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Digital Competence of Medical College Teachers According to Digcompedu Framework

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ABSTRACT

Over the last decade, learning and working in medicine have been increasingly influenced by digital tools and the "digital transformation" is now a popular topic. Today's medical students are growing up in a digital age in which digital tools and devices are a regular part of their professional life. Digital transformation in healthcare is not just about technology but strategy and new ways of thinking. Developing digital competence is essential to health professional education to increase confidence in accessing the best evidence for clinical practice. Healthcare lecturers play a crucial role in promoting the acquisition of digital competencies and therefore need to be digitally competent themselves. This study aims to identify teachers' digital competence at one medical college using the framework for the Digital Competence of Educators (DigCompEdu). A total of 47 medical college teacher participated. The results confirmed that the self-assessment instrument developed is reliable, valid, and thus suitable for measuring teachers' digital competence. Generally, values are centred across the four major competence categories, and most participants obtain a score at the intermediate (B1) level. Investing in teacher training aimed at practical work with students is necessary, as the area showing the most significant weaknesses is Area 5: Empowering Learners. In particular, teachers also need to help their students use technologies in their education.

Keywords: digital competence, healthcare education, information technology, teacher, DigCompEdu

Introduction

Digitalisation and new technologies have caused significant changes in the way people access information and communicate with each other. Information is distributed in the form of digital technology and nowadays, access to information is possible anywhere and anytime (Saykili et al., 2019). Digital technologies are

also increasingly entering the field of education. Technology is used to deliver education, knowledge and skills in new and innovative ways. This, in turn, requires adaptation for educational institutions, teachers and students (Kamsker et al., 2020).

Evaluating the digital competences of teachers is essential, because often it is the level of competence of teachers that can play a decisive role in promoting the acquisition of digital competence in their students. The results of several studies show that the higher the level of digital competence of the teacher, the better the indicators of digital literacy of the student (Maini et al., 2021; Sillat et al., 2021). The most critical pedagogical factors that create obstacles in the development of students' digital skills and competencies are insufficient knowledge of teachers and lack of skills in cooperation with students, weak collaboration with colleagues, inability to support learning activities based on digital technology, as well as insufficient digital communication skills.

Digitisation of healthcare and the importance of digital competence

The comprehensive use of digital technologies requires the ability to engage critically and competently in the digital environment and requires certain skills to access, select and interpret information, to communicate effectively and to create content in a way that respects others and uses technology responsibly (European Commission, 2021). According to the definition of the European Commission, digital competence is defined as "the confident, critical and responsible use of digital technologies to learn, work and engage in society. This includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), security (including digital well-being and cyber security competencies), intellectual property issues, problem solving and critical thinking" (European Council, 2018).

Digital competence can be understood as the ability to effectively use technology to improve functioning in all areas of daily life. However, digital competence is not just a skill to be developed separately, but a set of skills, abilities and attitudes to be used in different fields and forms of knowledge (Ferrari et al., 2014).

The development of digitisation has also significantly affected the healthcare system, facilitating the exchange of information between medical institutions and patients. A secure and fast means of transmitting information collected by different individuals is an important prerequisite for coordinating patient treatment and overall care. Representatives of health care professions need to learn new competencies and new areas of activity, which include several levels, including a different model of relationship with the patient, which is more based on mutual trust, gradual learning of digital tools as a result of training, changes in the technical representation of the provision of care services, as well

as collaborative and sharing approach through interoperable systems (European Economic and Social Committee, 2017).

In order for the benefits of digitisation to be fully utilised and included, increased attention should be paid to the digital competence of students, teachers and healthcare professionals involved in the healthcare sector.

Education and training of healthcare professionals are key drivers of digital health adoption. Improving the digital skills of health care students in the process of health studies is particularly important to ensure the acquisition of basic knowledge in working with health information in a digital environment, to improve students' understanding of user-oriented digital services, including the design and operation of e-health services, the ability to select and interpret critical data. Healthcare education needs to adapt to different healthcare contexts, including digitised healthcare systems and the digital generation of students in a hyper-connected world (Han et al., 2019).

For example, Sánchez-Caballé, a researcher at the University of Spain, and colleagues studied how digital competence is developed in higher education as part of a systematic review. As a result, it was emphasized that it is essential to promote the competence of academic staff by adapting it to the pace of technological development (Sánchez-Caballé1 et al., 2020).

Digital competence is also crucial for teachers. Tomczyk and colleagues (2021) found that the implementation of technology by teachers depended on how highly they valued their own digital competencies, as well as their attitudes to the implementation of such technologies (Tomczyk, et al., 2021).

Considering all of the above, this research will explore teachers' digital competence level in one of the medical colleges in Latvia.

DigCompEdu self-reflection survey tool

In order to ensure the improvement of digital competences, the digital skills of teachers who pass on knowledge to their students are essential. The digital competence of teachers can be defined as a set of knowledge, abilities and skills about information and communication technologies (ICT) related to the teaching profession and which can help to solve professional and/or pedagogical problems in the knowledge society (Cabero-Almenara et al., 2021; European Union Council, 2018; Ghomi & Redecker, 2019).

Different frameworks are used to assess digital competence and according to the World Bank's 2020 report Digital Skills: Frameworks and Programs , one of the most comprehensive and widely used universal digital competence frameworks is the framework developed by the European Union European Digital Competence Framework for Citizens – DigComp. On the other hand, regarding the assessment of employees and lecturers in the education sector, the research conducted by the researcher Cabero-Almenara (2021) together with her colleagues has compiled

several of the most important frameworks for the assessment of the digital competence of teachers – European Union Framework of Digital Competence of Educators – DigCompEdu; The Framework of the "International Society for Technology in Education" (ISTE) for teachers; the UNESCO framework of ICT Competency Framework for Teachers u.c. (Cabero-Almenara et al., 2021).

DigCompEdu was published in late 2017 by the Joint Research Centre of the European Union (Redecker & Punie, 2017). Its main objective is to align the European educational policies with such reference framework. Moreover, it is a synthesis of scientific studies at the local, national, European and international level (Ghomi & Redecker, 2018; Redecker & Punie, 2017). DigCompEdu is a digital competence model with 6 differentiated competence areas.

Each area has a series of competencies that "teachers must have in order to promote effective, inclusive and innovative learning strategies, using digital tools" (Redecker & Punie, 2017, p. 4).

1. Professional commitment: Capacity to use digital technologies to improve the teaching process and interact professionally with colleagues, students, parents and different agents of the educational community. Furthermore, this communication through technology allows for individual professional development and collective and contin uous innovation in the educational organisation.
2. Digital resources: Identifying quality educational resources. Teachers must also beable to modify, create and share these resources to adjust them to their objectives,students and teaching styles. Likewise, they must know how to use and administer the digital content responsibly, respecting the author rights and protecting personal data.
3. Digital pedagogy: Knowing how to design, plan and implement the use of digital technologies in all the phases of the teaching process, promoting student-centred approaches and methodologies.
4. Evaluation and feedback: Digital technologies can improve the existing evaluation strategies and pave the way for new and better evaluation methods. Moreover, after analysing the large amount of available data (digital) about the individual interactions of students, teachers can provide more specific comments and support.
5. Empowering the students: One of the key strengths of digital technologies in education is their potential to boost the collaboration of students in the teaching-learning process and their autonomy in it. Moreover, digital technologies can be used to provide learning activities adapted to the competence level, interests and learning needs of each student.
6. Facilitating the competence: The capacity to facilitate the digital competence to the students is an integral part of teacher competence in ICT and the main theme of this competence area.

Each individual competence of the DigCompEdu framework is discribed along six proficiency levels (A1, A2, B1, B2, C1, C2) with a cumulative progression. The scoring rule for the instrument allocates 0 point to the lowest answer option, 1 to the second lowest, and so on, so that the maximum number of points per question is 4. The maximum total number of points is 88.

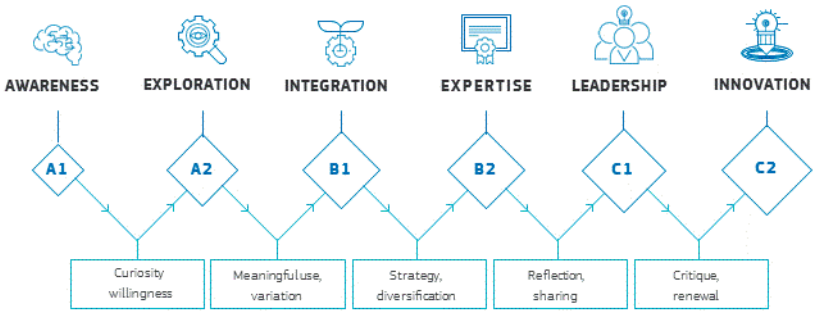

Figure1. DigCompEdu progression model- Source: Redecker & Punie (2017)

Methodology

The digital competence of the higher education college teachers was measured with the DigCompEdu Check-In instrument based on the DigCompEdu framework and its proficiency levels. The focus of the framework is not on technical skills. Instead, it explains how lecturers can use digital technologies to enhance and innovate their practices. The content of DigCompEdu migrated to the online survey platform VisiDati.lv. The research instrument consisted of 22 statements supplemented with demographic questions (gender, age, education level), and the question of the duration of the use of digital technologies in pedagogical work was included. The research instrument development was guided by two principles:

1) to condense and simplify the critical ideas of the DigComEdu framework and
2) to offer targeted feedback to teachers according to their level of competence for each of the 22 indicators.

The self-assessment instrument was approved by the medical college's Ethics Commission, and participation was voluntary, with prior informed consent given of the purpose and its confidentiality. Since this research it was planned to collect participants' personal data (email addresses), privacy policy principles were described in the introduction to the questionnaire. It was explained that the data would be anonymised and stored separately from publicly available research

results within the means available. The participants were also informed that they could withdraw from the research at any time.

In the first stage of the study, 89 teachers were sent an email with an invitation to participate in the survey to determine self-assessment of digital competence in accordance with the DigCompEdu framework. As a result, 47 participants agreed to take part in the research.

After completing the survey, in the second stage of the study, the participants were sent a scale of digital competence from A1–C2 (Appendix 1), where the characteristics of each level were reflected, and the participants were asked to evaluate their current digital competencies based on the characteristics. Forty participants took part in the second stage of the survey. After receiving the consent of the respondent, the respondents were given feedback by sending a total evaluation of the points and an explanation to the email indicated by the participant.

The novelty of this study is based on the second survey, where teachers, after independently familiarising themselves with the levels of digital competence from (A1–C2), had to indicate which level of digital competence corresponds exactly to them (it should be noted that at this stage when filling out the second questionnaire, the research participants were not informed about the results of the first questionnaire). In this way, teachers could check whether their assessments of digital competence match or whether teachers overestimate themselves or, on the contrary, are not sure of their digital competencies.

Sample

The participants were medical college teachers who work in higher education in the study direction "Healthcare" (*European Qualifications Framework level 5*). There are a total of five medical colleges in Latvia, three are located in Riga, one in Jurmala and another in Daugavpils. This study took place in one of Riga's medical colleges.

Information about participation in the study was sent to all college teachers (89) by e-mail, emphasizing that participation is voluntary. A total of 47 medical college lecturers (38 females and 9 males) participated and mean age of the sample was 44,30 years ($SD = 11.51$). Responses were collected between December 2021 and January 2022.

Self-assessment instrument

As part of the study, respondents had to provide answers to 22 statements according to the DigCompEdu Check-In instrument methodology. Five answer options were offered for each of the statements, and the research participant had to choose the option that best corresponds to their practice. The scoring rule for the instrument allocates 0 points to the lowest answer option, 1 to the

second lowest, and so on, so that the maximum number of points per question is 4. The maximum total number of points is 88. The scoring scale is attached in Appendix A.

Sample question:

I create my own digital resources and modify existing ones to adapt them to my needs.

- I do not create my own digital resources
- I do create worksheets/lecture notes or reading lists with a computer, but then I print them
- I create digital presentations, but not much more
- I create different types of resources
- I set up and adapt complex, interactive resources

For each study participant, the overall score was calculated individually according to the methodology developed by the European Commission Joint Research Centre (Appendix A).

The study calculated Cronbach's alpha coefficient. The entire instrument with 22 items has an excellent internal consistency with a value of .920 for Cronbach`s alpha. (Appendix B).

Results

This paper is based on a case study of 47 medical college lecturers of one medical college. There were more female participants (81%) than male participants (19%). During the research, the demographic characteristics of the research respondents and also the experience of the respondents in working with digital technologies were clarified. The obtained results related to the experience in using digital technologies are reflected in Figure 1. In the framework of this study, digital technologies included digital devices, applications and platforms used in pedagogical work with students.

The use of digital technology at work is not necessarily clearly linked to higher digital competence level, which can be seen from the results in Table 1. As part of the study, information was gathered about the use of digital technologies by teachers in the study process. As can be seen in Table 1, most of the teachers have at least 10–14 years of teaching experience using digital technologies.

At the same time, it can be seen that more experience in working with digital technologies does not mean that teachers have a more confident assessment of their digital competences. Among those with 10 to 14 years of teaching experience most had low (A2/B1) levels of competence.

In the next stage of the study, the respondents provided answers to 22 statements collected in 6 areas according to the methodology of the DigCompEdu Check-In instrument. The obtained results are shown in Table 2.

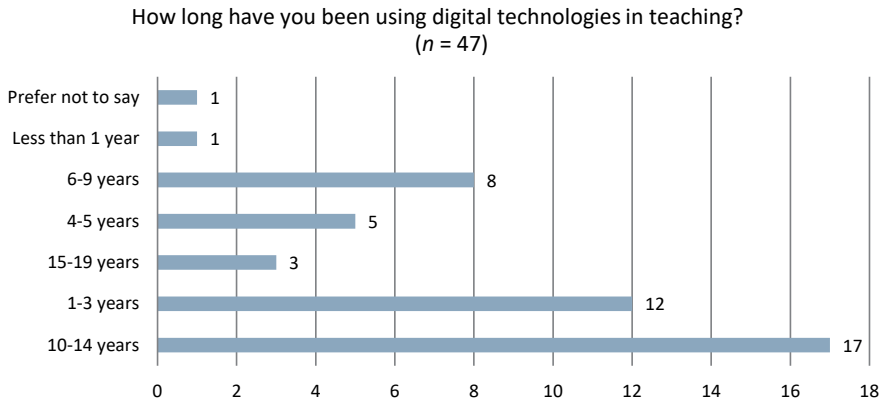

Figure 1. Duration of use of digital technologies in pedagogical work

Table 1. The use of digital technologies at work in relation to the level of digital competence

How long have you been using digital technologies in your teaching?	A1	A2	B1	B2	C1	Total
Less than 1 year	1	0	0	0	0	1
1–3 years	0	3	5	3	1	12
4–5 years	0	1	1	3	0	5
6–9 years	0	0	6	1	1	8
10–14 years	1	2	6	8	0	17
15–19 years	0	0	1	0	2	3
Do not wish to specify	0	0	1	0	0	1
Total	2	6	20	15	4	47

Table 2. Assessment by the Medical College Teachers (%)

Level	Area 1: Professional Engagement	Area 2: Digital Resources	Area 3: Teaching and Learning	Area 4: Assessment	Area 5: Empowering Learners	Area 6: Facilitating Learners' Digital Competence	Total
A1	4.26	6.38	19.15	10.64	21.28	17.02	4.26
A2	21.28	23.40	19.15	**42.55**	29.79	21.28	14.89
B1	**51.06**	19.15	**38.30**	19.15	19.15	**51.06**	**40.43**
B2	21.28	**36.17**	19.15	14.89	19.15	8.51	34.04
C1	2.13	14.89	2.13	6.38	10.64	2.13	6.38
C2	0.00	0.00	2.13	6.38	0.00	0.00	0.00

Few participants scored at the lowest or highest level of competence. However, all four core competences levels, Explorer (A2) to Leader(C1), were well represented in the group. In accordance with the design of the scoring rule and its intentions, most respondents were classified to be either Integrators (B1) (40.43%) or Experts (B2) (34.04%).

According to DigCompEdu framework Level B1 – Integrator – characterizes teachers as professionals who use digital technologies in different contexts and are willing to do more. However, they still need to know which technologies work better in each strategy and teaching method.

Whereas Level B2 – Expert – characterises teachers use a range of digital technologies confidently, creatively and critically to enhance your professional activities. They select digital technologies for particular situations, and try to understand the benefits and drawbacks of different digital strategies. Experts are the backbone of any educational organisation when it comes to innovating practice.

After filling out the first questionnaire, the respondents were sent another additional questionnaire, which contained only one question "How do you currently assess your digital competence as a teacher?" and an added description with digital competence levels from A1–C2. In the second questionnaire, feedback was received from 40 respondents, therefore Table 3 reflects only the self-assessment provided by respondents who participated in both the first and second stages of the study.

As can be seen in Table 3, teachers self-assess their current digital competence based only on the descriptions of digital competence levels weaker compared to the results obtained in the first survey.

Table 3. Self-assessment of digital competence after the first and second surveys

Digital Competence Level	Survey 1 (n = 40)	Survey 2 (n = 40)
A1	2	1
A2	6	18
B1	16	13
B2	13	6
C1	3	1
C2	0	1

As part of the study, it was found that 23 teachers rated their level of digital competence lower than it was reported when filling out the survey tool. On the other hand, 8 teachers overestimated their level of digital competence, indicating it was higher than it was when filling out the survey tool. Only 9 teachers had the same level of digital competence both when filling out the first questionnaire and the second.

Table 4. Pearson Correlation Coefficient Result (22 competencies)

Area	No.	Statements (1–22)	Pearson Correlation Coefficient between results of digital competence level statements (1–22)
Professional engagement (1)	C1	Organizational communication	0.59
	C2	Professional collaboration	0.35
	C3	Reflective practice	0.53
	C4	Digital CPD	0.24
Digital Resource (2)	C5	Selecting	0.59
	C6	Creating&modifying	0.52
	C7	Managing, protectiong, sharing	0.44
Teaching and learning (3)	C8	Teaching	0.69
	C9	Guidance	0.64
	C10	Collaborative learning	0.65
	C11	Self-regulated learning	0.70
Assessment (4)	C12	Assesment strategies	0.65
	C13	Analysing evidence	0.77
	C14	Feedback & planning	0.79
Empowering learners (5)	C15	Accessibility &inclusion	0.58
	C16	Differentation & personalisation	0.70
	C17	Actively engaging learners	0.68
Facilitating learners' digital competence (6)	C18	Infiormation & media literacy	0.60
	C19	Communication	0.41
	C20	Content creation	0.49
	C21	Responsible use	0.55
	C22	Problem solving	0.63

Correlation is significant at the 0.01 level (2-tailed).**

As part of the study, a correlation analysis was also carried out in order to find out whether there is a relationship between statements characterising digital competence and the level of digital competence, or the total score obtained. The research used Pearson correlation coefficients between the z-scores for the statements 1–22, and the z-scores for the digital competence level of teachers. Overall, a positive relationship was found in statements C8–C14, which are related to the 3rd field Teaching and learning C16–C18, which is related to the 4th field Assessment and C22, which is related to the 6th field Facilitating learners` digital competence. The results demonstrate that the more developed is any of the digital competence area, the higher is the digital competence level. For example, teachers having better results in "Teaaching and learnig" have higher digital

competence, and it could be interpreted that they more often introduce digital tools and resources into the study process in order to improve learning intervention effectiveness; and they also experiment and develop new study formats and pedagogical methods.

Discussion

In the digital age, higher education institutions face serious challenges for students and digital tools are transforming the way today's students think and behave (Saykili, 2019). Developing digital competence is an essential component of health professional education to increase confidence in accessing the best evidence for clinical practice (Topol et al., 2015) To better understand the digital competences that teachers should develop, including the promotion of meaningful integration of digital technologies in the study process, it is necessary to find out how the teachers themselves assessed their digital competences. Most of the teachers who participated in this study indicated that their digital competences correspond to the B1 level (40.43%) and B2 level (34.04%) and it is considered as an average level. Similar results were also found, for example, in Cabero-Almenara et al., (2020) a study conducted in Spain using the DigCompEdu framework. Within the framework of the study, professors of higher education institutions were evaluated and the results indicated a significant lack of digital training for instructors, both in terms of both genders, age ranges, and different fields of knowledge. All teachers who participated in the study scored between the basic and intermediate levels (Cabero-Almenara et al., 2020).

Also in a study conducted in Morocco among English teachers, the majority of the study participants had a B1 level. This study observed that teachers with longer teaching experience also had higher levels of digital competence (Benali et al., 2018).

Evaluating the indicators of digital competence of teachers by area, it can be concluded that the weaker indicators of digital competence are exactly in Area 5: Empowering Learners. Therefore, it is necessary to invest in teacher training aimed at practical work with students. It is the implementation of digital technologies that can offer new ways to engage students and better adapt to the educational needs of the students themselves (Shonfeld etal., 2021).

The study revealed that more than half of the research respondents rated their level of digital competence lower and did not correspond to the results collected by filling out the DigComEdu survey questionnaire. Only 22% ($n = 9$) of respondents had the same self-assessment of digital competence when filling in both the first and second questionnaires. The obtained results indicate a tendency that medical college teachers are not confident about their own digital competences and in the future this may contribute to the emergence of digital divides,

which may manifest as differences in digital and technological skills between lecturers.

Within the framework of the study, several limitations have also been identified, which should be taken into account when interpreting the results. First, it should be noted that this is a small sample of teachers representing one medical college. It would be advisable to repeat the study with a larger number of respondents, including teachers from other branches. The second factor is the low activity of teachers to participate in the study, which could also have influenced the obtained results. It is possible that the uneven distribution of genders, which was present in this study, also revealed some negative results.

In future studies, it would be worthwhile to obtain qualitative data in addition to using the DigCimpEdu instrument, for example by conducting interviews or focus group discussions with teachers, which would strengthen the obtained research results.

Conclusions

The study aimed to provide an opportunity for medical college teachers to evaluate their strengths and weaknesses in using digital technologies for educational purposes and to support and encourage teachers to use digital tools for academic promotion and innovation. The overall level of digital competence of medical college teachers was B1 – Integrator, which shows much room for improvement, especially in using digital technologies in different contexts and for other purposes. Teachers must improve their understanding of adapting digital technologies to pedagogical strategies and methods. The self-assessment of teachers' digital competence is a successful solution that colleges and universities can use to encourage teachers and lecturers to self-reflection and internal motivation to develop digital pedagogical competences and possibly promote a more comprehensive implementation of digital technologies in pedagogical practice.

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Appendix A

A1 below 20	This means: You have an opportunity to begin enhancing your skills with digital technology. The feedback you get from this survey has identified a number of actions you can try. Select one or two to start off with over the next learning period, focusing on meaningfully enhancing your teaching strategies. As you do so, you'll find yourself moving to the next step of digital competence, the Explorer level.
A2 between 20 and 33	This means: You are aware of the potential of digital technologies and are interested in exploring them to enhance pedagogical and professional practice. You have started using digital technologies in some areas and will benefit from more consistent practice. You can increase your competence by collaborating and exchanging with colleagues, and by further amplifying your repertoire of digital practices and skills. This will move you to the next step of digital competence, the Integrator level.
B1 between 34 and 49	This means: You experiment with digital technologies in a variety of contexts and for a range of purposes, integrating them into many of your practices. You creatively use them to enhance diverse aspects of your professional engagement. You are eager to expand your repertoire of practices. You will benefit by increasing your understanding about which tools work best in which situations and on fitting digital technologies to pedagogic strategies and methods. Try to give yourself some more time for reflection and adaptation, complemented by collaborative encouragement and knowledge exchange, to reach the next step, Expert (B2).
B2 between 50 and 65	This means: You use a range of digital technologies confidently, creatively and critically to enhance your professional activities. You purposefully select digital technologies for particular situations, and try to understand the benefits and drawbacks of different digital strategies. You are curious and open to new ideas, knowing that there are many things you have not tried out yet. You use experimentation as a means of expanding, structuring and consolidating your repertoire of strategies. Share your expertise with other [lecturers] and continue critically developing your digital strategies to reach the Leader (C1) level.
C1 between 66 and 80	This means: You have a consistent and comprehensive approach to using digital technologies to enhance pedagogic and professional practices. You rely on a broad repertoire of digital strategies from which you know how to choose the most appropriate for any given situation. You continuously reflect on and further develop your practices. Exchanging with peers, you keep updated on new developments and ideas and help other [lecturers] seize the potential of digital technologies for enhancing teaching and learning. If you are ready to experiment a bit more, you'll be able to reach the last stage of competence, as a Pioneer.
C2 above 80	This means: You question the adequacy of contemporary digital and pedagogical practices, in which you are a Leader. You are concerned about the constraints or drawbacks of these practices and driven by the impulse to innovate education even further. You experiment with highly innovative and complex digital technologies and/or develop novel pedagogical approaches. You lead innovation and are a role model for other [lecturers].

Appendix B

		Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
C1	I systematically use different digital channels to enhance communication with [student]s, parents and colleagues	.559	.542	.917
C2	I use digital technologies to work together with colleagues inside and outside my educational organization	.383	.601	.920
C3	I actively develop my digital teaching skills	.454	.501	.919
C4	I participate in online training opportunities e.g. online courses, MOOCs, webinars, virtual conferences.	.269	.507	.922
C5	I use different internet sites and search strategies to find and select a range of different digital resources	.611	.721	.917
C6	I create my own digital resources and modify existing ones to adapt them to my needs	.485	.737	.919
C7	I effectively protect personal data, e.g. exams, [student]s' grades, personal data	.435	.510	.920
C8	I carefully consider how, when and why to use digital technologies in [class], to ensure that they are used with added value	.709	.691	.915
C9	I carefully consider how, when and why to use digital technologies in [class], to ensure that they are used with added value	.586	.563	.917
C10	When my [student]s work in groups, they use digital technologies to acquire and document knowledge	.593	.655	.917
C11	I use digital technologies to allow [students] to plan, document and monitor their learning themselves	.681	.741	.915
C12	I use digital assessment tools to monitor [student] progress	.616	.687	.916
C13	I analyze all data available to me to effectively identify [student]s who need additional support	.758	.697	.913
C14	I use digital technologies to provide effective feedback	.765	.739	.914
C15	When I create digital assignments for [students] I consider and address potential practical or technical difficulties	.598	.526	.916
C16	I use digital technologies to offer [students] personalized learning opportunities	.709	.759	.914
C17	I use digital technologies for [student]s to actively participate in [class]	.660	.634	.915

Appendix B. Continued

		Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
C18	I teach [students] how to assess the reliability of information and to identify misinformation and bias	.622	.692	.916
C19	I set up assignments which require [students] to use digital means to communicate and collaborate with each other or with an outside audience	.403	.547	.920
C20	I set up assignments which require [students] to create digital content	.412	.586	.920
C21	I teach [students] how to use digital technology safely and responsibly	.577	.551	.917
C22	I encourage [students] to use digital technologies creatively to solve concrete problems e.g. to overcome obstacles or challenges emerging in the learning process	.600	.660	.917