learning and certification practices. All these terms highlight the need to handle technology in the digital age (Gallardo-Echenique et al., 2015). Given the enormous and growing importance of technology in our everyday lives, digital competencies have become the key question for real digital citizenship. These new competencies have become necessary life-long learning competencies not only for students from all levels but for all citizens (Pérez-Escoda & Fernández-Villavicencio, 2016).

Dimensions and Influencing Factors on Digital Competencies

Ove Edvard and Knut-Andreas in 2012 tried to identify factors explaining digital inclusion and they concluded that Cultural capital has a positive influence on students' digital competence and Students' academic aspirations are negatively related to digital competence, Students' mastery orientation towards school has also an influence on digital competence. The same study revealed that for digital inclusion in upper secondary school there seems to be quite a wide variation in the students' performance in digital competence, and in addition to that, there are no gender differences in digital competence (Ove Edvard Hatlevik & Knut-Andreas Christophersen, 2013) and this result was the same in the study by Laszlo, Beata,

Marton, & Gergo (2018). Regarding generational differences in digital competence, this study aimed to investigate what differences can be detected among the different groups of the study. It included 456 respondents in Miskolc city in Hungary. Another study was made by Khan Fawad with the study showing that among different generations, the individuals of the so-called Net generation, also labelled as Digital natives, have obtained the highest level of digital competence and they were able to solve complex digital issues (Fawad, 2019). This could indicate that age could be one of the influencing factors that have affect in the level of peoples' digital competence and that could be because they have grown up in a digital age, therefore, each new generation will be more up to date with existing technology assuming their ability to access and use these capabilities.

According to Ferrari, digital competence can be described in a broader sense as the confident, critical and creative use of ICT (information and communication technologies) in work, employment, learning, recreation, social inclusion and/or in the field of participation. Digital competence is a transversal key competence that, as such, enables us to acquire other key competencies (e.g. language, mathematics, learning, cultural awareness). He also sees that digital competence falls into five main areas as follows (Ferrari, 2013):

Information: Identifying, positioning, recovering, storing, organising, and analysing digital information, assessing its relevance and purpose.

Communication: Communicating in a digital environment, using online tools, sharing resources using digital devices, establishing links and collaborating with others, participating in communities and networks, cross-border cultural awareness.

Content Creation: Creating and editing new content (from text to image through to video), incorporating and revising previous knowledge and content, using creative expression.

Security: Personal protection, data protection, digital identity protection, security measures, safe and sustainable use.

Problem-solving: Identifying digital needs and source materials, making informed decisions about tools that meet your needs and goals, solving conceptual problems digitally, creativity in using technologies and problem solving, updating yours and others' competencies.

Statistical Analysis and Findings

The statistical analysis of the research data includes three major sections:

Validity and Reliability of the Questionnaire

The researchers calculated the validity of the questionnaire by constructive honesty through the index of internal consistency and by using the Pearson correlation coefficient degree of dimension (n = 38).

Table 1: The degree of correlation of each paragraph of the dimensions
Source: Authors based on SPSS outputs

Dimensions	Paragraph	Correlation coefficient	**Dimensions**	Paragraph	Correlation coefficient
Information	1	0.555**	**Content Creation**	17	0.938**
	2	0.944**		18	0.928**
	3	0.932**		19	0.943**
	4	0.933**		20	0.927**
	5	0.905**		21	0.957
Communication	6	0.749**	**Problem solving**	22	0.947**
	7	0.656**		23	0.937**
	8	0.845**		24	0.927**
	9	0.757**		25	0.936**
	10	0.850**		26	0.912**
	11	0.753**		27	0.944**
Security	12	0.923**		28	0.904**
	13	0.941**		29	0.934**
	14	0.912**			
	15	0.930**			
	16	0.932**			

It is clear from the results of table (1) that all the values of the paragraphs were positive and statistically significant at the level ($p \leq 0.01$), which confirms that there is a good and important relationship between all the paragraphs with their dimensions and the paragraphs have high structural sincerity. The researchers calculated the reliability of the questionnaire using the Alpha Cronbach method, where the coefficient of reliability was calculated for each dimension of the questionnaire and then calculated the coefficient of reliability of the questionnaire as a whole as shown in the following table (2).

Table 2: Alpha Cronbach test results

Dimensions	Number of paragraphs	Alpha-Cronbach stability coefficient
Information	5	0.906
Communication	6	0.859
Security	5	0.958
Content Creation	5	0.955
Problem-solving	8	0.976
The whole measurement	29	0.986

Source: Authors based on SPSS outputs

It is clear from the results of the above table that the alpha-Cronbach values for the dimensions of the questionnaire ranged between (0.859 and 0.976), while the stability values of the measurement was (0.986), which is considered as a high and accepted value.

Presenting of Respondent's Digital Competence

The above table shows the descriptive statistics, the mean, standard deviation, and the coefficient of variation of each paragraph of the digital competence assessment as follows:

Information: which represents one of the dimensions of assessing digital competencies, it's obvious from the results in the table that the respondents have relatively basic knowledge of dealing with information as in paragraph (1) which is related to searching techniques using a search engine showed that it's obtained the first order, while paragraph (4) got the last order among the information paragraphs, which indicates the need for development of the capabilities of employees and teaching staff with regard to the place and how to carefully store and sort digital content (consideration of security, accessibility, and legitimacy when storing content), in general, it appears that there is inferiority of the interest in data processing and storage, as the arithmetic mean of the dimension of information is (2.83) and has a standard deviation (1.036) and a coefficient of variation of (0.366).

Communications: It represents one of the measurement variables of assessing digital competence, where it is observed that the degree of availability of communications in the society in question is different, as paragraphs (6.7) got the first and second ranks while paragraphs (8,11) got the fifth and sixth ranks among Communications paragraphs, which indicates the need to create a stimulating environment for employees to present initiatives to improve work and develop it in a manner that enables them to use the advanced features of communication tools (such as video conferences, data sharing, and application sharing). As well as this, the research college needing to encourage employees to engage effectively in communication through different types of media and show them its potential and shortcomings (for example, the different strengths and weaknesses in communications technology such as phone, email, chatting, video conferencing and SMS). In general, it appears that there is a lack of using advanced communication means and below-average degree of interest in those means of communications with staff at the college that the study investigated.

Security: This represents one of the measurement tool dimensions of assessing digital competence, the results of our study's society shows that the two paragraphs (12.13) got the first and second ranks while the two paragraphs (14,15) got the fourth and fifth, which indicates that the researched college needs to create an atmosphere in which employees can understand the methods of encrypting or protecting data with a password or in a safe way to access and when sending or storing data (for example, using two-step verification or password protection in documents). In general, it appears that there only is a degree less than average in Concern for security among the employees in the community in question, as in general the arithmetic mean of the whole dimension of security is (2.479) and standard deviation (1.144) and a coefficient of difference of (0.461) occurred.

Content Creation: In this aspect we noticed that two paragraphs (17,18) got the first and second ranks while the two paragraphs (19,20) got the fourth and fifth-order among the paragraphs of content creation. This clearly shows that there is an urgent need to work on training employees to create and manage content using collaboration tools (such as project management systems and online spreadsheets) as well as training employees to improve their knowledge of copyrights, licenses and other regulations when downloading or digital publishing. In general, it appears there is a degree below the average interest in content creation among employees in the community in question.

Solving problems: It is the last element in the measurement tool, the collected response shows that the two paragraphs (22,29) got the first and second-order, while the two paragraphs (23,28) got the seventh and eighth order among the paragraphs of problem-solving. The analysis results indicate the need to enhance the ability of employees to be patient when trying to solve a problem (i.e. you do not feel very frustrated or you can

surrender when a technical problem arises) and also to urge employees to do their digital skills update to reduce Barriers and increasing their digital skills, in general, it appears that there is below the average interest dimension to solve problems with the staff at the surveyed college.

Table 3: Displays the arithmetic mean, standard deviation and coefficient of variation (n = 38)

Dimensions	Paragraph	Answers of the respondents					Arithmetic mean	Standard deviation	Coefficient of variation	Relative importance
		Totally agree	Agree	Neutral	Don't agree	Totally				
Information	1	4	2	5	22	5	3.58	1.130	0.316	1
	2	0	23	4	7	4	2.79	1.094	0.392	2
	3	3	24	0	8	3	2.58	1.154	0.447	3
	4	10	14	3	3	8	2.61	1.498	0.574	4
	5	4	21	3	7	3	2.58	1.154	0.447	3
The arithmetic mean, standard deviation and the coefficient of variation of the dimension							2.83	1.036	0.366	
Communication	6	1	5	2	25	5	3.74	0.950	0.254	2
	7	1	5	4	25	3	3.63	0.913	0.252	1
	8	9	16	2	10	1	2.42	1.200	0.496	5
	9	1	5	5	23	4	3.63	0.942	0.26	3
	10	7	18	2	11	0	2.45	1.108	0.452	4
	11	10	14	6	3	5	2.45	1.329	0.542	6
The arithmetic mean, standard deviation and the coefficient of variation of the dimension							3.05	0.830	0.272	
Security	12	5	21	1	8	3	2.55	1.201	0.471	2
	13	5	22	0	9	2	2.50	1.157	0.463	1
	14	9	16	4	3	6	2.50	1.371	0.548	5
	15	9	17	2	8	2	2.39	1.220	0.51	4
	16	8	18	1	9	2	2.45	1.224	0.5	3
The arithmetic mean, standard deviation and the coefficient of variation of the dimension							2.479	1.144	0.461	

Content Creation	17	7	20	0	9	2	2.45	1.201	0.49	1
	18	10	16	2	9	1	2.34	1.192	0.509	2
	19	7	20	0	7	4	2.50	1.289	0.516	3
	20	16	10	1	8	3	2.26	1.408	0.623	4
	21	7	19	1	7	4	2.53	1.289	0.509	2
The arithmetic mean, standard deviation and the coefficient of variation of the dimension							2.416	1.197	0.495	
Problem-solving	22	4	23	0	10	1	2.50	1.084	0.434	2
	23	13	13	1	7	4	2.37	1.403	0.592	8
	24	5	21	1	8	3	2.55	1.201	0.471	3
	25	8	17	2	9	2	2.47	1.224	0.496	4
	26	10	16	2	9	1	2.34	1.192	0.509	6
	27	7	20	0	8	3	2.47	1.246	0.504	5
	28	9	16	3	7	3	2.45	1.267	0.517	7
	29	3	23	2	9	1	2.53	1.033	0.408	1
The arithmetic mean, standard deviation and the coefficient of variation of the dimension							2.461	1.122	0.456	

Source: Authors based on SPSS outputs

Assessment and Differences in Digital Competence

According to outcomes presented above and the result of One-sample Test we can say that the employee and teaching staff of the technical college of management in Kufa have a reasonable digital competence level not forgetting that there are poor aspects that need improvement and development

Table 4: One-Sample Test

Test Value = 87					
				95% Confidence Interval of the Difference	
t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
-2.160-	37	.037	-10.39474-	-20.1452-	-.6443-

Source: Authors based on SPSS outputs

By taking the T-test on the research sample, it was found that the individuals in the sample generally have a degree of digital competence as the calculated T value was 4.07 which is

higher than the value of the tabular T 2.02. In order to identify the differences between the sample members in the degree of their digital competence based on the gender, the statistical analysis shows that there are no statistically significant differences in digital competence between males and females and these results are similar to the findings of most of the previous researchers, as previously indicated, see table 5, while there is a clear difference among the study community in term of digital competence based on their age group, see table 6 and 7.

Table 5: Independent Samples Test based on gender

	Levene's Test for Equality of Variances		T-test for Equality of Means			T-test for Equality of Means	
	F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	1.790	.189	-.750-	36	.458	-7.52381-	10.03559
Equal variances not assumed			-.723-	24.413	.477	-7.52381-	10.40787

Source: Authors based on SPSS outputs

The above table (5) did not show any statistically significant differences between males and females at a level 95% Confidence and the P-value was 1.790. The compare means analysis shows that there is a statistically significant difference in digital competence based on the age group among respondents, see tables 6, this result is interesting as it has never happened before in similar studies, more research is required to confirm and generalise these findings.

Table 6: The mean of each age group and ANOVA analysis

	Sum of Squares	df	Mean Square	F	Sig	Age group	Mean	N	Std. Deviation
Between Groups (Combined)	18459.703	3	6153.234	14.838	.000	18-29	58.09	11	5.682
Within Groups	14099.376	34	414.688			30-39	71.10	20	26.885
Total	32559.079	37				40-49	120.00	4	2.943
						50-59	123.33	3	2.886
						Total	76.60	38	29.664

Source: Authors based on SPSS outputs

Besides other differences analysis, for the occasional based analysis between employee and teaching staff that has been done on the questionnaire, the test results shows that there are statistically significant differences, as teaching staff having higher digital competence than the other employees, see table 7.

Table 7: Independent T test

	Levene's Test for Equality of Variances		T-test for Equality of Means			T-test for Equality of Means	
	F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	2.467	.125	15.394-	36	**.000**	-58.67308-	3.81153
Equal variances not assumed			-11.140	12.025	**.000**	-58.67308-	5.26672

Source: Authors based on SPSS outputs

Table 8: Group Statistics based on occupation

Occupation	N	Mean	Std. Deviation	Std. Error Mean
Employee	26	58.0769	5.63506	1.10513
Teaching staff	12	116.7500	17.83829	5.14947

Source: Authors based on SPSS outputs

Conclusion

Digital competence is one of this century's important skills that every person must acquire. The concept depends on a group of basic pillars such as information, communication, security, content creation, and problem-solving. Our analysis of the applied questionnaire in the researched college shows that the employees and the teaching staff have basic digital competence and there is a still gap to be covered by some development programs especially in security, communication, the advanced features of cloud storing, and solving problems techniques. The statistical results indicated that there is no difference based on gender, this result comes in line with several studies that have been done in the same field as the study of Ove Edvard Hatlevik & Knut-Andreas Christophersen, (2013). However, there is a statistically significant difference among respondent in digital competence based on age group which is considered as a new conclusion compared to the findings in similar studies. Concerning the occupational classification, teaching staff have a higher level of digital

competence than the other employees, this necessitates that the university undertake awareness-raising and training for the employees as the low level of their digital competence could have a negative impact on the whole organisation and its reputation.

REFERENCES

Ala-Mutka, K., Punie, Y., & Redecker, C. (2008). *Digital Competence for Lifelong Learning. Policy Brief*.

Fawad, K. (2019). *Digital competence assessment across generations: Study of a Finnish sample.* (Master), University of Oulu

Ferrari, A. (2013). *DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe.* Retrieved from Luxembourg:

Gallardo-Echenique, E. E., de Oliveira, J. M., Marqués-Molias, L., Esteve-Mon, F., Wang, Y., Baker, R. J. M. J. o. O. L., & Teaching. (2015). Digital competence in the knowledge society. *11*(1).

Ilomäki, L., Paavola, S., Lakkala, M., Kantosalo, A. J. E., & Technologies, I. (2016). Digital competence–an emergent boundary concept for policy and educational research. *21*(3), 655-679.

Laszlo, M., Beata, B. K., Marton, F., & Gergo, H. (2018). Generational differences in digital competence.

Liisa, I., Sami, P., Minna, L., & Anna, K. (2016). Digital competence–an emergent boundary concept for policy and educational research. *21*(3), 655-679.

Newhouse, B. (2017). The biggest challenge for digital transformation isn't the technology - it's the people. Retrieved from https://trainingindustry.com/magazine/issue/closing-the-digital-competence-gap/

Ove Edvard Hatlevik , & Knut-Andreas Christophersen. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. *Computers & Education*, 240-247.

Pérez-Escoda, A., & Fernández-Villavicencio, N. G. (2016). *Digital competence in use: from DigComp 1 to DigComp 2.* Paper presented at the Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality.

Rizza, C. (2014). Digital Competences. *Encyclopedia of Quality of Life and Well-Being Research*, 1614-1619. doi:10.1007/978-94-007-0753-5_731 https://digitalcompetence.eu/result/resources/?uri=8259feceae5c1cd0e7325ae1645871d3

Appendix 1

Cata.	Num	Questions
information	1	I can find information through search engine .
	2	I can make good use of search filters to limit the number of search results.
	3	I understand the many advantages and limitations of different storage options including knowledge of the pros and cons of storing data in the cloud, on a hard drive or portable devices.
	4	I carefully consider where and how digital content is saved and stored including consideration of the security, accessibility, and legality when content is stored.
	5	I can make backups and restore data on most relevant digital devices and have a habit of doing so. Ican for example duplicate important data such as pictures, address book and documents on the phone, computer or tablet to a safe place.

Cata.	Num	Questions
communication	1	I can communicate effectively and accurately through written language. For example, writing an email quickly and conveying the meaning clearly and without misunderstandings.
	2	I actively use a wide range of communication tools (e.g. email, chat, instant messaging, social networks) to communicate online.
	3	I can use advanced features of communication tools (such as video conferencing, data sharing, application sharing).
	4	I transfer or share my knowledge with others online (e.g. through social networks or online communities).
	5	I proactively look for online self-service solutions, Always look for an online self-service solution (e.g. for appointments or purchasing tickets) before I call or ask in person.
	6	I have a thorough understanding of the effects of communicating through different types of media. For example, understanding the various strengths and weaknesses of communication technology such as telephone, email, chat, videoconferencing, SMS.

Cata.	Num	Questions
security	1	I know different methods for identifying phishing and malware (malicious programs). Methods for recognising attempts to lure sensitive data from the user, such as username, password or credit card details.
	2	I can encrypt, password-protect or otherwise secure access to data when it is sent or stored. For example, using 2-Step verification or password protection on documents, and ensuring that the connection is encrypted when these are sent.
	3	I pay close attention to physical symptoms that may be related to technology including, for example, headache, blurred vision or wrist pain that may be signs of overuse.
	4	I have good strategies for creting and remembering (or saving) passwords.
	5	I can take basic steps to protect my devices (like using antivirus software and passwords).

Cata.	Num	Questions
content creation	1	It excites me to create or edit digital content. I find joy in creating a product that is exclusively digital, for example, a picture, a piece of music, or a video.
	2	I have the ability to efficiently use advanced shortcut keys for applications (for example knowing the most common shortcuts like undo, search, screen shot, bold text, scroll, or zoom).
	3	I am skilled at using applications to create multimedia (the ability, for example, to edit pictures, videos, text or audio in programs such as Photoshop, Final Cut or Word).
	4	I can create and manage content using collaboration tools (such as project management systems, online spreadsheets).
	5	I am aware of copyright, licensing and other regulations when downloading or publishing digital material.

Cata.	Num	Questions
problem solving	1	I find support if I encounter a technical problem or start using a new program.
	2	I have a good deal of patience when trying to solve a problem. I do not get very frustrated or give up when a technical problem arises.
	3	I can install and update all relevant applications. This includes, for example, updating antivirus, Java or the operating system, or installing a brand new browser.
	4	I often update my digital skills to reduce my barriers and increase my digital skills.
	5	I can easily edit advanced settings on digital devices, online services and applications. I know how to, for example, change privacy settings, adjust browser font size, change a WIFI password or the colour tone of a screen.
	6	I know how to, step-by-step, locate a problem and search for a solution. I am not afraid of trying things out without knowing beforehand what exactly is going to happen, e.g. when a printer will not print.
	7	I can easily learn new technologies and applications (for example, it is easy for me to learn how to use new digital devices, online services or software).
	8	I am very curious and love to try out new digital devices and applications (for example, curiosity about new smartphones on the market and interest in talking about new gadgets or technological breakthroughs).